GENDER AND MEDICINE: A STUDY OF AYURVEDIC THERAPEUTICS FOR INFERTILITY IN TWO INSTITUTIONS

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DOCTOR OF PHILOSOPHY

MITUSHI GUPTA

Under the supervision of

PROF. V.SUJATHA

Centre for the Study of Social Systems

School of Social Sciences

Jawaharlal Nehru University

New Delhi- 110067

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जवाहरलाल नेहरू विश्वविद्यालय
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI-110067

Centre for the Study of Social Systems
School of Social Sciences

Tel.: 26704408

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DECLARATION

I hereby declare that the work reported in this thesis titled **'Gender and Medicine: A Study of Ayurvedic Therapeutics for Infertility in Two Institutions'** submitted by me in fulfilment of the requirements for the award of the degree of Doctor of Philosophy, is entirely original and has been carried out by me in the Centre for the Study of Social Systems, School of Social Sciences, Jawaharlal Nehru University, New Delhi, under the supervision of Prof. V. Sujatha. I further declare that this is an original work and has not been submitted, in part or full, for any degree or diploma of any University.

Mitushi Gupta

MITUSHI GUPTA

CERTIFICATE

We recommend this thesis to be placed before the examiners for evaluation.

Prof. Nilika Mehrotra

Chairperson

Chairperson
CSSS/SSS
Jawaharlal Nehru University
New Delhi - 110067

V. Sujatha 21/7/17

Prof. V.Sujatha

Research Supervisor

Professor
Centre for the Study of Social Systems
School of Social Sciences
Jawaharlal Nehru University
New Delhi - 110 067

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GLOSSARY

Aartava	The ayurvedic term used for menstrual flow.
Aetiology	The processes of occurring a disease from its causative factors.
Agni	It is the representative of enzymatic reactions happening in the body. There are total 13 *agnis* in the body.
Anemia	A condition having lowered number of red blood cells and hemoglobin in the blood.
Anuvasana	A form of basti having only a medicated oil as its ingredient.
Apana Vayu	A subtype of vayu responsible for physiology related to shukra (semen), mutra (urine), purisha (feces), aartava (menstrual flow) and garbha (fetus).
Assistive Reproductive Technology	The sophisticated techniques of getting pregnancy like IVF, IUI, AID, Surrogacy etc.
Basti Karma	The process of giving medicated enema. This is used to treat pathologies related to vayu.
Bheshaja	Any material or non material thing having a medicinal value.
Chikitsa	The technical term used in ayurveda for denoting 'treatment'.
Churna	The powdered form of a medicine.
Contraceptives	A medicine or any other method to prevent pregnancy.
Dhatu	The basis constituent of the body is called as dhatu in Ayurveda. There are seven dhatus in the body.
Dosha	Doshas are considered as the physiological units of the body.
Episiotomy	a surgical procedure under which the skin between the anus and perineum is cut to ease the process of labor.
Fallopian Tube	Tube like structures through which ovum passes from ovaries to the uterus.
Fertility Rate	Number of births taking place per 1000 women
Garbha	The intra uterine viable product of conception termed as fetus in modern medicine.

Garbhini	A pregnant woman.
Hsystosalpangiography	A non-invasive diagnostic procedure to check the patency of fallopian tubes with the help of x-rays after injecting a dye in the uterus.
Immunizations	Inducing the immunity against infections by the use of vaccines.
Infertility	Inability to conceive or childlessness.
Jatharagni	It is the representative of enzymatic reactions happening in the stomach.
Kaal Basti	The process of performing *basti karma* (alternate *anuvasana* and *niruha*) for fifteen days.
Kapha	This is the third dosha of body. It is responsible for structure of body.
Kaumarbhritya	The branch of ayurveda dedicated to health of children, their diseases and purification of milk of a lactating mother.
Kwatha	The decoction prepared by adding certain amount of medicine and water or milk.
Live Birth	Birth of a live child.
Mahabhuta	The basic component of any structure of this universe. These are five, *akasha, vayu, agni, jala* and *prithvi*.
Mala	Waste product of the body are the mala. Main mala of the body are *purisha, mutra* and *sweda.*
Miscarriage	Loss of a fetus before completion of 20 weeks of pregnancy.
Mortality Rate	Number of death occurring in certain period of time, or place or from a particular cause.
Napunsaka	An impotent man.
Nasya Karma	Nasal inhalation of medicine, specially indicated for diseases related to head, neck, ear, eye, mouth and nose.
Niruha	Medicated enema having decoction, *sneha*, honey, herbal paste and salt.
Ovulation	Release of ovum from the ovary.
Pitta	Second dosha of body. It is responsible for all the enzymatic reactions of the body.

Placenta	The attaching structure in the uterus of pregnant lady which connects with the fetus through umbilical cord.
Prajastapana Gana	The group of ten medicines which are used to strengthen the uterus and stabilize a pregnancy.
Prakrati	The basic constitution of body which is vital in many aspects of life and treatment of disease.
PrasutiTantra	Branch of ayurveda dealing with the diseases of a pregnant woman.
Procreation	The ability of reproduction
Rajas	second of the three *guna* of *manah*, it is responsible for aggression, anger and restlessness etc.
Rasa	It is the first dhatu formed in the body as a result of proper digestion of food.
Rasayan	The branch of ayurveda dealing with rejuvenation of body.
Saatmya	Any thing which is favorable for continuation of a healthy life.
Satva	It represents the mental strength.
Satva	First of the three *guna* of *manah*, it is responsible for all positivity.
Shukra	Semen of a man.
Snehana	The process of oleating the body before panchkarma therapies in the form of massage etc. or with oral intake.
Srotasa	The channels in the body through which movements of certain material takes place.
Still Birth	Birth of a dead fetuswho have completed at least 28 weeks of gestation.
Stri Roga	Branch of ayurveda dealing with gynecological disorders
Surrogacy	Deputing a woman other than biological mother for bearing a child. It is a part of assistive reproductive technology.
Sutikagaar	A special building for pregnant lady where deliverieshappens and she lives during her post partum period.
Swedana	The process of fomentation of body after massage. It is used for treatment of vayu and kapha. It is a pre procedure for *panchkarma* therapies.

Tamas	Third of the three *guna* of *manah*, it is responsible for laziness, sleep and dumbness etc.
Tridosha	*Vata, Pitta* and *Kapha* are the three *doshas* of the body.
Umblical Cord	The cord like structure having blood vessels which attaches fetus with the placenta in mother's uterus.
Uttar Basti	The process of giving medicated oil or decoction in the urinary bladder of male or female and in the uterus of female.
Vaajikarna	The branch of ayurveda dealing with reproductive and sexual health of man.
Vaccination	Treatment with a vaccine to induce immunity
Vamana	The process of medicinallyinduced vomiting to clean the body. It is mainly used for kapha dosha.
Vata/ Vayu	The most important dosha of body. This is responsible for all type of movements.
Vati	The tablet form of a medicine.
Virechana	The process of medicinally induced purgation to clean the body. It is mainly used for *pitta dosha* from waste products.
Virya	The active principle of any substance through which it execute its function in the body
Yoga Basti	The process of performing *basti karma* (alternate *anuvasana* and *niruha*) for eight days.
Yoni	It is an ayurvedic term collectively used for female reproductive structures. It is commonly called as vagina.
Yoni Dhavana	Washing of vagina with herbal decoctions, also known as vaginal douche.
Yoni Dhupana	Fumigation of vagina with herbal medicines.
Yoni Pichu	A procedure to put a cotton cloth soaked with medicated oil in the vagina.

Referencing of Ayurveda Treaties

A. H.	Astanga Hrdya
CP.	Cakrapani
Ch.	Caraka Samhita
Chi.	Cikitsa sthana
Dal.	Dalhana
K.S.	Kasyapa Samhita
Pk.	Purva khanda
Sha.	Sarira sthana
Si.	Siddhi sthana
Su.	Susruta Samhita
Su.*	Sutra sthana
U.	Uttara sthana
Vi.	Vimana sthana

*'Su'. written in first part represents the Sushruta Samhita while'Su'. written after the first two letter denotes the Sutra Sthana of all Samhitas.

[Please note that the references of Ayurveda Samhita are written in two parts. First part denotes the name of Samhita while second part denotes its part. After that the two numbers are wrote separated with a '/' of which first represents the chapter while second represents the verse number. For example, (Ch. Su. 3/20) denotes (Charak Samita- Sutra Sthana-Chapter -3- Verse-20)]

Some information regarding dissertation

- To maintain the confidentiality of the respondents, they are given a pseudo name. In the data while giving the narratives the place of these respondents have been given in brackets as (D) for Delhi and (M) for Mumbai.
- The technical terms of Sanskrit has been written in *Italics.* No transliteration or phonetics has been used.
- Contemporary word from English language has been given in brackets for technical terms.

CHAPTER-1

INTRODUCTION

Having one's own child is a cherishable value in any society across the world and childlessness is often viewed as a misfortune. But there is huge difference in the perspective of viewing childlessness in the wholly industrialized world and in communities characterized by landed ties and family centered social life. Progeny is associated with gaining status and respect in developing societies, 'bearing and rearing children are central to women's power and well-being' in Kerala (Riessman 2000). In this connection Dyer et al (2004) mentioned that the stigma of infertility is more in the developing world as marriage is intimately associated with biological progeny and the childfree status of a woman is generally considered as her inability to give birth. In such cultures, marriages are meant for motherhood, as in Chad, continued menstruation after marriage is considered as a 'bad sickness' (Greil2010). In the Anglo Saxon cultures, the imagery of women as a sexual object is more central than the woman as a mother. Voluntary childlessness in such settings is associated with the working status of a woman and it is one of the socially accepted ways out for the childless women (Tripathi 2011). But in many other family centered societies, motherhood is central to the social imaginary of a "woman" and childlessness is a crisis of social nature (SAMA 2006:9).

But childlessness caused by infertility of one or both couples is a public health issue as it is associated with the general health condition and lifestyle of the couple though it has not received the attention it deserves as one kind of a health problem. Rather it has been projected as only a problem of not being able to produce a child and interventions are directed to somehow make the couple produce their own child though in these days of donor driven pregnancies and surrogate motherhood, how far an offspring produced by ARTs is actually ones 'own' child.

Gaware et al. (2009), notes that in a normal healthy couple the possibilities for getting pregnant remains good and in eight out of ten total normal couples, the women get pregnant after marriage if they are trying for a child. Around 15 % of couples need some medical help when they find any difficulty in conceiving. According to the

definition given by World Health Organization (2009), ‘Infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after twelve months or more of regular unprotected sexual intercourse. ‘When a woman is unable to ever bear a child, either due to the inability to become pregnant or the inability to carry a pregnancy to a live birth she would be classified as having primary infertility. On the other hand, when a woman is unable to bear a child, either due to the inability to become pregnant or the inability to carry a pregnancy to a live birth following either a previous pregnancy or a previous ability to carry a pregnancy to a live birth, she would be classified as having secondary infertility. Thus, those who repeatedly spontaneously miscarry or whose pregnancy results in a stillbirth, or following a previous pregnancy or a previous ability to do so, are then unable to carry a pregnancy to a live birth, are secondarily infertile.

In ayurveda, infertility has not been described as a disease but a symptom of many gynecological disorders like the diseases of *yoni* (reproductive organs) or diseases related to *artava* (menstruation). In one of the classical text, Harita Samhita, it is clearly mentioned that a woman is said to be infertile only when she is not able to deliver a live birth. In this text, *vandhayatva* (infertility) has been described as a separate entity. This definition does not match the definition given by the modern medicine which takes conception only as a criterion to declare a woman as fertile. Coming back to the biomedicine, the female factors are said to contribute almost half in the etiologies of infertility. The male factors responsible for infertility contribute solely about 20%, but it may be the contributing factor in as many as 30-40 percent cases (Burneyet.al.2007:1185). But there are several studies which show that women are always at the receiving end because of the social stigma attached to infertility. Amongst women, tubal factor (abnormalities related to fallopian tubes) and problems related to ovulation are the prime causes of infertility.

Prevalence of infertility

Infertility varies across regions of the world and is estimated to affect eight to twelve per cent of couples worldwide. Incidence of secondary infertility is much higher in comparison to primary. The causes are abortions and sexually transmitted diseases. As per the WHO report (2002), the rise in primary infertility may be attributed to the more frequent use of contraceptives and working status of both the partners of the

family. In many cases delayed decision of having a child results in infertility, as at very late age, fertility also decreases. There have been debates on the actual extent of the infertility problem and it is possible that surveys may not take into consideration the prospects of women facing abandonment or divorce because of declaring infertility. Many women tend to hide the problem and may wish to avoid the stigma. On many occasions such surveys may also miss the condition of secondary infertility (Jejeebhoy 1998). So we can say, the data on the prevalence of infertility in India is not adequate and reliable.

National Family Health Survey -4: Data on women's health issues

India has always been seen as one of the overpopulated countries and in 1952, the first program on family health was started by government as National Family Planning Programe whose prime concern was high birth rates and the single most focus of the public health system was to reduce fertility. The first phase of current reproductive and child health programme was started in the year 1997 with prime target to lower down the birth rate and to reduce maternal and infant mortality rate. Phase II (2005) was targeted for almost same goals in a different manner though fertility levels have come down in many Indian states and other reproductive health issues have sprung up. Till today all the attention of the reproductive and family health interventions of the government is directed to high fertility only. Until the nineties, there was no special mention of the infertility problem in public health discourse except for control of reproductive tract infections and sexually transmitted diseases.

Though women's health has been a matter of great concern, the irony is that infertility did not receive the attention it deserved probably because reducing fertility was the aim of public interventions. National Family Health Survey 2015-16 (NFHS-4), is the fourth in a series of national surveys with the largest sample size having 601,509 households, 699,686 women, and 103,525 men. In this round, special emphasis was given to woman's current situation and thus information on the woman's characteristics, fertility, children's immunizations and childcare, nutrition, contraception, reproductive health, sexual behavior, HIV/AIDS and domestic violence was included. Some of the findings of this survey emphasized the overall conditions for the improvement of women's health.

The overall sex ratio for female (per thousand male) was found decreased from 1000 in NFHS-3 to 991 in the NHFS -4, but the positive thing was that in rural areas, it was found to be 1009. The sex ratio of birth for children born in the last five years was found to be improved marginally from 914 to 919 with an upper hand again in rural areas where it was found to be 927.

The overall literacy rate for women found to have increased from 55.1 to 68.4 percent in NHFS-4 data. The age of marriage for a girl has also increased and so the percentage of women in the age group of 20-24, only 26.8 percent were found married at the time of survey in comparison to 47.4 percent according to NHFS-3 data. The number of women undergoing early child bearing in between the age of 15 -19 years was also found decreased from 16 to 7.9 percent.

The mortality rates for infants and children under the age of five years were on decrease. The overall decrease in infant mortality was found to be 41 in comparison to 57 in earlier survey. The under-five mortality was also reduced from 74 to 50 percent. In both the instances of mortality, rural areas were found to be lagging much behind urban areas. So while it seems that rural women are enjoying some advantage in terms of social development, rural infants are not.

Institutional birth has increased from just 29 percent to 72 percent in last five years in rural areas. In urban areas also there is improvement in deliveries taking place in hospital settings. According to NHFS-3, it was 68 percent which has reached up to 89 percent. The institutional birth in a public hospital was overwhelming reaching to around 52 percent in comparison to just 18 percent in NHFS-3. This may be attributed to the Janani Suraksha Scheme facility available in public hospitals which was started in the year 2005 and it was found that 36.4 percent women availed the financial assistance during last five years. The trend of home deliveries by skilled health personal has been found reduced to 4.3 from 8.2 percent of total deliveries. Here, one needs to ponder, whether mortality rate was decreased due to the increased institutionalized deliveries or due to inclusion of Dais as Traditional Birth Attendant in National Rural Health Mission. Sadgopal (2009) mentioned in her article, that "Dai's are carriers of unique knowledge of saving lives of newborns and their contribution at the lowest end of the medical care delivery is largely unacknowledged". She illustrated the skills of the dai (TBA) giving the example of

placenta stimulation developed by them in which process of ‘heating the placenta is done when a new born doesn’t cry’. She wrote, that in 2008 during her field work, she met a ‘dai’ of the Fernando fishing community of Tuticorin in southern Tamil Nadu, who gave her services to delivering women in hospital as well as at home . She knew the technique of placenta stimulation and when inquired by Sadgopal, the dai mentioned that she had picked up her skills from the hospital nurses. Sadgopal described how later she found out that indigenous midwives in India and many other parts of the world have developed a technique for saving newborns ‘lives over countless millennia that is virtually unknown to medical science. Thus, what aspects of institutionalization of deliveries have contributed to the improvements in infant and maternal death rates remains to be seen.

The NFHS-4 reported that the out of pocket payment for delivery in a public hospital was average at 3,198 rupees per delivery all over the country. This expenditure was around 1000 rupees lesser in rural areas in comparison to urban areas.

The total fertility rate is on decrease which was found consecutively 3.4, 2.9, 2.7 and 2.2 children per woman in last four series of NFHS data respectively. The awareness about ante natal care is a welcome step to check the child and maternal mortality and there were an increased number of women from 43.9 to 58.6 percent appearing for ante-natal check-up. The percentage for such visits in rural areas was also good at 54.2 percent. The target of at least four hospital visits for check-up during pregnancy was set and the increase in this has been found from 37 to 51 percent in comparison to NHFS-3 data where three antenatal visits were the set target. The attendance for such check-up in rural areas showed a significant improvement reaching 45 percent in NHFS-4 from just 28 percent inNHFS-3.

Women in reproductive age were in the age group of 15-49 years. The set range for hemoglobin was 12mg/dl for non pregnant woman and 11 mg/dl for pregnant women. Though there was not much improvement in the percentage of non pregnant women, the encouraging fact was the level of hemoglobin which was found increased in the NHFS-4 data. The percentage of anemic women in pregnant stage was found decreased from 57.9 to 50.3 percent. The women who took folic acid and iron for at least 100 days of their pregnancy were 30.3 percent which is almost double of that reported in the previous survey. In the same way the vaccination against tetanus was

also given to 89 percent pregnant women in comparison to 76.3 percent during the last survey period.

In comparison to the previous survey NHFS-3, the social status of women has also been found improved in this survey indicating the increase in percent of woman taking part in household decisions, showing an overall increase from 76.5 percent to 84 percent. In rural areas also, 83 percent women were found participating in decision making. Cases of spousal violence were also found reduced from 37.2 to 28.8 percent. There were no study on the spousal violence during pregnancy in earlier surveys but in NHFS-4, 3.3 percent of overall women reported it. The awareness towards HIV/ AIDS was found increased both in rural and urban areas.

The above mentioned data prompts the emergence of some unexplained aspects and outcomes. Even though it has shown overall improvement like increased rate of institutional deliveries, increased level of hemoglobin during pregnancy and decrease in violence against women, still some questions remain to be explored and answered i.e .i) what about the outcomes?; ii) what complications these women developed later?; iii) whether statistical increase in the rate of women approaching institutions improved the overall health of these women. There are studies which clearly indicate that while institutional childbirth is aggressively promoted in order to decrease the maternal mortality rate, institutionalization has its own issues and complications in our public health system characterized by shortage of qualified staff, amenities, space and drugs (Sadgopal 2009). Girija (2013) argued that several obstetric procedures like episiotomy have been in vogue for years without much gain to the woman.[1] Episiotomy is an example of medicalization commonly imposed on each woman undergoing labour without ascertaining its utility in a particular case. In her book, Girija has mentioned that there has been no evidence in support of this theory even in 1920 and in USA, the percentage of episiotomy declined from seventy percent in 1979 to just nineteen percent of total vaginal deliveries by 2000. Till 1993, all the textbooks of western medicines supported episiotomy as a routine procedure in primiparous deliveries but the newer editions of some most authoritative books like Williams Obstetrics do not endorse such procedure to be done routinely.

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[1] Episiotomy is a surgical procedure under which the skin between the anus and perineum is cut in such a way that it eases the process of labor.

Girija argued that such type of practice should not be followed in India where majority of the women are anemic and bleeding and infection due to episiotomy has been a notified risk factor for maternal deaths during child birth. Similarly, the administration of oxytocin to women in the health centers by hospital staff is also subject to serious question (Sadgopal 2009). There are reports of numerous women dying due to medical negligence and error such as infusion of expired saline Rajasthan, infection due to unsterilized surgical tools, infants in incubators dying due to power cuts and fires and sheer institutional neglect. In this context institutionalization as a factor for maternal morbidity and mortality has also to be subjected to investigation. Other aspects of the narrow and target based focus on reproductive health is that women are given attention the moment they conceive a child and they are prescribed folic acid and vitamins during pregnancy. Sujatha (2014) argued that how in the Indian context, synthetic vitamins and iron supplements provided to poor women under the reproductive and family planning program overlooked the fact that they did not have enough food, lead to adverse drug reactions because of being taken on empty stomach. This is an example of how the social problem of nutrition is transformed in to a medical problem.

These authors are not against providing vitamins or folic acid but their larger question is to locate these medical problems in a broader context and they are arguing against vertical model which does not take into consideration the cultural and social implications of medicalization.

The overwhelming importance to maternal health is also questionable because it is a well-known fact that women's status gets enhanced when they become mothers, their position becomes stable and they get social acceptance after childbirth (Patel, 1994). In the following section, the literature which deals with the importance of child and its implications on men and women will be discussed.

Family centered societies and the significance of having children

One of the social traditions in Indian society is its joint family system that is still surviving. "As a social unit, a family consists of a set of social relationships established by marriage and parenthood and performs functions essential to the stability and survival of society, such as procreation, the primary socialization of the

child, fulfilling the psychological, emotional and sexual needs of its members and providing the care and nurturing to the sick and the dependent"(Patrick and Scambler c.f Mishra2010:278).The concept of joint family is the representation of collectivism which is reflected through the interdependence of the family members in all the matters, social, financial, cultural and so on. This is opposite to individualism prevailing in the western countries where the rights and duties stem from individual units. The entire decision making in a joint family is a collective work headed by the eldest member of the family and numerous studies till date show how important decisions including those related to health and to childbearing of couples are often discussed and regulated by family members. Even in the nuclear family, child birth and medical care remain a matter of common interest among family members and a subject of consultation among them. The census of 1991 showed that every fifth household in India was a joint family (Prasad 2009). So, we are living in family centered society where rearing of a child is considered as criterion for completeness of the family. The vital importance of children is also related to some social and religious beliefs about afterlife.

Daughters and sons both are considered important despite of the fact that there is a bias in favour of the male child. But in different regions there is different value accorded to both. Patel (1994), in her study showed that in Mogra village in Rajasthan, the first child is always welcomed in the family, no matter son or daughter. Gendered bias in favor of a male child can be easily observed as sons are preferred for some rituals irrespective of caste or society. The most important ritual highlighting the significance of a male child is the rituals of giving light to the funeral pyre of his parents and taking their ashes to holy Ganga so that they get moksha, the ultimate goal of life. Sons are not only responsible for continuing the patriline but also have to render the duties just like a father to their younger siblings. Whether it is education or marriage of younger children, the eldest son of the family on most of the times have to take this responsibility. The obligations towards the sister are even more and are continued for the whole life. In case there is no son in the family then compensatory arrangements like adoption of a male child or having a '*gharjamai*' are often searched for.

On the other hand, daughter is valued for sharing the feelings of her mother especially in old age. The value of *kanyadana* is of great importance and it is taken as a great boon for a couple who performs this ritual for her daughter. *'The courtyard of a house should not remain virgin.'* (p.25), its implication is that the marriage of at least one daughter must be performed in the courtyard. A couple not having a girl child are also found performing this ritual in the marriages of close relatives or they may also take privilege to marry an orphan girl at their own expenses so that they gain the *punya* of *kanyadaa*n(Patel 1994).

Stigma of infertility- pressure on men and women

Infertile couples especially women are victim of social stigma, mental torture, domestic violence and isolation in society as well as within the family. In a community-based study in Ranga Reddy district of Andhra Pradesh, Sayeed (1999), found that childless women were purposely kept away from certain ceremonies. These women hid their faces from the world and refrained from participating in social activities. Even in the case of male infertility, women usually bear the negative consequences of their inability to conceive. In the patriarchal society, fatherhood and manhood are considered as two distinct concepts as he not only helps in procreation but also gives him name and lineage. On the contrary, term womanhood and motherhood are easily equated (Dube 1986). It has also been observed in some countries that the guilt of being infertile becomes so deep that the infertile women are considered as socioeconomic burden on the society. In these cultures, not only the infertile couple, but the whole family including in-laws also suffers. (The suffering of family and in-laws has been defined in terms of their guilt that they are not able to contribute for society) (Vanderpoel 2010). In Uganda, the acceptability criterion for a woman to be accepted in society is to have her own child (Sembuya 2010).

Coming back to Indian context, Chowdhry (2015) mentioned that in the predominantly male dominant societies in Northern India specially in states like Haryana, masculinity is a means to show superiority over woman as there women are considered nothing more than the shoes of a man. *Lugāī ādmī ki jūttī ho sai* ("woman is no better than a man's shoe").Woman is considered inferior in every aspect of life with common saying there "*lugāī ne sir par nā dharā kareṅ*"("a woman should not be given any importance"). In such societies, advice of woman does not get any value

and a man supporting his wife may be tagged as Henpecked. Chowdhry explained that how patriarchy worked in this region, a man's masculinity come under scrutiny when he is not able to fulfill two roles which in regional dialect known as *mard* and other is *mardangi*. Mard here refers to man who has good hold of land and property. And the '*mardangi*' is associated with the procreative role and sexual prowess of a man. This sexual prowess is proven when he becomes father of a son otherwise his masculinity comes under threat. Chowdhry stressed on the fact that both men and women are the victims of patriarchy.

The stigma imposed by the society on man and woman is of very complex nature. For a man, this starts when he is unmarried for a long time while for a woman it only starts after her marriage irrespective of her age at the time of marriage. In the case of a male who opts for late marriage or even does not want to marry, his *mardangi* comes under scanner. As soon as a man gets married, he can get rid of questions subjected to his *mardangi* for a certain period of time. The problem for a woman starts only after her marriage when she faces an undue pressure of delivering a child within a year of her marriage to avoid the tag of *baanjh*. So, the issue of infertility or being sterile affects both man and woman but the suffering of woman is many folds in comparison to man. Here one important aspect should also be discussed that if a person who is impotent or infertile due to any medical problem, after marriage he can very well spare himself from social stigma which is generally imposed on his wife in this patriarchal society and women do not know or reveal male infertility. Due to social construction of the society,the exact cause of infertility for such couple may not be disclosed and woman may take it at her own to safeguard the reputation of her husband.

Uberoi (1993) said that "the Indian women are keenly aware that their reproductive capacities are an important source of power, especially when they lack it from other sources". This may be the reason of their early treatment seeking behavior for infertility in comparison to their husband. In a study done by Chethana and Shilpa (2016) on a population to study socio-demographic characteristics prevailing among infertile subjects and treatment seeking pattern among the infertile couples in Karnataka, it was found that the concern over infertility in a couple was shown primarily by the female who seek the advice of physician first.

So new reproductive treatments have a steady clientele in India and fertility clinics have mushroomed in small towns as well. There are different levels of reproductive technologies drugs and procedures in the field. In the biomedical framework, some of the infertility issues related with hormonal imbalance are easily cured by the hormone replacement therapies but problems like tubal blockage, PCOS (Poly Cystic Ovarian Syndrome) and ovulary dysfunctions from the female side may need some assistive reproductive technologies (ART) for treatment. On the part of the male, problems like low motility of sperms and oligospermia can be corrected medicinally but some infections of urogenital tract and problems like azoospermia may not be corrected with medication.[1] In such cases, men also need help in the form of ARTs (Assisted Reproductive Technology). ART is the most effective intervention for these conditions and is largely responsible for the development of birth technologies into a fertility industry. The potential for exploitation through ARTs is massive in a country like India where fertility defines womanhood. This is primarily due to the fact that womanhood is defined by a woman's capacity to become a mother.

Assisted reproductive technology (ART)

The commonly practiced ARTs includes the OI (Ovulation Induction), IUI (Intra Uterine Insemination), AID (Artificial Insemination of Donor), IVF (In-Vitro Fertilization), ICSI (Intra Cytoplasmic Sperm Injection) and surrogacy(Burney et al.2007).[2] Though the In-vitro fertilization was first planned in 1978, the other reproductive technologies have been started even before. Stacey (1995) has given reference of AID being secretly used in 1880s in USA which has raised controversies at that time also about legality and morality of such procedures. In Britain, it has been

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[1]Oligospermia is the condition where the concentration of sperm is lower than 15 million/ ml. this a common cause of male infertility.
-Azoospermia is the condition in which there is no sperm in the semen of a man.
[2]- OI is meant for artificial induction of eggs through hormones.
-IUI is done when there is no pathology from the woman side but for mechanical problems preventing the sperm to reach the cervix of female.
-AID is same as IUI except that in this sperms of a healthy donor are used. This is done in cases where male partner is azoospermic or chances of any genetic disease are there.
-IVF is useful when fallopian tubes of female are blocked. In this fertilization of egg and sperm is done outside the body and finally the embryo is placed in the uterus of female.
-ICSI is same as IVF except that direct injection of a single sperm on the egg to achieve fertilization. This is used when there is problem with sperms.
- Surrogacy is child bearing by another female with the intention of giving child to that female after birth.

in practice since the Second World War. The first ‘test tube baby’ was born in 1978 and since then technological advances in the field of ARTs have been so rapid that every infertile couple may expect to have their own child, regardless of that whether it is their own biological progeny and regardless of the cost.

The treatment options available under the title of ARTs are very expensive and far from the reach of the general population, especially in developing countries. In developing countries, the problem of overpopulation is considered much bigger in comparison to the infertility and their health budget allocation is mainly targeted to reduce the fertility through education and other health programs. In developing countries, the approach of health sector is to control population and so the *fertility.* As Ombelet (2011) argued that *"*international organizations including Family Health International, WHO, International Planned Parenthood Federation (IPPF) and The Population Council still focus on safe motherhood, the reduction of unsafe abortions, prevention of STDs and HIV/AIDS, the implementation of infertility treatment in developing countries is not a priority for these organizations *"*.Due to these factors, different opinions are there regarding the status of infertile couple. Some suggest that these couple should accept this condition. There have been supporters also who emphasizes the need of education about STDs (sexually transmitted diseases) and complications happening after the deliveries or abortions which most of the time are the causative factor for infertility. Some advocates highlight the need of basic treatment for infertility and counseling of infertile couples by more educated and trained healthcare providers. In the current situation of developing countries where health education alone cannot work out the problem, Ombelet(2008)argued that low cost ARTs should also be provided to combat the current situation. This can serve both the purpose of providing treatment to the infertile and educating the others regarding sexual health and reproductive health. The incorporation of sexual health program in reproductive health programs can also serve better purpose by providing an opportunity for the infertile couple and less opportunity to those having high fertility potential. This integration will be directed to the prevention, more in comparison to treatment and present equal chances to all who are in need of treatment and who are on the verge of getting infections which may lead to infertility.

Biomedical treatment for infertility and intrusions into the women's body

Earlier the number of investigations and their frequency was lesser in comparison to the present time where treatments for infertility start with series of tests for both for man and woman. Men face some simple tests like semen analysis, but do not have to experience many invasive methods except in the condition of azooseprmia which requires testicular biopsy. Women on the other hand, have to face many invasive and non-invasive tests in infertility treatment which are not only painful, but some also may be subjected to stigma. Post coital test used to study sperms interaction with the cervical mucosa is to be performed within 24 hours of intercourse. In this test the sample from the vagina is collected by the physician or the technician. This tests not only intervene in the privacy of woman's body but also exerts a pressure on the couple to have sex on specified days (Seibel and Taymor 1982)which in long term may be harmful to the sexual relations of the partners as quoted by Becker and Nachtigall (1992) "Respondents repeatedly complained about the effects of bringing medical treatment into the bedroom through tests" (Gay Becker and Robert D 1992. As part of treatment of unexplained infertility, Clomiphine Citrate is the commonly used medicine for ovary stimulation to produce more eggs. In some condition, injectable Gondotropins are used for the same purposes which are the invasive medical treatment faced by women. These injections may be repeated as per the requirement (Burney et al.2007 p.1185).

Uterus implants

Due to medicalization, childlessness is projected as disease requiring expensive treatment. Assisted reproductive technologies has been a term used for all those medical techniques which include various processes facilitating the artificial mode of conception and retention of entire term of pregnancy either in mother's womb or in a surrogate.

There have been reports on uterus transplant first of its kind in Pune which is said to be a boon for the women with absent or diseased uterus. The medical interventions involved in this process involve the fertilization of recipient's egg with the partner's sperms and freezing the uterus inthe laboratory. After this the transplantation of uterus is done from a donor (a mother, sister or a daughter) to the recipient. In the next step

the uterus remains in the recipient's body for one year and after that the frozen embryos are placed in the transplanted uterus in the recipient's body. The success of such procedure is yet to be decided in long terms as the previously done using a brain dead donor body in Saudi Arabia (2002) and in Turkey (2014) have been unsuccessful due to rejection of donor's uterus by the recipient's body. So far only live donor uterus transplants have been successful in Sweden.

The integrity of such a procedures is debatable because after the completion of the pregnancy such a uterus is removed from the recipient's body to avoid use of lifelong immunosupressive drugs.

The question here arises why are woman ready to accept such type of surgical interventions when other much easier ARTs are possible. As reported, the recipient in this case wanted to carry her own child. She had already had one still birth and two miscarriages, which had resulted in a bad uterus. She was now left with no option of nurturing a foetus in her womb. She was also suggested the options of adoption and surrogacy but her keenness to have her own child, led her mother to donate her uterus. She told, "I want a grandchild. I am doing this for my daughter. There was not much to think." One aspect to discuss here is that all these surgeries involved had been done free of cost by the hospital(The Hindu, 2017).What does this imply when a couple who has viable options of adoption or surrogacy, is opting for uterus transplant consisting of three major surgeries apart from other associated procedures? It is imperative that the medicalizaiton of pregnancy in the societal pressure of womanhood is promoting more and more sophisticated procedures to provide the most 'natural' offspring.

Feminist and sociological critique

There are two terms childlessness and infertility. The first term is just a marker while the second represents a disease. It is the orientation of society which compels a woman to seek a healthcare in case she does not get a child within the socially stipulated time even if she may not be willing to do so. In societies like India, woman are always pressurized to have a child after marriage (Doyal 1995, Clarke 1999). The way reproduction is medicalized has also supported the old norm that motherhood is the only goal. Three things which are critiqued by feminist are medicalization of

women's body, cost of reproductive technologies and control over women's autonomy.

Medicalization

Women's health especially in the arena of reproduction is seen as parallel to her womanhood and so any related event of life has been medicalized. The stages of woman's life like pregnancy, menopause and premenstrual syndrome which were once the domain of the midwife and/or female relatives are now has been subject of medical interventions (Sadgopal 2012, Patel 2012). In the past, infertility was considered a psychosomatic problem which need no medical treatment but with the technological development of medical science and the hidden potential of money making, infertility treatments were started to be marketed (Rao 2007, SAMA 2006). For this reason the argument starts that infertility treatment were not started in accordance to the need but according to the flow of capital in the field (Sunderrajan 2006).

Medicalization is the process which defined social problems as medical problems. As a consequence the problems which were earlier considered normal became pathological. Most sociologists have been critical of the process of medicalization in society; their argument is that medicalization will have adverse social and medical consequences. One consequence of medicalization is the increased control of medicine over aspects of daily life (Sujatha 2014).

Greil et al. (2010) have used the term 'medicalization' to denote the process by which certain behavior comes to be understood as a question of health and illness, subject to the authority of medical institutions. One phenomenon that has become increasingly defined as a medical condition is infertility. The theory of medicalization of infertility gets the support from the frequently changing definition of infertility. It was before the year 1975 when a couple was considered infertile only after failure of conception after five years of unprotected sex. But in 1975, World Health Organization changed the definition by reducing this period to two years which was again modified by the same agency to one year in 2005. This modified definition of infertility has suddenly caused its emergence as an epidemic in a need of treatment.

Sujatha (2014) describes how conception and childbirth moved over time from the social realm of the home and the midwife to the medical realm of the hospital and the obstetrician brought it under exclusive expert control. Feminists argued that medicalization reinforces the cultural and social norms and designed technology with the intentions of maintaining the status quo of patriarchal notions and this is quite evident from the way infertility is projected as medical disease and only cured by sophisticated technologies which was once considered an individual or social problem. (Stacey1995) illustrated how infertility, which was considered a social condition has recently been recast as a disease. This shift has occurred because of the patriarchal notion where women's social role is to procreate and the value of children in society, created infertility industry which produced increasing numbers of physicians who specialize in reproductive endocrinology, which results in growth of research on infertility, and the development of reproductive technology. Medicalization started from procedures like mammography, pap smears, and infertility treatments(Stacey 1995).

Girija (2013) argued that medicalization has been linked to the influence of the pharmaceutical industry at large because despite the side effects and iatrogenesis caused by the biomedicine, its use is much promoted through introduction of newer medical technologies and biochemical products. As physician told that overmedication is also a common practice by the biomedicine practitioners. She illustrated by giving example that most of the time proton pump inhibitors in the name of reducing acidity caused by the medicines, supplements of calcium and vitamins are usual part of their prescriptions that can easily be reduced with judicious use of medicines. She further argues that the neglect of Indian system of medicine that started since the British era was the leading cause of declination of Ayurveda from the mainstream health care system. Now western medicines are the mainstream medical system of our country which are continuously introducing newer medicines and technologies for prevention and treating the diseases. Any illness leads to prescription of many medicines some of which may be iatrogenic as well. Girija opined that all happenings in the medical sphere are surrounded in the vested interest of pharmaceutical industries.

Medicalization of male health problems

Till the start of 21st century it was the women only for whom the medicalization was happening in the form of NRTs. With the introduction of Viagra in 1998, one of the highly hyped medicines for erectile dysfunction, medicalization of male sexual problems surfaced. This medicine was first introduced for erectile dysfunction but the booming market in its favor, marketing of this medicine was even intensified promoting it for younger men as a tool for pleasure enhancement. One other problem of andropause causing generalized weakness and lack of social desire was earlier a social problem related to aging but have now medicalized with the introduction of testosterone replacement therapies. This androgen replacement therapy used for this condition is controversial due to its potential hazards in the form of prostate cancer. Male baldness is also now projected as disease reinforcing many bald people to get hazardous medicines like finastride and going though surgical interventions like hair transplant which is now a growing sector in cosmetic surgery (Conrad 2007).

Control of women's autonomy

Stacey (1995) argued that the advent of assistive reproductive technologies has transformed the whole field as establishing itself as an alternative to sexual reproduction as mode of conception. She further argued that earlier, reproduction was the domain of midwives in Britain. Midwives had accumulated wisdom and personal experience which they perceived and transferred from generation to generation and helped other women give birth by using their skills and customs but Male obstetricians replaced midwives and took control of reproduction. In present time men took control of reproduction and created technologies which have developed "alternatives to sexual intercourse as the mode of conception" she said instead of paying attention to the causes and prevention of infertility the focus is on developing these sophisticated technologies which have greater implication not only for the lives of women but also on social structure and social values.

Sociologists have been critical of the use of ARTs and consider it as the socially constructed illness of childlessness which further enhances the male dominance in the society with control over woman reproduction and her choices. They have been used to ensure that the 'right' kind of people are being produced. Actually this is the brain child of capitalist economy and does not allow woman to be free(Bryson 1999).

According to Gena Corea(1985), 'the issue is not fertility; the issue is the exploitation of women' Many feminist consider IVF, embryo freezing, egg donation and other new developments in infertility treatment harmful and threatening to women's control over their reproduction. ARTs have been the latest of the lot but it is stated that knowledge of the female reproductive system was developed in a way that physician could know more even from the woman herself. (Stacey 1988) explains, one of such events is the development of speculum, a tool to view internal structures through vagina. In this way the physician started controlling the women. During 1960-70 women tried to reclaim their control on their bodies and in this efforts the lay woman tried to teach other woman how to view internal to vagina using speculum and a mirror.

The routinization of the medical techniques for other purposes for which they were earlier invented is also a matter of concern for sociologists. They have been critical on procedures like IVF,in the backgrounds routine use of other techniques related to the reproduction like Caesarean section, ultrasound and fetal monitoring which are now used with other motives (Rothman 2000, Clarke and Olesen 1999)There has been other instances also where medical technologies which claim to provide a solution for a social and health problem has been proved to be a debacle for others, such as the women who became infertile due to the exposure of DES (diethylstilbestrol), IUD (intra uterine contraceptive device), use or unnecessary pelvic surgery (Corea 1985). So, there is a belief that these newer technologies will enhance the male control over procreation more, rather than acting as tools for women’s reproductive choices.

In India, the status of woman regarding her sexual and reproductive health is not completely under her own control, and she may have to go with the choices imposed on her by the family. There are other factor also like poverty, malnutrition, early marriage and inadequate education which limits her to enjoy her autonomy. As Jejeebhoy mentioned, “Lack of awareness, lack of spousal intimacy and communication on sexual matters, and widespread gender based violence compound women’s inability to negotiate safe sex, seek appropriate health care or experience a healthy pregnancy” (Jejeebhoy 2004).

Medicalization and gender

The exploitation of woman in the background of infertility has been debated frequently. It is a fact that it is the woman's body which has to take all the pain whether it is of the investigations related to the infertility or its intrusive treatment procedures. Men are always scrutinized only after the women in the case of infertile couples. One of the reasons for female investigations gaining importance over those of the male may be due to the monthly appearance of menstruation in female which directly or indirectly correlates her ability to reproduce. But the role of beliefs about the woman being the locus of reproduction cannot be nullified. Projection of men as strong and independent in comparison to woman being weak and dependent in the society is often found (Ganth2013).

Both the diagnosis and treatment for a probable cause of infertility, puts the women through various painful procedures in comparison to male who most often need a semenogram for diagnosis. If we glean through the causes of infertility in biomedical terms, most of the factors responsible for infertility seem to be related to the anatomical defects like anomalies in uterus, tubal blockage and PCOS (poly cystic ovarian syndrome). So, it appears that intrusive and painful procedures are mostly required for females whereas males who have defects in semen quality which can be treated though medicines or not at all who had developed these technologies, whether the pain and comfort level of women was a criteria in the process of ART building are questions that have been raised by feminists.

Cost of ARTs

Two terms are generally used for the expenditure on health, impoverishing expenditure and catastrophic expenditure. Impoverishing expenditure is that expenditure on health which may land a person below poverty line due to financial collapse. Catastrophic expenditure is out of pocket payment on health which exceeds certain proportion of household and due to which household suffers the burden of disease.[1] Russel (1996 c.f Dyer 2012) argued that person who is spending on health out of his pocket does not mean that it is 'ability' to pay, but it his 'act of willingness' to pay which may push him/her at the risk of paying catastrophically or s/he may pay

[1]http://www.who.int/bulletin/volumes/90/9/12-102178/en/).

impoverishing expenditures. Garg (2013) in his article mentioned that in India, more than 40% of patients admitted to hospitals borrow money or sell assets, and 25% of peasant families with a member needing in-patient care are driven BPL (below poverty line).

Cost of maternal health is already very expensive in India so when it comes to infertility, the treatment cost and its post treatment care become very high. The average maternity expenditure varies between geographical areas and between providers. However, a study using the National Sample Survey from 2004 showed that a vast majority of the poorest households in the country paid more than 40% of their capacity to pay for maternal health services. A community survey from South Delhi showed that direct maternity expenses are high, sometimes exceeding 10% of the annual family income for the poorest"(Sanneving et al. 2013).

Infertility care is probably the most neglected and underestimated health care issue in developing countries. The argument of overpopulation suggests that in countries where overpopulation poses a demographic problem, infertility management should not be supported by the government. But the global fertility rate in majority of developing countries has been lowered by 2.5 and it is the improved life expectancy which is more a contributing factor in comparison to their growth rate. But on the other side it is also a fact that the growth of population is far more speedy that any contribution to this made by infertile couple after getting accessible infertility treatment will not count even less than 1% of total deliveries. Everybody has the right to reproduce at his/ her own will. In the Universal Declaration of Human Rights it was adopted that "Men and woman of full age, without any limitation due to race, nationality or religion, have the right to marry and to raise a family". This statement is explanatory enough to provide healthcare facility for a childless couple so that they can have a child of their own (Ombelet 2011). World health organization describes reproductive health as a mean to live a safe sex life and capability to reproduce as per everybody's own choice. It also advocates the right of choosing appropriate healthcare for fertility so that couples may have a healthy infant.[1] So, fertility treatment should be provided to each person by the government and side by side family planning and health education can be improved to compensate this growth.

[1] http://www.who.int/topics/reproductive_health/en/

Although ARTs are now available to 85% of world population, cost has been mentioned as one of the prominent barrier especially, in resource restrictive environment (Dyer et al. 2013). ART services in India are mostly in private sector and there was no regulatory bill till the year 2016, when surrogacy (Regulation) bill 2016 came into force. Lack of facilities in public sector leads to exploitation of poor and only few from higher socioeconomic groups can afford them. Singh et al.(1996), in his study showed that high costs sometimes result in discontinuation of treatment or people resort to unqualified practitioners.

Presently in India, the cost of one sitting of IVF falls between 90000-150000 INR depending on the age and health condition of health seeker. This includes all consultation, tests, all required procedures and invasive investigations and medicines.[1]Only 33% cases get a successful IVF on their first cycle, the rest have to try again and again. After having three cycles of IVF, the chances of success are 70%. So, for securing a conception, a woman may require many cycles of IVF[2]. Other procedures like IUI costs around 10000-20000 INR per sitting with success rate at 5-15% and surrogacy costing around 25,00,00-50,00,00 INR with 50-60% success rate.

The cost of IVF is the top most cause for drop out. Though couples often manage to opt for this technique for the first IVF cycle, they are not ready to take a financial burden of any more cycles (Kulkarni et al. 2014). Such drop outs generally start searching for a cheaper option because by this time they also become familiar with the fact that such treatments needs to be repeated for cycles to get a definite outcome. In this course they also start exploring other systems of medicine.

ART and the Biological Progeny

Apart from sky high cost which is the most restrictive factor for its use in developing countries, there are associated social, cultural and religious restrictions as well. Debates are also there about the genetic lineage or *vansh parampara* which is surely discontinued at least from one side of parents in many of these treatments. There may be other issues like mutation, which may occur in a child developed with AID or IVF having a different donor of gametes.

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[1]http://www.ivfsurrogacy.com/ivf-costs/

[2] www.infertilityny.com/blog/how-many-times-do-i-need-to-try-ivf-before-it-works

There are only few techniques of ARTs which may provide the desired progeny otherwise, in biological inheritance from both the partners does not actually happen. Techniques like AID (using sperm of a male other than father), IVF (donation of egg other than mother) and gestational surrogacy in which any of the partner or intended parent's take donor sperms or eggs, are some of the examples where the linking of genes with the parents does not happen completely. An IVF may have implantation of embryo developed from the gametes of actual partners or any of them may be changed or even both of them may be changed. So, the progeny in first case will be ideal biological progeny. But in other cases it may be half linked or completely alien in nature from the social parents. Such sort of kinship has been termed as exotic form of kinship (Inhorn and Balen 2002). Strathern argued"if kinship, as a set of social relations rooted in the fact of biological reproduction, then the nature of kinship itself might be called into question by ARTs. These, in effect, destabilize the biological aspect within parenthood through technologies and third parties" (Strathern1992).

Before the advent of ARTs, there were several options for couples like adoption or raising another child from within the family. With the introduction of ARTs, adoption became the last option for couples because the apprehensions about the genetic traits of adopted child and possible negative future outcomes related to identity of adopted child loom large. The other issues related with adoption are its acceptability in different religions like in Islam which do not permit it. The other factors with religions like Hinduism, where the importance of a biological child is related to the sacred vows like *pinddaan* and *kanyadaan*. Against this background ARTs seem to be the only viable option left. Even ARTs have not full acceptance depending on the country, religion and feasibility. In Islamic Sunni law, all forms of ARTs are allowed with the condition that the gametes should be from the legally married couple. It also allows frozen pre implantation with a condition of valid marital bondage is continued and has not been disrupted due to death or divorce(Pasha and Albar 2015).AID (artificial insemination by a donor) is not accepted by the Roman Catholic Church as they consider it adulterous and based on masturbation (Katiyar 1993). So, of all the available options it is the ARTs only which can provide option of biological progeny. But the question remains does ARTs produce biological progeny?

How can the cost of ARTs be reduced

Be it a socio-cultural issue or a financial (economic) issue, it is not easy to change the mindset of society in one go about woman infertility. It is the natural body composition that is meant for procreation and the physiology of woman body, which may not be compromised all the time. On some occasions it may also be the need of the family to have a child or any such other compulsion where child bearing may be necessity for a woman without any outside factor. In such circumstances, the two third population living with a low socio economic state, ARTs can be the only solution when all other methods of conception have failed. For such type of couples for those livelihood matters more than healthcare, low cost ARTs are much required. There have been some researches which can come with low cost solution for the hefty cost of existing infertility treatments.

Omeblet (2011),in his article has suggested some of the solutions are, use of low doses of ovarian stimulation hormones like gonadotrophins, GnRH agonists and GnRH antagonists. Besides that low cost medicines like clomiphene citrate should be tried which serve the same function and exerts fewer complications. Some other cost cutting measures are minimizing the use of expensive incubators and cylinders of carbon dioxides during transfer of embryo, and intravaginal fertilization and culturing.

In India, pioneer programmes have been able to cut costs by one third by giving low doses of hormones to stimulate ovulation. “While this produces fewer eggs, it is more patient-friendly and we manage to obtain acceptable levels of healthy live birth rates,” says Dr Suneeta Mittal, head of the Department of Obstetrics and Gynaecology at the All India Institute of Medical Sciences in New Delhi, India. Current costs of one IVF cycle are around 60 000 Indian rupees (US$ 1300), the equivalent of six months’ salary for some couples. Her clinic is working to reduce this cost to 20 000 rupees (US$ 430) and to develop a programme that targets prevention of infection and education about fertility. ‘There is so much stigma attached to being infertile in India. It is so important to address this issue’ (WHO report, p273).

Consequences of ARTs

Gender bias towards a male child has been observed in many cultures worldwide since long and even the royal families were not spared of it. Various investigative procedures like ultrasonography which were developed to diagnose the abnormality within the body could be misused in diagnosis of fetal sex and encouraged selective female feticide. Previously ART's were mostly used for the treatment of infertile women having problems like defects of fallopian tubes which were not possible to correct with surgery or medicines. But now ARTs are used for both female and male infertility. Now with the development of ARTs, the selective implantation of embryos can be made after the possibility of segregating the x and y spermatozoa through flowcytometery techniques. The darker side is the use of ARTs by normal couple to have the child of sex as per their wish (WHO report p. 273). This may reduce the selective abortions and female feticide but may result in deranged sex ratio which has already been a burning issue in some states of Northern India. It has also been felt that on many occasions, it does not provide any solution to the existing problem of the woman but may lengthen and exuberate her suffering by giving her hope of getting motherhood (SAMA 2010).

Side effects of ARTs

Another major area of enquiry about ARTs is the painful side–effects. In IVF, for instance, there are lots of complications arising from hyper stimulation of the ovaries and this includes an increased risk of ectopic pregnancy.[1] The reported incidence of ectopic pregnancy after IVF treatment ranges between one and two per cent of all pregnancies. After one ectopic pregnancy, the risk of recurrence is between 10 and 20 per cent. A study reported in the *Lancet* showed that the abortion rate is about 20–30 per cent higher than among women who conceive through sexual intercourse. Some other complications like multiple pregnancy and ovarian hyper stimulation syndrome (OHSS) are also associated with IVF. The risk of preeclampsia[2] increases by 55 per cent, premature delivery increases two fold and the risk of placenta praevia increases three-fold. The risk of stillbirth increases by about 2.55 per cent. Babies are born with

[1] Ectopic pregnancy is a condition in which the embryo attaches outside the uterus, more frequently in the fallopian tubes.

[2]Preeclampsia is a condition of high blood pressure and above normal excretion of protein in the urine form the body of a pregnant woman.

a low birth weight and have a higher risk of being small for their gestational age (Sutcliffe and Ludwig 2007). The other risk of ICSI (intra cytoplasmic sperm injection)[1] is that the baby would be born with a cleft palate. The fertility drugs given to women for stimulation of egg production are associated with risk.

There are different opinions regarding medicalization of woman reproductive health problems. Some who are in favour argue that it may reduce the stigma associated with certain problems (Conrad 2007), while others hold a view that medicalization leads to disempowerment of women's body by giving control to a medical man. Mentioning biomedicine as a 'Male streaming" instead of "mainstreaming" as described by feminists from the West. (c.f Sujatha 2014) Feminists have always advocated in favor of woman's control over her body and argues against the new reproductive technologies which they deemed as a danger of losing woman's control of her body to the physician. Feminists project the woman autonomy in relation to the womanhood and not central to motherhood which is projected by the biomedicine. Modern medicine has done very well for developing various techniques for investigation and treatment for many life threatening conditions but the advancement happened in the field of infertility are more technological and invasive than medicinal. Through these technologies, it has been successful to provide an infertile woman a social status of being mother but alongside has controlled woman autonomy of reproduction in many ways and making her more vulnerable for exploitation in the hope of getting a child.

The foregoing discussion shows that the critical debates about the social and medical aspects of infertility, the relevance of ARTs/NRTs and its implication for the lives of women are based entirely on the belief that there is only one system of medicine, namely, biomedicine that is treating infertility. In many countries, medical pluralism, which refers to the prevalence of multiple system of medicine in the public arena is a reality.

When ARTs have low success rate and there is lack of technical expertise and shortage of supplies, high cost and semi qualified practitioners then question arises, is biomedicine or ARTs are the only options for infertility? It is really the last resort, if it

[1]Intracytoplasmic sperm injection is an in vitro fertilization (IVF) procedure. In this a single sperm is injected directly into an egg.

is the last resort then what people generally do when they don't get results? Do they stop taking treatment or again they search options in other system of medicine? If they avail treatment from other system of medicine then one has to explore what other systems of medicine offers, how it cures or treats infertility, what are the principles and theories for treating infertility, how efficacious the other system of medicine is, how cost effective it is?In the Indian context, however, biomedicine is not always the only option. There are several systems of medicine and kinds of practitioners offering treatment for infertile couples and this brings us to the question of medical pluralism.

Role of *dais* in handling infertility

Sadgopal in her article argued that *Dais* are important agents, dais have knowledge of birthing mother and infant in India and south Asia. In all part of India these dais used to give their services and were known with different names. The term *Dai* was commonly used in northern India, in Maharashtra they are known as a *Suin* while in Tamil Nadu they are called *Maruttuvachi*. They used to have rich source of knowledge and knew how to handle childbirth. She argued that, earlier *Dai's* work was based on division of labor and caste hierarchies, like dalit's work was supposed to provide the post-partum services.

The role of traditional healers was sidelined sequentially with the advent of biomedicine in India. In this process not only the Indian systems of medicine face the challenge but the importance of traditional handlers of birth, *Dais,* also was questioned in background of safety measures. It was clear that they serve not only in rural areas but also served in urban area mainly catering their services to the needs of urban poor. Sanneving et al. (2013) mentioned that "Findings from a study conducted in the slums of Mumbai show that traditional birth attendants are the most common health professionals to assist at home births and that the direct cost of a home birth was not substantially less than the cost of an institutional delivery in the public health sector. Customs and tradition, as opposed to cost, were the most common reasons given for delivering at home."

Improvement of Maternal and Child Health among the rural poor was one of the main motives of National Rural Health Mission (NRHM). In an exercise to minimize maternal mortality, institutional deliveries were promoted which put a question mark

on the role of dais who have so far played a vital role both in home and in institutional deliveries especially in rural India. Their role has been limited now and they have been the channels for timely referral of pregnant woman to hospitals, or accompanying pregnant women to the hospital and staying with her, and providing post-natal care. They have been given the status of Traditional Birth Assistant by educating and training under various programmes. The traditional role of dais to conduct the home deliveries has been completely marginalized and now they are the medium to communicate the government programs like immunization, family planning, tuberculosis and HIV/AIDs control and awareness to the rural populations where they still are more reliable source of health education.

Medical pluralism

The co-existence of various systems of therapies in the public health is referred to as medical pluralism (Sujatha 2007). In India health care is provided by various medical systems named biomedicine, Ayurveda, Yoga, Unani, Siddha, Naturopathy, Homeopathy, and variety of folk traditions. People in India resort to various medical systems on the same time for their health problem(Sujatha and Abraham 2012). Whether it is the inaccessibility of biomedical facilities in rural areas, side effects due to medication, the invasive diagnosis and treatment and the high cost, people always tried other options sequentially or simultaneously. So medical pluralism is the reality because people tend to avail medical services from different systems.

AYUSH and its role in healthcare in India

Priya et al. (2010),argued that India is among those few countries that have included traditional medicine officially. Except the modern medicine, all other formal systems of medicine prevailing in India namely Ayurveda, Yoga, Unani, Siddha and Homeopathy are now covered under the AYUSH Ministry.

It is a well-known fact that allopathy is not accessible to all and there are studies which shows urban poor generally go to non-certified practitioners in order to get quick relief. In WHO (World Health Organization) report it was mentioned that in Delhi women avail services from midwives for delivering babies. So in this context it is important explore why and how people are opting for alternative services. Is it

because of cultural closeness with traditions or they are availing it because of non-accessibility of biomedicine.

Infertility is the leading cause of health care seeking in many developing countries (van Balen and Gerrits 2001).ARTs in biomedicine have become the norm for this problem. Infertility is a neglected area in public health system in India which is already burdened with the load of over population and the focus of government is on policies for fertility control. There are various health programs related to the child and reproductive health but so far no dedicated program related to the infertility has been surfaced. In contrast the private sector is booming with infertility clinics and treatment which charge the seekers heavily. Recently the surrogacy bill has put a halt on commercial surrogacy, but ARTs continue to flourish. India is a country where vast variation exists in between the classes according to the socio-economic status. Almost 27.5 % of the population is below the poverty line which represents the lower income group who is not in condition to bear the present costs of ARTs. Apart from the cost and affordability, other issues like the low success rate, lengthy and painful intrusive procedures and side effects which is another domain limits the use of ARTs. In India where ART is relatively a new thing, quality of ARTs and its providers is also questionable.

Widge in her study quoted "*even though advanced training centers for ARTs do not exist in India, 27% of the survey respondents said that they had a specialization in ARTs procedures and 60% had completed their training between 1995 and 2005, courses and certificate programmes are available in the USA and UK. The length of these programmes ranges from 4 days to 1 year. Short courses are organized by the European society for human reproduction and embryology. There are also master of medical science degrees offered on ARTs. Most Indian providers train by attending short workshops and through observation. ARTs are not included in curricula of medical colleges and there is no recognised certificate course, super-specialty for ARTs or regular medical education trainings. About 46% of the providers surveyed said that lack of specialized training was one of the impediments to infertility treatment and 52% of the providers felt that lack of infrastructure and facilities was another impediment. A private sector ARTs specialist stated: they attend a five or ten day workshop and say they are specialists. I still find myself asking questions even*

*after 2 years or 3 years of training at a tertiary level center abroad. "*so in this context the quality of treatment of ARTs are questionable.

Priya et al.(2010) argued that, in 2005, NRHM has 'mainstreamed' AYUSH systems and taken initiative to revitalized LHT (local health traditions) to strengthen the public health system and it was done to ensure that rural and poor population groups can access some sort of health care which is hardly accessible to them in biomedicine. She further argues that, the main purpose of mainstreaming was to provide services to those marginalized sections where allopathic doctors were unwilling to go. In NRHM, active participation of AYUSH was done to serve three objectives, i) Choice of the treatment system to the patients, ii) Strengthen facility functionally andiii) strengthen implementation of national health programs. AYUSH doctors were trained for some of the functionaries like implementation of national health programs. They were given very restrictive powers specially to practice surgeries or other minor procedures. Depending on the state they were deputed in different ways like in awareness programs, as a workforce in endemic areas etc. In some states, Panchakarma units, ksharasutra units for ano-rectal surgeries and Rasanyan Chikitsa units were also established. In short through NRHM, the start for mainstreaming of AYUSH could take place(Samal 2015).The integration of AYUSH systems can help in providing efficacious and cost-effective treatments in certain health problems (Chatterjee et al. 2012).

After the implementation of National Rural Health Mission (NRHM) in 2005, attendance of skilled attendant at birth and quality of ante natal care (ANC) has been upgraded (Sanneving et al. 2013). One of the ayurvedic classical medicine, Punarnavadi Mandoor, a source of iron is part of ASHA kits under the NRHM mission for management of anemia and pregnancy care (Goel 2010).

Our understanding of the role of medicine in altering the social fabric will therefore be incomplete without studies into the manner in which other systems of medicine that are in vogue handle health problems of the day. In our study we wish to focus on how Ayurveda looks at childlessness and what therapeutic options it provides. This is important because Ayurveda has a distinct theory of the body from that of biomedicine and its approach to disease and treatment is significantly different.

Potency treatment and Ayurveda

Ayurvedic pharmaceutical companies are not far behind as they too cash in on these gender stereotypes. The focus of contemporary Ayurvedic pharmaceuticals seems to be shifting from reproductive health to sexual health. In Islam and Pearce's (2013) article 'The Promotion of Masculinity and Femininity through Ayurveda in modern India' dealt with some of these questions. The authors argued that companies have indeed created a shift in the manner in which male and female bodies were perceived in Ayurveda. They show that Ayurvedic pharmaceutical companies draw heavily from classical Ayurvedic medical formulas, but they problematically redefine women's health. They project women's health in terms of physical beauty and skin tone whereas in classical Ayurveda, women's reproductive health was given more importance. Emphasizing the 'natural' content of Ayurvedic medications, pharmaceutical companies target women as potential consumers by promoting products for the enhancement of beauty, associating women's bodies with nature.

Interestingly, the authors found that in Kolkata Ayurvedic pharmacies, there were greater numbers of medical recipes for male infertility. According to the authors, the way pharmaceutical company's redefined men's sexual health was also problematic. In classical Ayurveda, reproductive health was focused which was associated with robust semen, physiology and reproduction, but the way contemporary Ayurvedic pharmaceutical companies project it as the 'power of masculinity' with an emphasis on sexual prowess, focusing only on premature ejaculation, erectile dysfunction, needs to be questioned. Pharmaceutical companies seek to redefine masculinity as sexual power which is contextually different from its representation in the classical Ayurvedic texts. According to the authors, contemporary Ayurvedic pharmaceutical firms cater to the needs of the sexualized and medicalised body through a large array of health and enhancement products ranging from sexual power boosters to products for muscular pain. Health products are promoted as a means to sexual power, and sexualizing images are used in marketing them.

The greater emphasis on enhancing male sexual power in contemporary ayurveda is shown by the fact that there were 22 brands of male impotence products including capsules, pills found in the Dabur Ayurvedic Medicine Shop, whereas there were only two products for women. The products have an ayurvedic or 'herbal' logo and are

marketed with impressive packaging and with erotic layouts, but there were very few products for women. They argued that the prime selling points for these products were the Ayurvedic and/or herbal ingredients that are said to boost sexual energy.

The authors point out that although various Ayurvedic impotence pills marketed by these firms had some side-effects, they were sought for because they were perceived as having natural and herbal content with minimum side effects.

Alter Joseph (2008:186) in his essay, Ayurveda and Sexuality: Sex Therapy and the "paradox of virility" argued that, "*As is the case in the Rati sastra* literatur*e, sex in the classical ayurvedic texts is about reproduction. One of the most striking features of vajikarana is not so much the image of a stallion like man who has endless stamina but the concern of Caraka and others is with the quality of his semen. Vajikarana is that which produces lineage of progeny, quick sexual stimulation, enables one to perform sexual act with women uninterruptedly and vigorously like a horse, makes one charming for the woman, promotes corpulence, and infallible and indestructible semen even in the old persons, renders one great having a number of off-springs. To think of stallion like sex as an end in itself is to completely miss the point. And it is a very easy point to miss, given that sexuality and the kinetic pleasure of sex has focused so much attention on the relationship between those engage in the act, as the act has come to signify so much about masculinity and femininity in general. The question of reproduction—what the sex you have produces, and how the sex you have affects the production and combination of sexual fluids in discrete bodies—has become one of elemental biology rather than an issue that is linked to sex and sexuality"*. Alter points out the irony in contemporary times that knowledge is wrongly interpreted to emphasize one part of the problem i.e focus mainly on sexual power instead of reproduction. According to Ayurveda, it is not the muscular and broad or heavy male body that is basic for robust semen, but inner metabolic factors. There are Studies on folk practices and healers in different parts of the country which highlight the widespread focus on male infertility and impotence in traditional treatments. In his study of sex clinics in Delhi, Srivastava (2010) has also pointed out how male migrants in cities and metropolises sought *desi* or ayurvedic treatments to improve sexual performance.

It is clear that there are several other kinds of treatments and approaches to infertility in India. This is expected because childlessness has several dimensions and in a culturally diverse society like India will naturally have multiple approaches in the public arena. This study focuses on the Ayurvedic approach. While there are studies looking at the changes in traditional medicine in the past century, specially Ayurveda, leading to its modernization and professionalization (Banerjee, Bode, Qaiser, Sujatha, Leena, Harish, Langford) there are relatively few, if any studies examining the ayurvedic conception of a particular condition in the contemporary setting. *This study aims at investigating the Ayurvedic approach to infertility in terms of its textual content and treatment protocols and find out the underlying conception of the female body and reproduction. The idea is to see how invasive these methods are and what kind of assumptions they create about the woman's body thereby unraveling the relation between gender and medicine.*

How different are the ayurvedic methods of understanding and treating problems of conception and childbirth from that of biomedicine? If the other systems of medicine like Ayurveda, Homeopathy and Unani are not so technology intensive, what is the nature of treatments they have for problems related to conception? What kind of clientele resorts to these systems of medicine for problems of infertility? What kinds of outcomes have been noted? What are the costs involved? What are the demands of their treatment methods on men and women? This is especially necessary because AYUSH systems under mainstreaming have come to become a crucial part of the public health care delivery system accessed by the general public. It is essential to examine how women's health is approached here through the lens of infertility.

Ayurvedic specialties and importance of Prasuti Tantra

Ayurveda is a combination of two words, *ayu* and *veda*. 'Ayu' means 'life' and '*veda*' stands for 'science' or 'knowledge'. So, ayurveda literary means the science of life or the knowledge of life.[1] Classical Ayurveda has been divided in eighth specialties known as Astanga Ayurveda including *Kayachikitsa* (medicine), *Kaumarbhritya* (pediatrics including gynecology and obstetrics), *Shalya Tantra* (surgery), *Shalakya*

[1]The history of ayurveda is divided in three parts, the period of Samhitas (100BC – 6th century AD), the period of SangrahaGrantha (Mid of 6th Cent AD -16th Century) and the period from 16th century onwards till early 19th century. After that the modern time of ayurveda came to existence which again has three stages.

Tantra (ENT and Eye), *Agadtantra* (dealing with poisoning), *BhutaVidhya* (dealing with etiologies that are not visible), *Rasayan Tantra* (rejuvenaion) and *Vajikarana* (treatment of sexual functions and dysfunctions). All the three major texts of Ayurveda, Charak Samhita, Sushruta Samhita and Asthaga Hridayam have been written following a certain pattern in which all these eight branches were described elaborately. In the current college based ayurvedic education, branches or specialties of Ayurvedahave been formed in a pattern similar to biomedical curriculum. So fourteen separate branches of Ayurveda are presently taught in the BAMS (expand) course. These are, *Sharira Rachna* (human anatomy), *Sharira Kriya* (human physiology), *Samhita and Siddhant* (basic principles), *RogaNidana*(pathology), *Dravya Guna* (pharmacognosy and pharmacology), *Rasa Shastra and BhaishajyaKalpna*(pharmacy), *Agadtantra and vyavharayurveda* (forensic medicine), *Swastvritta* (social and preventive medicine), *Panchkarma, Kayachikitsa* (medicine), *Shalya Tantra* (surgery), *Shalakya Tantra* (ENT), *Kaumarbhritya* (pediatrics), *Stri Roga & Prasuti Tantra* (gynecology and obstetrics).

Interesting to know here is that in the original ayurvedic classification there was a branch named *Kaumarbhritya* or *Balaroga* which was meant to deal with the nutrition of child, the methods of purifying the milk of *dhatri* (mother) and treatment of diseases of children originating due to drinking of vitiated breast milk and affliction with *Griha*.[1] There was no separate branch to deal with the female reproductive health. It was mainly dealt by the experts of Kayachikitsa. Some of the events like obstruction of labour (*mudhagarbha*) was treated surgically by experts of shalyatantra. In some instances, the influence of bhutavidya can also be seen in treatment for delayed labour and different types of *jaathaarnis.*On the contrary a separate branch, Vajikarana, was there to deal with the seminal diseases and sexual functions and dysfunctions of men. In due course of time, two separate branches of *Kaumarbhritya* (pediatrics) *and Stri Roga & Prasuti Tantra* (gynecology and obstetrics) came in to existence dealing with the health of children and the other for woman health respectively. The stri roga is analogous to gynecology dealing with the common problems related with female genital organs while prasuti tantra deals with the pregnancy and related subjects.

[1] Su Su 1/13

Research questions

In Ayurveda, disease is understood as caused by internal imbalances which can stem from variety of factors and leads to pathological conditions. There are different approaches to diagnosis in biomedicine and Ayurveda. Diagnosis refers to the process of identifying a disease by using a combination of clinical signs, symptoms and medical tests starting with the patient's case history. In biomedicine however, the attempt is to arrive at a single cause located in a particular organ. But using clinical signs and patient's case history, Ayurveda tries to find out the deranged functions of multiple organ systems which are referred to as *doshas*. The holistic and integrative approach to diagnose and treatment gives Ayurveda a distinctive feature as compared to western medicine which focuses on 'structural reductionism.'

> *In the field of medicine, the human body is understood as an assemblage of structures. The entire human body is understood in terms of various systems like skeletal, reproductive, circulatory etc. This is called reductionist perspective as the entire human system is reduced to the fundamental system of matter. Reductionism is the breaking down of complex system studying them separately'* (Jayasunder 2012)

"Western medicine looks at mind and body as different entities and has resulted in attempts to isolate a single cause of disease by linking its aetiology to specific anatomical location and structural entities which leads to the development of sophisticated techniques and technologies for diagnosis and treatment of disease, whereas, Ayurveda considers mind and body as a single entity and views the human system as a complex yet integrated entity. It aims to address the root cause of disease and follows a multi-model treatment approach including internal and external medicines" (Jayasundar 2012). The author explained how biomedicine explores the anatomical structure of the disease, but Ayurveda captures the root cause of disease by focusing on the functions of organ systems.

There are several studies on gender and biomedical practices which clearly indicates that in biomedicine woman is the object of medical intervention with a range of infertility treatments like IVF and other surgical procedures. In Ayurveda the special emphasis seems to be on fertility problems in connection to men, at least as per the

literature available till now. In other words, it appears at the outset that systems of medicine have differing emphasis on the genders. This differential gender focus of the two systems of medicine for the same problem, namely infertility, requires research attention. There has been a few studies on gender in ayurvedic medicine and so we have to find out how Ayurveda looks at fertility, conception and infertility and whether it makes more interventions on the men's body or the women's body? What are the contemporary clinical practices regarding infertility in ayurveda? Is the difference in the gender of the patients in the two systems because of the social background and choices of the clientele or due to the focus of the system of medicine itself? Is it possible to say that there is no medicalisation in Ayurveda? Does it produce side effects? Ayurveda is much hyped for its preventive aspect. Does it actually useful in case of Infertility as in that way it may be much helpful in our country having limited health budgets? In the light of these possibilities, the following objectives have been framed for the research.

Objectives of the study

1. To find out how infertility is understood in Ayurveda by studying selected ayurvedic texts.
2. To select two departments of Ayurveda in government institutions and examine their therapeutic protocols for infertility.
3. To find out how ayurvedic practitioners in the institutions view problems of fertility and what the focus of their treatments is.
4. To know what kind of problems regarding fertility and infertility do ayurvedic physicians treat.
5. To find out how far the ayurvedic practices for the treatment of infertility are intrusive and what kind of demands do they place on the patients.
6. To find out whether men approach ayurvedic facilities more than women for problems related to fertility or if ayurvedic treatments are directed more at men.
7. To study the social and economic profile of people who seek ayurvedic treatment for infertility and to find out the reasons for their choice.

8. To compare the role of gender, class and occupation of patients in conditioning their resort to biomedical and ayurvedic departments of medicine for problems of infertility.
9. To understand how different systems of medicine could have varying views of fertility and infertility and to highlight how gendering could occur within medical cultures.

Research methodology

For this study, the content analysis of classical ayurvedic texts Charak Samhita, Susruta Samhita, Astanga Hridaya, Sharangdhara Samhita and Harita Samhita was done. Along with this the contemporary books in the subject of Stri Roga and Prasuti Tantra like Ayurvediya Prasuti Tantra was also analyzed. To get a differential picture of the subject, some modern medicine books of gynecology and obstetrics were also viewed. The content analysis of articles published in esteemed ayurvedic journals was also done which were mainly related to the research work done in the field of stri roga and prasuti tantra of some elite institutes of Ayurveda.

This study was conducted at Ayurveda and Unani Tibbia College and Hospital (AUTCH), Delhi and R.A. Poddar Ayurveda Medical College (RAPAMC), Mumbai. Prior permission from the relevant authorities of these institutions was taken in advance. Data for the study was collected through semi structured open-ended interviews of the patient diagnosed with primary or secondary infertility coming to the Department of Stri Roga and Prasuti Tantra (analogous to Gynecology and Obstetrics of allopath) of these hospitals. The respondents were selected through snowball sampling and were questioned only after their willingness to participate in the study. To maintain the confidentiality of the respondents, they are given a pseudo name. Respondents were free to share their information on their willingness only and no compulsion what so ever was made on them. In the data while giving the narratives the place of these respondents have been given in brackets as (D) for Delhi and (M) for Mumbai. After that follow up study was done through telephonic conversations and the data provided by the Senior/Junior resident deputed in the Department of Stri Roga and Prasuti Tantra at RAPAMC. In Mumbai, 20 women suffering with the problem of infertility were interviewed, while in Delhi, total 15 women were interviewed. In Mumbai seven males having the problem of infertility or sexual health

were interviewed. In Delhi, five males, husbands of the respondents were also interviewed. Live demonstration of some of the procedures performed on patients as part of their treatment was also witnessed. The answers of these respondents were analyzed to get some inference as per the objectives of the study which have been placed in coming chapters.

Chapterization of the Dissertation

The findings of the study has been presented in the following chapters.

- In the second chapter '**Locating the field: Exclusive Ayurvedic treatments'** the introduction to the field has been given. The general idea about the field and the common queries has been discussed. In the last some experiences of field study by the researched has been summarized.
- The third chapter entitled as "**Experience of Childlessness: Social Dimensions**". In this chapter social issues like gender biasness existing in the society and its causes have been discussed. After that, issues like social stigma, marital instability and violence occurring as an impact of infertility has been discussed with the narratives of the respondents. In the end, gender biasness at the clinic level has been discussed.
- The fourth chapter '**Factors in health seeking for infertility** deals with the study of determinant for health seeking like age, education, socio-economic conditions, cost of treatment and many others. These have been discussed with the suitable studies from the field of sociology and public health.
- In the fifth chapter, '**Ayurveda on Infertility'** we have discussed the holism of Ayurveda and its basic theory of individualized treatment. The textual review of infertility in classical ayurvedic text and the contemporary practice of Ayurveda has been given after that. In the end the content analysis of some Ayurveda journals has been elaborated.
- **'Ayurvedic treatment protocols for infertility'** is the sixth chapter in which the Ayurveda treatment protocols followed by the physicians for the treatment of infertility has been discussed. Here an effort has been made to analyze these protocols in view of their integration with the biomedicine and rational of the physician for adopting such approach. The intrusive nature of ayurvedic

treatments used for infertility and respondents' view in this matter has also been elaborated.

Lastly, the conclusion section has been given based on the finding of this study. It highlights the issue of infertility and various treatment aspects. At the end of the dissertation, bibliography tables of the findings and some relevant figures have been put in the appendix.

CHAPTER-2

LOCATING THE FIELD: FINDING EXCLUSIVE AYURVEDA

Presently there are five state recognized systems of medicine in India other than biomedicine, namely, Ayurveda, Yoga, Unani, Homeopathy and Siddha denoted by the acronym AYUSH. It is another question whether yoga is a system of medicine, but its international diffusion has made the government to include it under the health ministry since 2001. More recently, ayurveda has also gained popularity as natural therapy. This is commonly observed in several hoardings claiming ayurvedic medicines can completely cure problems like Diabetes, '*madhumeha',* weight loss, weight gain and so on with special emphasis given to 'no side effects'.. Some people use words like '*desi dawa', 'apni dawa', 'garam dawa' 'jadibuti'.* There are several programmes running in T.V channels marketing herbal products and some on the benefits of using ayurvedic medicine for lifestyle related problems like diabetes and marketing their products directly to the consumer through telemarketing. Telemarketing, internet and online shopping have become key sources of information for the emerging middle class on health and natural therapies without consultation doctors. It is not only limited to social media, even stores like fab India sell herbal products as neutaceuticas. .Similarly there are numerous treatment options for infertility and impotency outside the formal health system. I found there are several websites and ayurveda clinics which are claiming to cure infertility and project it to be a major problem and assure hundred percent successful treatments for infertility. During the data collection phase when I was trying to identify fully fledged ayurvedic clinics I searched the internet and found to my surprise that clinics whose websites advertise cure for infertility actually had not proper treatment to offer for infertility. They were spa centers providing services like beauty enhancement, *Shirodhara*[1]and *Panchakarna*. These clinics are beautiful and give medicines to patients of their own brands. In the field we saw many form of clinics and centers who are self acclaimed

[1]Shirodhara is a therapeutic procedure performed as part of panchakarma treatment. In this process, medicated oil, milk or decoction are poured on the forehead of the patient for a certain period of time depending on the disease. It has a very good tranquilizing effect and used for treatment of various psychosomatic diseases.

ayurvedic physicians running various types of clinics that may range from one room to a small nursing home.

Based on my preliminary field visits in Delhi to find a proper ayurvedic clinic/hospital, I have classified the health facilities as below

Small clinics of general practice

These types of clinics are run in a single room having all the facility of consultation, dispensing and patient area in an area of about 8x8 feet room. The physician with BAMS degree generally runs his/her practice in these clinics. They do not prescribe ayurvedic medicines but only allopathic medicines. Such clinics are found largely in the low income settlements and slum areas of Delhi. At times the person running such a clinic does not have a valid degree in any stream of medicine. They may possess a certificate course through correspondence course in the name of Ayurveda and I found some such certificates in Delhi issued by institutions in Bihar. On the basis of their certificate, they get themselves enrolled to the state council or may be unregistered in any council. They do not seem to have formal knowledge of medical science but have working experience as a compounder or pharmacist. Just on the basis of their exposure to a clinic they start practicing after an average span of 2-5 yrs. In their clinic they prescribe oral drugs for commonly occurring diseases and also administer injections and glucose though drips. As one may expect, patients who approached such clinics were from the lower economic strata. When asked why they are coming here instead of going to the hospital, most of them answered 'udar line me koun lagega' (who will wait in hospital queue), some said,'dehadi koun kharab karega' (who will leave work for one day), few said 'in dactar ka dawai sahi pakad leta hai aram mil jata hai' (they get relief from this doctor's medicine). Patients were aware that he is not a doctor but they have their reasons, they said the medicine which is provides is affordable, they don't have to go for long and wait in the line and this doctor is easily accessible

There is work by Das and Hamm(2005)in their study done in Delhi argued that, though there are services available in public hospitals but the poor prefer to choose private services and receive low-quality care from the private sector because doctors do not know much and low-quality care from the public sector because doctors do not

do much. Households in poor areas are better off visiting less-qualified private practitioners than more-qualified public doctors. Over a two-year period, a majority (55 percent) of the visits to doctors among poor and middle-income households in a simultaneous survey were to the private sector. Of the remainder, 31 percent were to clinics and dispensaries and only 13 percent to public hospitals. The public sector spends a great deal of money for nothing in the form of salaries for doctors (over 80 percent of the government's health budget) and the heavy subsidy to educate them. This eventually translates into cursory treatment and poorly delivered health care.

Large clinic cum nursing homes

These types of clinics are started by graduates with BAMS degree and are registered under the state council. They have practical exposure at various hospitals during their internship and they start their practice in a small clinic which in due course expands to a nursing home having inpatient facility. They almost completely practice allopathic medicine. They store Ayurvedic medicines but do not generally prescribe. They do so only if demanded by the patient or in those cases where biomedicine is not working. Sometimes they hire some allopathic doctor like surgeon and gynecologist who get attached to these hospitals and provide on call services. Most of the time these allopathic doctors also conduct some minor surgeries, MTP expand and deliveries. In such clinics cum nursing home, diagnostic facilities like biochemical test, X-ray and ultrasound are also available. Report on the diagnostic investigation, however, is mostly done by the physician running that clinic and no expert in the field is available for opinion.

Ayurveda clinics with integrative approach (Mixopathy) of clinics are run by families of doctors who are in the same business since generations. Their fore father would be pure Ayurveda physician but the next generations could not manage to cope with pure Ayurvedic practice and start prescribing allopathic medicines along with Ayurveda medicines. Some of these physicians provide these medicines separately after properly explaining the need of this type of integration of these two systems of medicines.

Some physicians who do not want to prescribe allopathic medicines openly mix it with some Ayurvedic medicine and sold it from their own dispensary; I use the term

‘mixopathy’ to refer to these combinations of ayurveda and allopathy or homeopathy and allopathy. Nisula (2006) mentioned two categories of Ayurvedic practitioners in her study done in Mysore, first category of practitioners whose conceptual knowledge and practices entirely based on classical Ayurvedic texts and they are officially qualified Ayurvedic practitioner, who are trained in either government or private college .they are recognized by the Government of India and registered with Government Bodies. These doctors represent the majority of vaidyas. Another category comprises of practitioners whose medical knowledge is based on different sources. These practitioners are not necessarily trained in colleges. They don’t have proper knowledge of classical text and hardly aware with the language of classical texts. Nisula mentioned that the differentiation between Ayurvedic and non-Ayurvedic treatment for people is often relative.

Pure Ayurveda clinic

Such clinics are very few in the northern India, especially Delhi. . Clinics run by graduate or postgraduates of Ayruveda where physician prescribe only Ayurvedic medicines are mostly found in some states like Gujarat, Maharashtra, Tamil Nadu, Karnataka and Kerala. Some to these also have facility of panchkarma treatment and do it as per the need and resources available. Physicians of these clinics dispense classical Ayurvedic medicines from their own dispensary. But these are few in numbers. When inquired. one such ayurvedic clinic in New Delhi said they don’t provide treatment for infertility, they don’t get many cases. If they do get some cases, there they recommend some oral medicine and lifestyle changes but do not provide any intrusive treatment. Based on his study of the clinical practices of ayurvedic physicians in Bangalore city, Bode (2012) mentioned in his work that there are different categories of Ayurvedic physicians. First category comprise of those who are college trained and can be called as 'authentic’ ayurvedic practitioners because they rely predominantly on ayurvedic diagnosis, etiology and therapeutics and are different from mainstream Ayurvedic practitioners who use their degree to enter biomedical practice. The other category of Ayurvedic graduates who are serving in government jobs. in third category fall those who sell ayurvedic medicines mainly proprietary medicines based on biomedical parameters. The main difference between the two is that the authentic practitioners prescribe mostly classical formulas with the objective

of balancing *dosa, dhatu and malas*. The others (who belongs to third category) use the proprietary Ayurvedic medicines which don't accompany these with strict regimes regulating food and lifestyle and their patients too expect same result as biomedical pharmaceutical provides but with no side effects. Based on his work in South India Naraindas (2006), argued that there ayurvedic practitioners whose parameters are different, some practice on the basis of biomedical parameter, but those who are strict to pure ayurveda use Ayurvedic therapeutics to treat patients and use 'shastric preparations'

Panchkarma centers

Recently many panchkarma centers have also come in existence with the popularity of this unique modality of bio-purification. These types of centers are also run by graduates and postgraduates of this specialty. Those Ayurveda graduates who do not have enough exposure of these therapies firstly do a certificate course from any renowned institution mainly from Kerala and then start their own centers. These panchakrma centers are now common in Metros and attract good clientele mainly the educated section of the society.

Many fake panchkarma centers are also there in the name of Spa center providing Ayurveda massage. There is no consulting physician in such spa centers. They have only one manager and some masseurs who use Ayurvedic oil for the massage etc and these oils are not classical oils.

These categories I have done while I visited these clinics in central Delhi, south Delhi and west Delhi. These are based on pilot study so no inference can be made these are the observations from the field. And statistical data on the number of such centers is also not available

Dawakhanas – the ideal resort for male sexual problems

One area in which traditional practitioners have long had a presence is the mobile *dawakhanas* (dispensaries) in cities that dispense medicines for male potency and sexual dysfunctions. In Delhi we have found that men generally visit dawakhanas located at roadside as they are reluctant to take medicines from formal outlets. In Delhi some of my respondents reported that they visited those dawakhanas first before

approaching the hospital and so I tried to explore what exactly happens in the dawakhana and what sort of treatment was given there. During field survey I came across many Dawakhanas in Delhi. These are a peculiar type of dispensaries in tents that are found throughout India. Some of them have their chains. In North India they are famous for Bengali doctors. They are generally located in the outskirts of big cities or near such places where colonies or jugghis catering to the working class population. In small towns these dawakhanas are situated in a place where people hailing from villages visits frequently like Haat or main market of town. During my study I visited three Dawakhanas in Delhi situated at Peeragarhi, New Rohatak Road and near Shadipur Mero station. It is rare for women to enter these dawakhanas and so my visit did attract much attention.

These dawakhana are run only in a small space of 10x10 square foot. They are not permanent structures but they have their own material like tent, bamboos rope etc. and on finding any suitable place, they put it up and start their practice. This tent has a front curtain serving as the gate of the clinic. After entering this chamber we find an examination table, a cupboard full of medicines, some oils, some herbs and some of the patent medicines also. There were many posters of God and Goddesses like Shiv parvati, Radha-Krishna and Kali). Some anatomy posters related of the human body, blood circulation normally found in school biology laboratories were hung in the sides. present. Outside there was signboard having the name of the clinic on the top and after it the list of diseases for which treatment was available there like diabetes, *bhagandar (fistula in ano), babaseer (piles), and jodon ka dard (joint pain), gathia (arthritis), sheegrapatan (pre mature ejaculation)*and *nadi durbalta*. (erectile dysfunction) At the top of the banner, contract no without mentioning of any name and at the end of banner, timing of clinic is mentioned. Interestingly, fees for examining pulse (Nabz dekhne ki fees) has especially mentioned at one corner of the banner indicating that they diagnose only with traditional methods. The physician of these dawakhanas lives here and so is available for consultation through the night. There is facility of video display on TV screen on which the sexual health related video runs constantly. The physician over there told that they purchase crude herbs from khari bauli, a whole sale market of spices and herbs in Chandani Chowk area of Delhi, and then prepare the drugs themselves.

They have their temporary kitchen and bathroom in the backyard of their tent. The physician also has an assistant who helps him to arrange medicines. This attendant has the extra responsibility of marketing/advertisement and so he keeps moving in the crowd or near medical stores, asking people about their health problem. He tries to convince the patient to reach their dawakhana. Most of these dawakhanas have a nomenclature in the name of a specific God like Shiva (lord Shiva) Ganesh ayurvedic dawakhana,

I interviewed the person present there about his degree or medical training. He answered that he had completed a course in Ayurveda from Bihar through correspondence. On asking about the location of this Bihar institute, he became hesitant so we did not persist. He explained that he is not the owner but has been hired for some 3000/- per month. He was trained by his teacher in other place and then was shifted here to run this dawakhana. Asking about their clientage, he told most of the time it is the poor who came to them. Generally women come in the morning hours, while men come during the evening hours after completing their jobs. Female come with the complaint of *safed paani* (white discharge) while males mainly come complaint of erectile dysfunction and low semen volume. He pointed out that sometimes they even have clients from affluent societies who are most of the time males seeking treatment for enhancing their sexual power. The practitioner said they are very happy to get such clients because they pay them a lot. Such persons do not approach him directly but they park their car at some distant and start conversation as though to find out some address or street name. During this conversation they state their problem, which related to sexual performance and ask for medicines for their illness.

At dawakhana located at Peeragarhi I saw some shining tablets in a container and enquired about them. He replied that these are costly medicines for sexual health which is prepared on special demand from patients. On my query of the specialty of those tablets, physician replied that these are made up of chandi bhasam (silver bhasam) and is very useful as a potency medicine. There were some oils also having logos of man and woman in compromising position. Physician explained that these oils are for making the organ strong and stable for long duration coitus and that these are ayurvedic oils that have been used in our traditions since long. He said that they

prepare the oils at our home. I saw some classical medicines of some known Ayurveda companies also. To my query of their treatment style physician at said, we first check the problem by noting clinical symptoms and give medicine accordingly.

Some of these clinics claim guarantee treatment for certain diseases like piles, diabetes, *gathia (arthritis)*. There are many dawakhana which perform minor surgeries like excision of cyst, suturing and circumcisions. We also visited a place where kshaar sutra (one of the known Ayurveda procedure for treatment of piles and fistula.) practice was also going on. On asking about this they told that we are famous as Bengali doctor and we use plain thread for piles and bhagandar. After this we provide some medicines for oral use and local application to reduce the pain.

Locating the field

The objective of my research was to conduct field work in full-fledged ayurvedic hospitals. In the process of finding them I visited several facilities described above. I decided to work on ayurveda departments public medical institutions as they are well-established and are less explored by social scientists. I have chosen one government hospital in Delhi and another in Mumbai. I initially started work in Delhi but as ayurvedic institutions in India are quite diverse and even within government sector provide varied quality of service, I decided to choose another case from a different city. I wanted to see if there is any difference in treatment methods in government ayurveda departments in two cities. Leena (2009) in her article, explains how in Mumbai, Kerala ayurveda maintains its distinct identity through Keralites settled in the city. She illustrated case study in which physician who is from Mumbai had the privilege of working in both Mumbai clinic and later joined Kerala Samajam explained the difference in ayurvedic treatment and therapeutics in both clinics. Besides ayurvedic practice in Maharshtra is known to be well established.

The hospital selected in Delhi was Ayurvedic and Unani Tibbia College and Hospital (AUTCH) which has a long legacy. It was started by Hakim Abdul Majeed Khan in 1883 in Gali Qasim Jan, in the old part of Delhi and was named as Madarasa e Tibbia. It was formally inaugurated on 23rd, July, 1889. He took special interest in the development of Indian Systems of Medicine as British Viceroy Lord Harding had intended to ban all indigenous systems of Medicines in favor of allopathy. Hakim

Ajmal Khan, a great nationalist and freedom fighter rose to oppose this and established Vedic and Tibbi Conference in Delhi in 1910 to unite all practitioners of indigenous systems. Eventually the ban was lifted in 1916 and Hakim Sahib had decided to establish a world class institution of ayurveda and Unani in Delhi. The college is affiliated to the University of Delhi since 1973 and is under the faculty of Ayurvedic & Unani Medicine. It provides 4 ½ years regular course of study followed by one year internship leading to the award of the degree of Bachelor-of- Ayurvedic Medicine & Surgery (BAMS) and Bachelor-of-Unani Medicine & Surgery (BUMS). A & U Tibbia hospital has 15 departments of ayurveda including *Sharira Rachna* (human anatomy), *Sharira Kriya* (human physiology), *Samhita and Siddhant* (basic principles), *Roga Nidana* (pathology), *Dravya Guna* (pharmacognosy and pharmacology), *Rasa Shastra and Bhaishajya Kalpna* (pharmacy), *Agad tantra and vyavhar ayurveda* (forensic medicine), *Swastvritta* (social and preventive medicine), *Panchkarma, Kayachikitsa* (medicine), *Shalya Tantra* (surgery), *Shalakya Tantra* (ENT), *Kaumarbhritya* (pediatrics), *Stri roga & Prasuti Tantra* (gynecology and obstetrics).

There are many renowned allopathic hospital within the radius of three kilometers of AUTCH. No Ayurveda hospital is there in nearby location of this institute. As this hospital is located in the centre of the city, it is easily reachable with various modes of transportation. There are four bus stops within a radius of one km where buses from different routes drop the passengers. Besides that two metro stations are also nearby. So, patients found it convenient and cheap to reach this institution.

The other hospital selected for field work is R.A. Poddar Ayurvedic Medical College (RAPAMC) is also a state government run hospital located in Worli, West Mumbai. It has an attached hospital named M.A. Podar Ayurvedic hospital. It was established by an agreement between the donors 'Poddar' and the then government of Bombay in 1941. It is one of the most renowned ayurveda colleges in India. In its early days a graduate course heading of D.A.S.F. was conducted. Later the college was affiliated to the University of Bombay and after getting permission from Central council of Indian Medicine, BSAM course was started in the year 1971 which was later nomenclature as B.A.M.S. Post graduate courses were started here in the year 1983 and now it is conducting PG courses in various streams including *Kayachikitsa,*

Shalya tantra, Stri roga evam prasuti tantra etc. The campus consists of college building, hospital building and research wing. It has 210 beds for indoor patients and has the facility of 24 hours causality service.

There are two more government aided Ayurveda college within the periphery of this institution. Besides that there are many allopathic hospitals both from public sector and private sector are also within the periphery of one kilometer. Of these one is central government run ESIC hospital just behind the main building of RAPAMC. One of the government run medical college of modern medicine, J. J. Medical College and hospital is around seven kilometers away from here. The location of this hospital in terms of reach of the patient is good as nearest railway station is Dadar which is around five kilometers from here. The local bus service is the main mode of commutation for the patients coming here as many bus stops of BEST (Brihan Mumbai Electic and State Transport) are within the radius of one kilometers.

Ayurvedic Physicians in government hospitals

There have been several studies of vaids and hakims and some private ayurveda clinics have been examined in medical anthropology of India, but not much is written on government doctors of ayurveda. It was interesting to approach and talk to younger ayurvedic physicians in contemporary settings working within the state bureaucracy. Both the institutions selected were standalone ayurveda hospitals in contrast to some departments of AYUSH that are co-located with biomedical departments under a biomedical CMO.

The patients across all class come to these hospitals but people from the working classes s avail the services from ayurvedic departments located in these hospitals. In Delhi, the stri roga and prasuti tantra department had two assistant professors of which one was in regular service while other was serving in contractual basis. This department provides daily out-patient services and average OPD attendance is 90-100 patients. Though the BAMS graduate study biomedical subjects as part of their training, caesarian sections are not allowed here because of government of Delhi regulations. Apart from hospital duties, each assistant professor has to deliver two lectures for under graduate students in a week. The average number of patients in the inpatient ward is 5-6 per day who are mainly admitted for Panchkarma procedure and

delivery. Some women under ante-natal care are also kept in observation in indoor when they are having problems like fever which may complicate their pregnancy. Facilities for normal delivery remains open for 24 hrs but any complicated case or those requiring surgery are referred to government run hospitals of modern medicine. Facilities of government run schemes related to child and reproductive health are given to the patients coming to this hospital like Janani Suraksha yojna under which 600 INR are awarded to the woman undergoing delivery at this hospital

At RAPAMC, Mumbai, one professor, two associate professor and two assistant professors are posted in the department of *stri roga* and *prasuti tantra*. The average number of patients attending OPD of this department is 120-150 per day. On an average 15-16 indoor patients remain in the indoor of this department. All the works assigned to each faculty member are same as in AUTCH. Here each faculty member has to take one lecture in a week. In this department post graduate course is also running in the same specialty. Interestingly here in Mumbai, surgical procedures like dilation and curettage, caesarian section, IUI, AID are also done by the Ayurvedic physicians with the assistance of an anesthetist. Here panchkarma is done extensively on majority of infertility patients including man and woman.

The main difference which I have observed in both hospitals, in Mumbai patients were given more time, there was always a discussion among doctors regarding the case. This was not possible in Delhi. In Delhi only during the rounds the interns accompany the doctor and observe patients, but in Mumbai, interns were supposed to be present based on their duties. The cases of patients were usually discussed in groups and interns seem to be very passionate regarding their work.

Common complaints of patients attending OPD

Most of the patients coming to the OPD in the department of *stri roga* and *prasuti tantra* at both places come with the complaints of *safed paani* (leucorrhea), *kamar dard* (lower backache), *kamzori* (weakness), excessive bleeding during menses, irregular menses, no menses, lower abdominal pain, vaginal itching and so on. (As I do not understand Marathi so I faced some problem initially as they complained like pandare pani (for leucorrhea), *mul na hone* (for infertility), *yoni tun chikat srava jani*

(for vaginal discharge) and *khalchiya bagat khajevani* (for vaginal itching). Later on with the help of the physicians and the interns I could be familiar with these terms.

The Ayurvedic department in a government hospital – mapping the space

Tibia Hospital has two entrances for its main building; the first entry is dedicated for the hospital while the other one is for students or opened on special occasions only. As I entered the main entry there was a typical picture of government hospital, people going in and out from the hospital. Some were seen carrying bags with them on their shoulders while others were having some medicines in their hands. At the entry there was a canteen this is the common spot for those who accompany patients .After this there was a medical store at which huge rush could be seen. This was a private shop having both ayurveda and Unani medicines only from different manufacturers. On the right hand side I could saw long queue at few windows which I could later know for registration and the dispensing of the medicines. I get there in one queue and asked one person that since how long he was there? He replied that it had been around an hour but he has not got his chance for central registration so far. This queue may be as long as of 50-70 persons. Just near to it was a short queue having only women also trying for registration. To my surprise, there was only one window with one person carrying out the registration for such a huge number of patients.

At central registration I saw a hospital staff member whom I asked about the department where female patients are consulted. He told me get a registration first and only thereafter to precede the room. I told him that I was there to study and not for consultation, he advised me to go to OPD room no 13 but after 1:00 pm as there may be so much rush in the room that I may not find any place to even stand. This increased my curiosity whether such a huge number of patients attend the ayurvedic hospitals these days. Around 1:15 pm, I got in to the OPD of stri roga and prasuti tantra department where the physician was inspecting a patient Physician was busy with her patients and so she told me to take a seat in front of her. OPD room was having approximately 150 square foot area with a large waiting area outside. This much of room has to accommodate furniture for the consultant and associates like house officer and interns. There was a very small examination section for internal examination of woman, approach to which was even hard to the physician. It was very crowded as every patient was trying to get inside the room as there was no attendant

at the gate, physician or the interns has to make request to come one by one. The room was having only one air cooler and so everybody inside the room was sweating a lot. I started observing the patient interacting with the physician. It was very noisy and everyone was speaking loudly. I found everyone was in haste to meet the physician and getting her place in the queue. Some of them were also requesting the interns for an early call as they have to catch the train to home as they had come from peripheral towns and faraway villages. Each woman was escorted by an attendant and some women did not directly convey their health problem to the physician, instead articulated vague symptoms like kamzori hai (feeling weakness), hath paon mein darda rehata hai (ache in limbs), need nahi aati (sleeplessness), kamar kati rehti hai (something secreting from the back) and many others. Some of the patients directly come with the problem of infertility while others may be found to be infertile during clinical investigation. Some of the respondents even though coming with the complaint of infertility, hesitate to disclose it in front of interns and other patients. In this course some of the women were seen facing dizziness and vomiting also. The daily average of patients seeking treatment for infertility problem was 5-6 in Delhi and 8-10 in Mumbai.

Ayurvedic Labour room

As Charak mentioned that the physician should be assisted with some paramedical staff in the sutikagaar (labour room). This may be considered as description of midwives in ayurveda. The qualities mentioned there for such associate has also been mentioned. Accordingly she should herself given birth to many children, cordial, devoted towards the patient, possessing strong character, experienced in conducting labor, affectionate in nature, free from any sort of sadness, tolerant and capable of making woman under delivery happy.[1]

A Sutikagaar is the place where pregnancy women are shifted after completion of eight months of gestation. This help in isolation of the patients to protect her from any physical or psychological trauma in crucial stage of her life. This building has been advised on such a land which has good quality of soil and is free from gravel, stone and so on. It should be east or north facing made up of different woods according to the caste systems. Sushruta has mentioned that the color of soil should be white, red,

[1] Charka Samhita, (c Sa 8/34)

yellow and black for bramhmin, kshatriya, vaishya and shurdra respectively. The wood used for this sutikagaar should be of Bilva, Nyagrodha, Tinduka And Bhallataka As per this caste in the same sequence. The dimensions for this room should be eight hasta (hand) in length and four hasta (hand) in breadth. The finishing of this place is said to be done with cow dung or lime and for protection fitting of proper doors and curtains has been emphasized. The architectural advice is of considerable value in regard to position of kitchen, toilets, bathrooms, place of fire, and place of water and so on. The house so constructed should be comfortable in all weathers and should be protected by using auspicious article and raksha drava (articles having protective and antiseptic properties).

Besides this there should be ample collection of medicines and articles of common use like honey, oil, different types of salts etc. the collections of different instruments of surgical use and soma para-surgical matter has also been suggested to be kept in this sutikagar. Deputation of various staff like birth attendant, Brahmans having knowledge of atharva veda and other elderly experienced female staff has been suggested. All this staff should be devoted to make woman happy and assisting her all the time.[1]

The view of the labour room in the ayurveda hospital was totally different from the description of the classical ayurveda texts mentioned above. In was like an operation theater of a modern medicine hospital having a table in the centre which was surrounded by various small movable tables having different instruments. Many surgical instruments and other modern equipment were placed there. There were only a few ayurveda medicines and oils on one rack which are used for panchkarma procedures. In this labour room all the surgical and parasurgical procedures are done along with some ayurvedic procedures like uttar basti[2], yoni dhupan[3] and yoni pichu.[4]

The *uttar basti* is one of the procedures in the panchkarma complex. For my interest I wished to observe the procedure performed on a patient. The physician after

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[1] Ch Sha 8/33-34, Su Sha 10/5

[2] Uttar basti is the specialized treatment practiced under panchakrma for the diseases related to the urinary and reproductive system of both man and woman.

[3] Yoni Dhupan is the procedure of fumigation of vagina with some herbal medicines used according to the condtions. It is useful to disinfect the vagina.

[4] --Yoni Pichu is the procedure in which a cotton cloth soaked in some medicated oil is put in vagina. The choice of oil is made on the basis of dominant dosha at the site. This is used for snehana purpose and as disinfectant as well

instructing me not to carry phone or camera and not talking in between the procedure, granted permission with the consent of the patient . The patient was a 27 years old lady having a lean body. She was suffering from infertility due to tubal blockage. She seemed afraid and apprehensive with a few drops of sweat on her fore head. She was consoled by the doctor regarding her apprehensions. All the necessary preparations have been done in advance and medicine trolley was taken near to the doctor and she starts the procedure. After reconfirming about digestion of her previously taken meal and ensuring she was not having any natural urge for urination or defecation, the procedure was started. Patient lay down on the table and supporting staff make her to lie in the suitable position for performing uttar basti. After the routine cleansing of the cervical region, procedure was started with the chanting of *mangalacharana* (auspicious verses). After that basti yantra (IUI canulla) was filled with the medicated oil which has been autoclaved properly. With the help of speculum and vulsellum her vagina was exposed properly and oil was poured inside the vaginal opening slowly. The patient was a bit uncomfortable during the procedure and was repeatedly consoled and encouraged by the supporting staff in between. After completely pouring the oil, the head end of the table was tilted to avoid spilling out of the oil from the uterus. She was left in this position for next ten minutes and then was taken off the table with support. She was feeling relaxed as doctor has told that her procedure was done properly. Physician advised her rest and use of Luke warm water. She was advised to take fomentation with hot water bag if there appears any pain in the abdomen as a common complication of uttar basti.

Witnessing this ancient ayurvedic procedure under a modern hospital setting convinced me that I was in for several surprises in field work the days to come. I have read ethnographic accounts of clinics but this was a firsthand experience observing a procedure and made me realize several things that textual exposure could not reveal. My study is not ethnographic in nature in that I have not defined a bounded unit for study nor have I focused only on patient narratives and their life world. My study is best labeled as a qualitative study of ayurvedic departments because it draws from the perspectives of the classical texts, modern journals, physicians and patients accessed through semi structured interviews. It was difficult to get long narratives from physicians as they were extremely busy whereas the patients were preoccupied with getting home after the hospital visits.

Experiences in the field during research

This study involved preparations at several levels as I had to read both the sociological literature and ayurvedic texts before embarking on fieldwork. Even though I read English or Hindi translations, reading classical medical texts in Sanskrit did pose problems in comprehension of its technical language and background assumptions. In the field , finding a proper ayurvedic facility where infertility is treated, obtaining permission and gaining time from the physicians as well as engaging with informants who were under distress of childlessness and battling for in the queue to collect medicines or for OPD consultation, was an ordeal given the sensitive nature of the topic. On many occasions respondents were not interested to be interviewed as they thought I was a journalist. But after establishing my credentials, taking permission and creating a rapport I was able to interview them. The questions put by the respondents regarding their childlessness also left me in dilemma sometimes.

It was a puzzle to me why traditional medicine is favoured more by men who seek potency medicines and so I visited the dawakhanas mentioned here. But curiosity could be risky as I ended up with some security issue at one of the dawakahana's where I posed myself as customer. I was followed and stalked by two persons who wanted to sell their medicine to me. At one point, I had to literally run because they tried to hit me when they got suspicious for this study was demanding and required me to stay in the hospital in order to follow up on people. But it was all a great learning experience about lives, issues and problems of other people, which the discipline of sociology exposes and sensitizes us to.

In the next chapter, I start with the patients accounts of the experience of infertility. Though this was not originally part of my objectives, I could not find any patient who would talk about the treatment alone without discussing the context and history of treatment seeking and their own sufferings on this count.

CHAPTER-3

THE EXPERIENCE OF CHILDLESSNESS: SOCIAL DIMENSIONS

It is well known that in a family and lineage centered society like India, childlessness will be a huge problem for married couples across caste and class distinctions. Not just the rich and the propertied people, but the landless and low income families also seek a progeny. Marriage is not seen as a purely conjugal union but as an institution of social reproduction. The offspring is a symbol of a successful marriage and in fact the very purpose of marriage in Indian society. There are several writings to show that the conjugal bond in itself is not very meaningful in Asian societies if it does not produce progeny. Patel (1994) says, fertility brings joy and sense of completeness in couple; with children couples gets honor in society. Kakar (2008), says, no matter which class or caste a woman belongs to, motherhood can bring status in her life. Reproduction, is thus not a biological phenomenon, it is embedded in our cultural beliefs, this can be sensed when a newly married bride gets blessing in the form of "putravati raho" may you be blessed with male progeny Unnithan (2001) says, infertility is considered as 'social death' of women and she illustrated the example from Barrett's study done in Banaras on Aghor medicine in which she pointed out how in conditions like leprosy, leukoderma and infertility the individual suffers not from biological death but social death. She says, women in Rajasthan are considered inauspicious and incomplete who are not able to reproduce. This continues to be the case even today and our field work in two Ayurvedic institutions with patients seeking medical care for infertility revealed the desperation and anxiety associated with the experience of childless marriage. Though my initial intention was to seek their views on the treatment, the accounts of patients reflecting the social compulsions and interpersonal conflicts associated with infertility were intense and prefixed to any discussion on health seeking and treatment. I present their accounts in this chapter before venturing into their health behavior. It is important to note that whereas there are studies on the experiences of the upper and middle- strata families seeking to have an offspring and approaching clinics for expensive infertility treatments ranging from one lakh to twenty lakhs, informants in this study were

mainly from the lower economic strata. The way in which childlessness affects them is brought out in the pages to follow.

Almost all our respondents suffered emotionally on their own or were made to feel bad for not bearing a child or even more for not having a male child. The compulsive desire for a male progeny was mentioned by many respondents and women on their own also felt that male child is preferable.

Male preference

Studies in India highlighted three aspects of having a male child; first, economic utility which is mainly based on the assistance in agriculture, wage earnings, illness and old age security. Second is the social utility that in terms of kinship networks, the status and strength provided to the family by son, the premium they got in the form of dowry. Third is religious utility of ensuring a heavenly abode as their funeral rites are performed by their own son.

Arnold et al. (2003) found that daughters are considered liabilities in Indian society and there is constant neglect of daughters in families where the preference for son is very strong. He also explained that preference for children of a particular sex may affect the chance of survival of a child. Son preference is considered the principle cause of excess female mortality because parents with strong son preference considered daughters to be less valuable and provides them less care in terms of food allocation, prevention of disease and accident, and treatment when they are sick.

This was also evident in case of my respondent, Priya (D) who clearly expressed her desire towards a male child because of the implication of discrimination she faced in her natal house and violence in her conjugal house. As she was found telling,

> *She prayed to god so that she could conceive and god should blessed her with a male child because a woman's life was full of sufferings. She also said that she would have to tolerate this forever. Before her marriage she had to face discrimination at her natal house and after her marriage she had to suffer at the hands of her in-law. She further said that she sometimes thinks what sin she had done in her previous life that god is punishing her now.*

Gulfam (D) also expressed the same thing. *She said that a woman's fate is strange as she doesn't have any right at her natal as well as her conjugal house.*

Reshma from Mumbai was happy with the attitude of her family and society that has changed after she got a child but she was still taunted for not getting a male child.

She told that before the birth of her child everybody used to taunt her. Her relatives and even her neighbors would never invite her for any religious ceremony, especially,if it was related to a childbirth because they considered her inauspicious. She also told that things changed after she gave birth to a child and that her husband was happy. But after the birth of the child, her in-laws started asking for a male child as according to them it would be better if she would give birth to a male child. She said that she loves her daughter as it was because of her that people started accepting her.

In Indian patriarchal society there has not much change even in twenty first century regarding the bias for a male child. Reshma's narrative explained how there is constant pressure from in-laws to have a male child. Apart from these lived experiences, some respondents during field work expressed that it is the religious significance of a child, especially a male child, which pushed them to seek treatment. Religious significance has been noted by various authors in their work, but what is important here to note that some respondents have this belief that with Ayurvedic medicine it is possible to have a male child with this desire they came to these Ayurvedic hospitals though no such promise is made by the public institutions.

Religious significance

According to Hinduism sons are needed to perform the cremation of deceased parents because only sons can light the funeral pyre. Son also helps in salvation of the soul of dead parents by performing *pind daan* (rice offerings to Brahmins who are believed to incarnate deceased ancestor) (Arnold et al. 2003). Amongst the progeny, eldest son has to perform the last rites for the peace of the soul. In his absence such ritual is done with other male member of the family like brother or nephew (Krishnan 2001). Son is preferred over daughter as well for various cultural ceremonies during festivals.

Bharadawaj (2003:11-12) in his study of infertility, NRTs and cultural prohibitions against child adoption in India said that the theories of self recreation through the birth of male child as claimed in Upanishads are responsible for ongoing son preference. He presented the example of 'Shradha' a ritual though which the spirits of ancestors are supposed to be offer sacrifices by their sons. So he concludes that sons are very important contributions towards the Hindu patriarchal notion of self worth, fruitfulness and salvation which infertility disrupts. This cultural and religious significance sometimes assert pressure on women to reproduce a male child and in case she fails to reproduce or give birth to a female child, she becomes the victim and has to face pain and humiliation in several ways like my informant Ranjini had to face physical, mental and emotional trauma. Physical pain in the form of going through intrusive procedures for having a male child, she has undergone for IUI 6 times in the hope of conceiving a male child. She already had two daughters; her older daughter was mentally challenged, during the one of conversations, she said that her in-laws repeatedly reminded her that her elder daughter was nothing but a mere useless economic liability and nobody will marry her daughter, she recalled,

> *Her in-laws used to force her conceive everyday so that she could bless them with a male child. They were wary that who will take care of them in old age and who will give name to their family if they didn't had any son. Her husband also started pressurizing her to have a son. Her in-laws never allowed her to spend time with her daughters and nobody used to love her daughters. She said that she was taking treatment but somehow she was not able to conceive.*

Here Ranjini was not only going through the physical pain of intrusive treatments but was continuously suffering from the mental pain. Her emotional pain was her husband wasn't supportive and even he pressurizes her for a male child and all due to this she was not able to take care of her daughters. According to Ranjini, a female doesn't have any power to negotiation the family especially when she is not working or contributing anything in the family and male can do whatever he wants.

Religious utility is considered so important that people are willing to go to any extent as expressed by Shalini in Delhi who along with her husband came to Delhi form Uttar Pradesh only for taking treatment for a child, during interview her husband told

that he had one acre of land which they have sold for taking treatment. In order to have their own biological progeny, they were taking treatment from last 19 years and had tried treatment starting from folk healing to biomedicine, she said they are even taking loans from relatives for treatment. Her husband said that a child is very important, otherwise there would be no one to perform the last rites when he will die. He further said that a person only gets salvation when the last rites are performed by his child. Her husband said that he had performed every ritual of his father and only after that he got salvation. He also said that if he will not have a child now, how will he get salvation and his lineage will survive. Her husband said that he will not stop until he has a son and he will do anything to have a son of his own blood

For treatment, he said he have tried various therapies like folk healing, prayers in temples and shrines and various government and private hospitals. He expressed sorrow and said that e*very relative and friend of his has children and only he was the one who did not had a child. He said that he was trying to figure out what sins he had done in his previous birth and god was punishing him for those sins in this birth.*

In Shalini's case she didn't had a child and they were trying treatments from various places can be understood as nothing strange in a society where cultural and religious significance for male child is so important. But Neelam who was from Delhi, gave her reason for availing treatment which was interesting because it reflected how the concept of the 'seed' (*beej*) coming from the male counterpart to the female body which is likened to 'land' which anthropologists have noted in their studies. In my study the women too accept that seed is important, while others use words like 'apna khoon",

Neelam came along with her husband and said that, she already had a male child from her first marriage*She was coming to hospital with a* desire to conceive a son from her second marriage. As her present husband didn't had any child from his first marriage, they both got married and he is looking after the son. But he said that he wants a male child who has his blood in his body as he will be the one who will do his "*pind daan*" and only then he will get salvation. He said that he loved this child and took care of him as his own, but this child was not his blood, "yeh mera khoon nahi hai na," .He said that he will only get salvation when his blood will perform all the rituals after his death.

Even Neelam agrees on this when interviewed and said son is so important because *pind daan* performed by own blood had a greater significance. She said that for her any of her sons can do the last rites, but she needs a second son to be born for the rite of her present husband.

> *Neelam's husband said that he had heard that with Ayurvedic medicines one could get a male child but the doctor was not willing to accept this. He said that he had heard that these medicines are available at Baba Ramdev clinic but why was the doctor not giving such treatment. He said that he wanted a son and that he will go for treatment wherever it will be available. He was OK if a girl child will be born but he will not stop trying for a male child.*

The blood of father in a child is very important as it gives a name to lineage, without own blood a person will not able to get moksha /salvation, it was expressed in the narrative of Neelam.

Leela Dube (2001) in her study mentioned, There is a difference between fathers blood and mother's blood. She explained, that 'Gond' tribes makes a difference in mother's and father's blood and according to them , blood of mother when get stored up (when menstrual cycle stops), god shapes body parts of child out of it. But the blood which flows in veins of child is the blood which comes from the father's seed and this blood is of importance because this blood has relevance in the identity formation of child i.e this blood gives child especially male child the legitimate status of belonging to father's "lineage and" "clan". So what is interesting here is that Leela Dube had done her study in 1956 and we find the same beliefs in the 21st century even after several advances , people's perception regarding the importance of seed "beej" , blood and male child still remains the same.

In my study I have came across a couple from Mumbai, Bharvi who had two step daughters and she came to hospital with the desire to have a male child. According to her, her step daughters wants a brother, Bharvi was diagnosed with fibroids in uterus and even her husband was not able to ejaculate due to some accident. Bharvi was recommended for IVF by doctors and she came to this hospital with a desire to have a male child, she narrates:

Bharvi said that it was her second marriage and before her second marriage she knew her husband had two daughters from his first marriage and that she had accepted both of them as her own. She said that her step daughters wanted a brother as people used to mock them for not having a brother and they used to feel terrible during the festival of bhaidooj. Her daughters would feel bad when they used to see their friends playing with their brothers. One day her daughters came to her and asked her to give them a brother. Her daughters even agreed to do all household chores and support her if she would give birth to a male child. After that incident she thought about it as her husband also wanted the same. She said the reality is that only a son can carry forward your lineage. Daughters get married and don't have right to their paternal house.

Bharvi was also concerned that how will they salvation if they did not had a male child. From her narrative it was evident that significance of male child is not limited till couples even the siblings suffers, sibling also suffers the stigma of not having a male member in the family. As she said her daughters told her that they will support her in any form but they need a brother as they felt hurt when people reminded them that they don't have brother and when they saw other girls with their brothers. One of the possible reasons that girls are considered "*paraya dhan*" in the Indian culture is that after the demise of parents they have only brothers who will fulfill the entire desired role, so the implications of not having a male child are not only limited to couples but seen in siblings also. Son preference is strongly shown by persons like Chetan (M),

Chetan said that several people told him that with ayurvedic medicine it was possible to have a male child so he came to RAPAMC but the doctors here refused to give any specific treatment for male progeny. He also said that her mother had given some medicine to her wife so that she could give birth to a male child but he suspected that his wife did not followed that properly and they never had the desired results. He further told that if a girl child is born, he will accept it as his fate but there was no harm in trying Ayurveda. He said he had heard that he could get these medicines from several laces but did not know the exact place to go.

The religious significance of a male child is not only seen among Hindus .As author explains that in many conservative Muslim communities, women do not work outside the home, and child rearing is what gives purpose and meaning to life. The Quran suggests that motherhood also fulfills woman's religious duty (Schleifer 1996). A child is considered a blessing, doubly so if it is a boy. Religious significance is linked to land and property tenure. Daughters often take a dowry from their birth family and become part of their husbands' families. Consequently, the birth of sons means that land; property and possessions can then stay within the family and thus provide a means of supporting parents in their old age. In this context, children, and particularly sons, are of vital importance to the survival and continuance of the family (Sudworth 2006).

This was reflected in Gulfam and Salma's narratives as well. Gulfam and Salma wanted a child of their own blood. They expressed their desire of giving birth to a male child because he will be the one who will be able to give name to their families and continue lineage.

Gulfam said that apart from the family pressure, she also wants a child who can give name to her family, who can perform her last rites and it was only her own child who could do this.

> *Salma said that , her father was sending money for treatment as her father told her that child is very important in one's life ,' baccha zarurui hai kamayat ke din kya muh dikhayoge' and also told that they need someone who could take care of them in old age.*

The religious significance of a male child is one of the factors which pushed women to seek treatment. Apart from bias towards male child ,sometimes the childless status creates more societal problems and restrict the childless woman to attend some religious ceremonies even at her home. One of our other respondents Sudha said*, that her in-laws don't even allow her to join any religious ceremony at home as they think she is a barren woman and if they will invite her something bad might happen*

I have discussed the narratives in which respondents described the religious significance associated with male child. But apart from religious importance there are issues transfer of property to male. In India joint family system is prevailing and it is

the responsibility of son to take care of his parents in old age. Old age security is the one factors have came across which respondents express during study, I present narratives of some.

Old age Security

There are several studies which show that in the lower socio-economic groups or daily wage workers, children are considered as the only support in old age. In such families, the demand for children is always more in comparison to those with better financial backgrounds. As male are always considered better earning hand than female, so the preference to have a male child is always there. There are some families who despite considering their children as source of old age security, prefers male child above the female due to tradition of not using daughter's earning whom they have to give as gift in the form of *kanyadaan*.

Shushi (M) expressed her feelings and said , *earlier she didn't thought of a child but after some time of marriage everybody kept asking her that when are they planning to have a baby and later their friends would mock her that when she will grow old who will take care of her. She also believed that child was very important for salvation.*

Shushi's narrative shows that sometimes respondent feel more pressurized because of the family members and the social and cultural construct that child is important especially the male child. This social and culture exists in almost in every social group and was not only with respondents who were from lower socio economic background .This was quite evident from the narrative of Lata.

Lata hails from Delhi, she was diagnosed with primary infertility and taking treatment in AUTCH hospital. The doctors recommended her govt. allopathic hospital as she was not getting the expected results, she said,

> *That nobody pressurized her but after sometime people feel incomplete without a child and everyone want to have a child of their own blood. She said that people wants child who can give name to their lineage and who can perform their last rites .People also think that if they don't have a child who will take care of them and their property in old age and relatives might come*

to claim their property. She said that several of her relatives were suggesting her to adopt a child within the family but she suspected that their main objective was to claim her property. So she believed that having own child was a better option than adopting a child.

Lata was not even interested in adoption especially within the family, she was prepared for any sort of treatment but adoption for her was not at all an option.

Adoption is permissible in several religions unlike IVF which some religions do not allow. However, adoption is always a last resort for couples as it amounts to, “making a private agony into a public acknowledgment of failure”. Bharadwaj (2003) in his study argues that, with the advent of new reproductive technologies there is an option of conceiving through donor sperms and adoption becomes more undesirable as there is visible stigma attached to adoption.

In this context where so much importance is associated with child and being childless is considered abnormal, the .couple most often the woman start getting advice to consult a doctor. We have seen how respondents gave multiple reasons like religious importance which is associated with giving a permanent life to a man in case when they will have a male child sometimes this leads to psychological pain .This is expressed by several respondents during field study.

Cross cultural studies suggest that woman all over the world suffer psychological trauma due to their infertility. Psycho pathologies like tension, hostility, anxiety, depression and suicidal ideas are higher among infertile women (Mishra and Dubey 2014). Another study says, women facing this are found in a state of self accusation and express their grief through consistent cries.(Nyarko and Amu, 2015) One study in the slums of Baroda (India) showed that emotional harassment is often expressed by infertile women (Jeejbhoy 1998). This was also evident in my study, several respondents used to share their experiences;

Babita said that the amount of pressure she had to bear made her believe that there was no life without having a child. She lost her mental balance during this phase of her life. She said that since she was taunted so many times she started to believe that he life had no purpose and she wanted to escape this society where she would not have to listen to these screams.

Reshma said that sometimes she used to think that she had done something wrong and god had left her to suffer. She said that she had been to peremptoriness and even gone to hakims along with private treatment but nothing worked. Finally when she came to this Ayurvedic hospital she got relief and the doctors in this hospitals were no less than god to her.

Hasanpoor et al. (2015) in their study in Iran showed that infertile women had to face discrimination by in-laws and by spouse, especially the less educated women. Patel (1994), mentioned the power equations within conjugal family, where mother-in-law exerts her authority over son and daughter-in-law always have subjugated position. It is only after she gives birth to a child that her position becomes stable in family and she gets relief from some of the responsibilities.

Gulfam (D) said that she never feels happy and feel so alone although she had her husband and other members at home. She sometimes didn't liked to have food because her in laws repeatedly taunted her and would tell her that they have spent so much money on her and it was getting wasted as she was not able to conceive. She said that she felt like leaving this house as there was no one in this house with whom she could share her feelings

Avani (M) said that he mother in law never asked her anything verbally but her actions were sufficient to make her realize that she was not needed in her house. She felt very much hurt and would think why only she had to suffer. She said that when she came to know that her sister -in-law was pregnant, she cried a a lot not because her sister-in-law was pregnant but because she came to knew about this from her neighbor. She further said that she believes that the educated people without of abusing verbally know that tactics to hurt a person

Mental agony faced by woman within the family is important to our understanding of infertility because it also leads to physiological problems. In Ayurveda, *saumansya* (cordial relations) between husband and wife has been termed as essential for a successful conception. A couple already experiencing indifference and conflict within the relationship may not find it comfortable during coitus which could diminish the chances of successful conception which may occur with successful treatment. In this

context, the role of joint family seems to be oppressive as Gulfam and Avani mentioned in their narratives. In India joint family plays positive roles as well, as in case of Gulfam, she mentioned with such low income of her husband it was possible for her to continue treatment because she is staying in a joint family where there is no tension of paying rent but on the other hand it is oppressive also because she feels bad when sometimes people taunt her and remind her of her childless status.

All over the world, humiliation of woman can be sensed through the derogatory nomenclature given to an infertile woman. In Japan and Korea an infertile woman is denoted as *umazume andsuknyu* respectively meaning 'a woman made of stone'. A Vietnamese *gai doc khon con* meaning a poison woman denotes a childless woman. '*Baanjh'* is in northern India and '*malady*' in Tamil is the frequently used world used for an infertile woman. In Indian culture the humiliation of women needs no explanation considering its structure of dominant patriarchy and gender bias in favor of male. This was very well reflected in case of Archi and Sudha. Their husbands were diagnosed with azospermia, but they refused to accompany them and both their husbands refuse to accept that they can have any abnormality. This was not only limited to refusing to accompany for taking treatment but these women becomes victims and have to tolerate humiliations from their in-laws and have to take all the blame on them.

> *Archi (M) Said that her mother in-law used to abuses her and often said her "baanj" and always protected her son by blaming her only. Once she told Archi to throw her out of the house if she ever again said anything about her son. She expressed in sorrow that now she did not resist and accept every bad words of her. She told that after the confirmation of her husband's report Archi has stopped cursing herself. She requested me not to discuss our conversation to anyone with a fear of scolding by the family.*

> *Sudha (M) whose husband was azoospermic said, her husband was least bothered about child but she need a child desperately because it was only she facing all the problems in the form of physical and mental harassment at home and in society also. She was in deep pain when explained how people change their way after seeing her. Once her mother-in-law had thrown her out of house and she pulled her hair and pushed her by saying that she was a*

witch. Sudha said thatt her husband didn't protest. He didn't support Sudha and kept quite while she suffered

Cross cultural studies shows that, having ones own child is considered mandatory for the couple to gain social legitimacy among kin groups, especially when socio-economic ties are kin and community based as in rural and semi-rural settings. failure to that leads to social humiliation which may be felt both by man and woman. This sort of humiliation is also observed by infertile males as has been mentioned in one of the study of Ghana. There words like '*lankpolosoba'* literally meaning "a man with rotten testes" or '*yokuusoba'* meaning "a man with dead penis are used for infertile men (Tabong and Adongo, 2013). In Indian culture, men do not face such a harsh situation, although they are subject to jokes and sarcasm in their friends circle or work place. But consequences in the form of violence in any form mental, emotional or physical are largely suffered by women because the afflicted men also vent their emotions on their women. As expressed by Sonia:

Sonia said that her husband would often beat her and then later on would say sorry to her. She said that other people would make fun of her husband and his friends would ask him to prove his masculinity. She thought it was her husband's frustration that he used to beat her. She further said that people started inquiring and pressurizing her after one year of marriage

Barren women are considered inauspicious and so their entry to social gathering like marriage, birthday etc is restricted in some societies. This was observed in the narratives told by our respondents Niranjini who said

People would treat her as if she was a witch and that she would do black magic because she didn't had any child. After she had to go for a abortion due to medical reasons, people started treating her as a witch who had eaten her unborn child. She said that people bother her and if a child gets sick in her village, everyone would taunt her that since she doesn't have a child she had done this. Since she was running sort of money and was not able to get herself treated she came to Mumbai for better perspective.

Niranjini was so much affected by such behavior that she preferred never to go back to her village because she was scared. In follow up, she told, she gives birth to a healthy child but maintained her stand not to go to her village again.

The consequences of childlessness are not only limited to verbal and physical abuse but it leads to the isolation of women from society at large. In case of Niranjini it was evident how she was forced to leave her village and people considering these women as witches is such an irony. The other respondent Sudha who was suffering discrimination at each level also expressed her pain in regard to social isolation not only in her home, but also in the chawl.[19] She had even changed the shift timings and was coming in evening shift. She said

> *She said that she doesn't say anything to anyone but she feels really hurt that she cannot even explain that. She further said that when her sister-in-law conceived, her mother in law asked her to leave the house and even pulled her with her hair. Her mother in law said that she was inauspicious for the child and mother and after this incident never allowed her to enter the house and whenever she comes to the hospital she prays that she conceives .She thinks that child is important to have respect and dignity at home and society. She also thinks that during all these sufferings she feels she is alone as her husband would also not pay attention to her deeds.*

Medically speaking both men and women are responsible for conception. Even in some cultures as explained earlier, man becomes part of jokes and their masculinity is being challenged. But in my study mainly women were at the receiving end. There were few male respondents who expressed that they faced social stigma due to childlessness.

Issues and concerns in male infertility

Male factors responsible for causing infertility are approximately 30%-40% of the infertility cases, but their health seeking behaviour in this respect is quite different in comparison to woman. A study done on profiles of adult patients attending marriage

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[19] Chawl is residential system of many families mostly laborers in Mumbai. In this system there is large building having many tenements in each of which a family resides. Most commonly it has one small room and a kitchen only. In this system neighboring family use some common places like corridor. There are common toilets only which are shared by many families.

and sex clinics found that the most commonly diagnosed clinical entity was premature ejaculation followed by male erectile problems .Along with this there were culturally induced sexual behaviours such as the *dhat syndrome* (Kendurkar 2008). According to another study by Verma et al. (2001), the concerns of these men are sexually transmitted infections, quality and quantity of semen, impotence related queries, erectile dysfunction and premature ejaculation. There are many untrained practitioner in this field who supports the view of misconception of these health seeking men that it was the wastage of semen that is the basic cause of their problem. These men are found in apprehensions about the impotency in future and presume symptoms like erectile dysfunction and premature ejaculation as the start of impotency. Studies have suggested that men of all ages spent a lot on their problems like erectile dysfunction and premature ejaculation. As one of the major cause of impotency is physiological factors which starts a vicious cycle of anxieties, depression and impotence."

In my study it was found that men have tried various medicines for problems like pre mature ejaculation, low sperm count and said they had taken *desi dawa* (folk medicine,). Some of them have tried out 'over the counter medicine' and then some went to the nearby nursing homes referred to by their friends or colleagues. They used words like *kamzori, takat ki dawai, josh ki dawai* and many others. These all terms metaphorically used for sexual potency and to enhance the sexual power. But interestingly some of them including those who came along with their wives for treatment never told to their wives that they are taking medicines. In some cases men took these medicines due to anxiety and later it was found out in diagnosis that there was no problem so they stopped the medicines as suggested by doctors.

Sanjay Srivastava (2013) in his article on foot path pornography has explained how urban poor who migrate from the villages in North west India to cities like Delhi to earn a living, find themselves at the marginal ends in the urban atmosphere and small, powerless, speck in the sprawling metro. He explained, there are several books on pornography which are being sold and specifically target for this class of urban poor, these are the cheap booklets with minimum price of 10 rupees or more and in these books apart from the sexual literature several advertisements regarding enhancing sexual powers, wearing amulets in order to gain wealth and several suggestions to get success on the nuptial night "*suhag raat*" has explained. Srivastava argued that one

thing which is commonly found in these magazines are along with advertisements there is advise given to meet vaidya who can help in curing ailments related to men like *safed daag* (vitiligo) and the emphasis was given on how meeting vaidya and taking Ayurvedic medicines can help in enhancing sexual experiences. These books are generally sold near busiest places like bus stands where the urban poor generally use transportation and in shanty towns where these urban poor lives. The phenomenon is interesting as Srivastava observed that these men find ways to cope with their anxieties in the city where they find themselves at the periphery of urban culture devoid of wealth and status and thereby marginalized masculinity. In the context of my respondents, men who reported to be taking these medicines from dawakhanas were indeed struggling to face the challenges of surviving in the metro as part of the urban poor. We came to know that there are several road side tents where these men go in the evening to get medicines for sexual prowess. Reeti's husband also spoke about it:.

> *Reeti's husband (D)said that before consulting a private doctor for infertility he had taken some medicines for "kamzori. He had taken this "desi dawa" from one of his co-worker who had once mentioned that these medicines are for "josh (enhancing sexual power) and there were no side effects of desi dawa as it comprises 'Jadi buti'. He had seen tents near shadipur where people were selling these medicines but he hasn't seen any change and only after this he thought to consult a doctor. He went to a private clinic but nothing worked for him. Finally his relatives suggested him this hospital.*

Babita during her interview mentioned that before starting treatment in government. hospital her husband was taking some *jadi buti* , according to her his BP went up due to that medicine because these folk medicine produce heat in the body. She said when we consult the doctor in government hospital there was no negative diagnosis of her husband and the ayurvedic doctor advices them not to have any *desi dawa.*

Surya Kiran (M) also expressed that how her husband was constantly inquired by his co-workers and friends about the reason for not having a child . He himself worked in a pharmaceutical shop so he took some medicine for sexual virility '*takat ki goli*" but as she explained that with that medicine there were lots of side effects and once after taking medicine he felt so uneasy (*gabrahat hua*) then when we consult a doctor

here in RAPAMC . She said till the time you conceive there is always a pressure and under this pressure he took whatever medicines people suggests .

Neelam's husband who was diagnosed case of oligospermia, said that he had told Neelam about this before marriage but he needs his own child, so they were coming to AUTCH hospital for treatment.

> *He said that he had taken medicines from several dawakhana, bengali doctors and these people generally suggest jadi buti. He had taken that but there was no sign of improvement. He had taken those medicines thinking that those medicines were Ayurvedic medicines, but when he saw that here was no improvement he came to know about AUTCH hospital. He said that he felt better after the treatment at AUTCH hospital.*

During field work some respondents disclosed that they were hurt when people cracks jokes on them and sometimes challenge their masculinity. But somehow men feel reluctant to take treatment as a result they tried various informal options of treatment. Inhorn (2003) says, in Egypt men who socially accept their infertile status are highly stigmatized and term used for them is "*weak worms.*" They are culturally viewed as weak, defective, and even unworthy as biological progenitors. But some men of all social classes is of view that "*a man is always a man, whether or not he is infertile, because having a child does not complete a man as it does a woman. whereas a woman's full person hood can be achieved only through attainment of motherhood, a man's sense of achievement has other potential outlets, including employment, education, religious/spiritual pursuits, sports and leisure, friendship groups, and the like*" Male infertility presents a crisis of masculinity but by virtue of marriage women also know about infertileman's secrets and they have to uphold their masculinity at all costs.

My informant Chetan was diagnosed with oligosthanzoospermia. He came with a complaint of erectile dysfunction and Pre Mature Ejaculation with complaint of not having a child. He and his wife were taking treatment from RAPAMC but he came sometimes alone without the knowledge of his wife that he is also taking treatment for infertility. He said that he had asked doctor (intern) not to disclose it to his wife that he was taking treatment.

Sometimes the male counterpart understands the woman's pain well when they themselves becomes victim of social ostracism like Shushi's husband who during one conversation told that,

He told that his friends would taunt him and ask him why his wife was not getting pregnant. His friends used to laugh at him and would make fun of him. He said that he realized that since he is feeling so much hurt how would his wife be feeling. He further said that couples console each other when they feel socially humiliated. Sometimes men find it hard to believe that they can also have some problem but in some cases male when counseled properly becomes mentally ready to take treatment.

> *Riya said that in the initial stage when doctor in RAPAMC asked both of us for diagnostic test, it was hard for him to believe that he is azoospermic she said, 'who thoda har mard ko hota hi hai ki muj mein kaise koi kami ho sakti hai' but then doctor counseled us and told us that there are several men who have this problem and he was not the only one, doctor counseled them for treatment Her husband underwent uttar basti but then there was little improvement so she went for AID.*

> *Shlalini's husband (D) told that people used to taunt him by saying that if a man does not have a child he is not even considered a man. He said that he had stopped going out with people as he used to feel humiliated. People would taunt him that he was not able to show his manhood. He further said that in his village, people who are good for nothing have four children but even though he is fit he does not have a single child*

It also has been observed that infertile couples opt one or more coping mechanism to come of this stigma.

Coping with infertility

Couples, who have permanent childlessness or may not afford the possible treatment, try to cope with this situation. Through coping strategies these couple try to avoid situation that may keep on reminding about their childlessness. To cope with the situation some take healthy coping strategies like believe in their inner strength, pray for mercy to God, some read inspirational stories or some indulge themselves in

economic ventures. Consuming alcohol, smoking etc are also reported as unhealthy coping methods (Tabong and Adongo 2013).

There are various studies done for coping of infertility shows that adoption of a child as a coping method is more commonly acceptable in developed countries in comparison to developing countries. The various factors discouraging adoption includes the cultural, like unknown background of the child, doubt about inheritance or genealogical right to adopted child, fear of abandonment by grown up child, inherited socially unacceptable disease to the adopted child, religious factors like illegality of adoption in Islam; and psychological factor in parents like unacceptability of adopted child as their own.

> *Bano (D) during the last face to face conversation said, she didn't understand anything then, the only thing she knew that she didn't want to take any intrusive treatment for child. She was determined to not take any treatment as she already had to bear lot of side effects from her previous treatments for conceiving .She was already under medication for heart and depression. She wanted to leave it to God's blessing.*

At the end of the conversation she expressed that she lost all her patience and she is so traumatized that now she is thinking of adoption. She said that adoption is not so acceptable in her society and people scolded her that her husband' had no fault and that she should go for treatment and give him progeny. She emphasized that she will die if she will go for treatment. In the follow up also during the telephonic conversation she inquired from researcher for any place where she can adopt a child. In follow up study, Jayanti also told that she adopted a male child with advice from RAPAMC hospital following due legal procedure. Some respondents find out the ways to deal with the social consequences of being infertile but there were some whose were at the receiving ends because their marital relation was under threat. In Indian society, having own child is the parameter of getting a permanent status in conjugal house because without that there remain chances that the man can marry another woman to have his own child so that kinship can be maintained. As Patel (1994) said, 'after establishing herself as a mother, a woman overcomes her disabilities as a bride and daughter-in-law and gains some authority.' This I have

found in narratives of some respondents who were having this constant fear of abandonment by their husbands.

Marital instability and domestic violence

Marital instability is one of the serious consequences confronted only by women due to infertility of any of the partner. Infertility may end up the cordial relations in between the partners. There by increasing the chances of quarrel, fight and divorce threats. The intimate relationship of the partners is also affected badly. Samuel H. Nyarko and Hubert Amu (2015) have mentioned in their study done in public hospital in Ghana, in which they have seen the impact of infertility on marital relationship among fertility clients that argue that the first thing which affect couples is the constant quarrels among them due to inability to procreate and women attend more clinics to get treatment. They said that infertility affects to the extent that even though the participants had regular sexual intercourse, sexual intercourse between the couples was merely for procreation purposes but not for mutual satisfaction. According to WHO reports, many infertile women in developing countries consider that, without children, their lives are without hope. In my study also I have found that some female respondents don't even get that support from their male counterparts. There was one case of Sudha in Mumbai who reported about negligence from her husband.

> *Sudha narrated, that doctors suggested her the right period for coitus to conceive ,She told her husband about that but he didn't pay much attention and it didn't happen, this way treatment didn't work. After that she had all her hopes on the doctor*

Sudha was taking AID in hospital, as husband didn't willing to come for his treatment he was diagnosed with azoospermia and refused to accept this diagnosis.

> *Sunayana expressed her distress by saying that, after treatment doctor advised for coitus for some days but my husband is least interested in me and he didn't listened and ignored to sleep with me, then I told this to my mother-in-law but instead of asking him, she blamed me by saying that you have stolen peace of my son.*

Sunayana further showed her grief by saying that how she can conceive without him and moreover she had to leave the treatment in between because of money. Sunayana said that her in-laws always gives her threats and asked her to leave their son, they repeatedly reminds her that she is not capable of giving them a male child. They asked her if she is not able to give son then she can leave their son and they will find another bride for him. Sunayana said, they called her baanj, Sunaya was under constant fear that what if her husband thinks about second marriage, where she will go if one day he will shows up with second wife.

This is the struggle of these women, the amount of harassment they are going through, their partners are not even co-operating for coitus and in this journey these women are totally alone.

Chowdhry(2015) in her article, explained that in Haryana, there are multiple hierarchies within family .women is not only considered inferior to man (her husband), but she is considered inferior to senior female member. Mother-in-law always exerts her authority on daughter-in-law. There is always a tense relationship between the mother-in-law and the daughter-in-law, which can be easily sensed the way bahu is supposed to be in veil in front of elder members including mother-in-law. Apart from maintaining and asserting her own dominance, the mother-in-law is exerts her authority on son and his children too. there is always a central tension for men too maintain balance between mother and wife. Despite the fact that wives are absolutely crucial not only for reproduction but also for production, they lose out to the mother (and sister) because the slightest hint of allegiance of a husband to his wife affects his masculinity negatively. Males are unequivocal about stating "*māṅ to māṅ sai, lugāī to āvejāve sai*" ("mothers are mothers, wives may come and go") Our respondent Gulfam explained her apprehensions;

Gulfam told her in-laws always taunted her for not being able to procreatre.It made her nervous sometimes thinking what if her husband left her due to this. She had heard stories of men leaving their wives when they were not able to procreate. She wished no women faces such situation and prayed to God so that this never happen in her case.

Renu (D) narrates, when mother-in-law is there in family and she is not good then woman's life becomes horrible, like in her case. Her mother-in law never left a single chance to torture her and remind her that she was the one in this world who was the culprit of not giving a son to his son. Several times she taunted her that earlier people practiced second marriage for getting progeny .From that day this fear haunted her that may be her husband would also plan for second marriage and she thought of ending her life. She always prayed to God to bless her with a child as soon as possible fearing the consequences of what could happen otherwise. Sometimes she wondered what would happen if her husband became determined and brought a second wife. She would be totally shattered if it turned to reality. But somewhere she knew her husband was not like that. But her mother-in-law referring to her as a disease kept asking her husband that from where that disease came to their family. She further told that her mother-in-law abuses her mother. She insulted her mother by saying Renu's mother got her inauspicious daughter married to her son. Renu felt bad as she used to see other women in family had their own child, she didn't feel like going to marriage functions as she knew people would talk behind and label her as in-auspicious. She wondered why she was not able to conceive as she never as she never even fell sick for long time. She stated she didn't have any more patience to tolerate abuse especially from her mother-in-law.

Chavani came with her mother for treatment, she was in IPD that day and her mother was accompanying her, while talking about the treatment procedures her mother told that to get permission from her-in-laws to stay in a hospital is very difficult. Chavni got no financial and emotional support from her-in-laws, for treatment her parents spent all the money. Chavani was under constant pressure to give birth to a male child. Chanvi said her in-laws strictly told her to go to her parent's house and not to return if she couldn't conceive or if she gave birth to a girl child.

Chavni's mother in one of the conversations disclosed that her-in-laws didn't even give her food to eat and asked her to do household work from mopping to cleaning utensils. She added that she knew that her daughter had to face a lot but she

couldn't take her back home as she is a daughter and that was her fate. She said that her son was also married, and her wife will not allowed if they asked her daughter to stay with them and moreover, she was worried about what would what happen when they die we will die, so it is was better for her to tolerate and go back to her conjugal house.

> *Saba (M) said that her sister-in-law frequently visits her house and threatened to get her brother married for the second time to some other women. Saba's husband also ill-treated her and used to beat her when he got angry. Whenever she complained to her mother about the ill-treatments she faced at her husband's house, she ignored her stating a woman has to bear everything.*

With all these social experiences, couple has to go for treatment in order to achieve the honor and social status. During treatment there come several phases which gives hope to respondents like finding some medical investigation showing a positive outcome but followed up by negative outcomes landing them in deep despair.

Hope and despair

According to Widge, the problem of infertility in India has to be seen in a context of poverty, class and gender inequality and unequal access to health-care resources. The consequences of infertility can be manifold including anxiety, depression, lowered life satisfaction, guilt and helplessness. It affects the performance of both partners and may affect their job performance. On the personal front they may face marital problem, dissolution of marriage, economic hardship, isolation and women may face physical violence as well (Widge 2001).

There are many hopes related to the IVF but most of the time these are the success stories only aired by the private clinics. The factual position is much different. The success rate of IVF is quite low and it declines with the age of the woman. As mentioned in first chapter, it is around 25 percent per cycle. With new reproductive technologies like IUI, AID, IVF in present research our respondents who have gone through some procedures have narrated their experiences they have several hopes, every time they came for procedures they developed a positive hope but sometimes they left with despair like ,

Bano (D) was fed up with the intrusive therapies with her previous treatment and so she did not opt for uttar basti at AUTCH as well. In the follow up her husband told that now she is now on cardiac medicine and taking some medication for depression also. He said she had stopped taking medicine and will think about adoption. During interview with researcher even Bano asked researcher that she is ready to adopt and if researcher know any place then she can go there but will not go for treatment.

Soniya (M) was diagnosed with secondary infertility and had taken treatment before coming to the hospital for three and half years

> *She said, nobody could understand the pain when one suffers miscarriage. She had experienced it four times. For the first time everybody including doctor gave her hope that next time there would be no problem but second time when it happened she was in shock , her feelings were inexplicable but no one understood the pain on top of that their gaze was like as if she had committed some serious sin.*

But in follow up it was found that Soniya has conceived and explained her happy as never before. One other case of Manjula (D) was diagnosed with primary infertility, she told researcher that somebody had told her that physician at AUTCH was very good and with her treatment many childless had got children.

> *She expressed her pain saying that she kept on thinking why she hadn't conceived yet since it's been almost one year she was taking treatment. She said whenever she asked her physician, she always told that now your reports are normal. Manjula was feeling hopeless when she told that when she had heard a woman telling that she had got child only due to that physician then what is wrong in my case or I have a bad luck only.*

> *Habiba's husband (D) said he and his wife could do anything to bear a child. He had undergone treatment in various places and being a Muslim, he was then taking treatment from Ayurveda department as someone recommended it to them. Though the overall health of his wife was good because of Ayurvedic medicines but, disappointed for not getting the desired result of getting her pregnant he decided to discontinue treatment. He was also worried as he was in debt for spending too much on treatment in that*

hospital. They used to get a few medicines from hospital, but several medicines were not available. He wanted to leave everything to God and wait for the time when god blesses them with a child.

In the first follow up, in telephonic conversation he told he left the treatment, but again in the second follow up they have started treatment in the hope of getting pregnant.

Shalini and her husband said that, after god they had started to believe doctor and now they had hope in this doctor because they have heard so much about this doctor. *"bhagwan ke baad toh doctor hi hai na jiske baat manni padegi, ab sab umeed hai madam par bahut suna hai inke barre mein"*

So, a constant play of hope and despair continues and in the axis of it remains the doctor whom these patients finds as their god on this earth. While this is one side of the story, some respondents also reveal that bias is not only found in families and communities regarding their childless status, but it was quite evident in some medical institutions, especially in the hospitals/clinics where they got their previous treatment.

Gender bias within Clinics

There are several studies in other parts of world which says that the bias is deeply embedded in the collective consciousness that there is soft discrimination at the hands of doctors in medical institutions as well. Men were never called first by the doctor for any diagnostic procedures. In some cases, women went first in the initial period after marriage to consultation and surprisingly doctors never ask them to come along with husbands. Discriminatory practices are commonly found in biomedical facilities for infertility treatment as Linda (2012) in her study in Indonesia quoted the interview of a physicians where they clearly said that physicians blames women for infertility and continue to treat the women till the time the treatment bears no result as physicians do not want to hurt the manhood of the male counterpart even if they suspect that the problem could lie with the men. According to this author, women bear docile bodies within medical sphere. This was quite evident during field work these women narrated their experiences:

Riya was diagnosed with primary infertility and she had taken treatment in private hospital for seven years She said that, earlier she had faced considerable physical pain as she has to go for repetitive diagnosis because she was diagnosed with PCOS and tubal blockage whereas, to her surprise doctors never asked her husband for any diagnostic tests. She expressed her unhappiness over the fact that nobody including doctors thinks that there can be a problem with the man, especially when women was already diagnosed with illness, so all burden comes on woman "Who hota hai na koi sochta hi nahi hai ki mard ko bi dikkat ho sakti hai ha…ha…haa… aur khas kar ki tab jab aurat ko pehle hi dikkat ho toh sab bhar aurat pe hi aa jata hai". After her husband's diagnostic test in RAPAMC, it was found that there is some problem in him too, then they both started treatment. She emphasized that in the govt. Ayurvedic hospital in the very first visit itself doctors counseled them that infertility is not only the women's problem.

Riya (M) while narrating had a mixed expression of anger and sarcasm, she was angry with the fact that because of the doctors in the previous treatment, she had to suffer alone and sarcastically asked how doctors how could they forgot to ask her husband for diagnostic test.

Avani (M) too faced such discrimination at the hands of private doctors .She had taken treatment in private hospitals for two and half years for secondary infertility and she said when they came to *RAPAMC* the first thing doctor asked them for diagnostic test for both husband and wife which no doctor in the previous treatments recommended and her husband was finally diagnosed with semen pus.

> *Avani said she had undertaken treatment for more than two years and was tolerating all the discrimination from her mother-in-law.She was grateful to doctors in RAPAMC since her husband was diagnosed and her mother-in-law came to know that her son had some problem also, her attitude towards Avani changed , and she couldn't say anything to Avani.*

Avani mentioned that she was educated and working but she suffered alone when both partners were having some problem but being educated and earning member she never had that authority to question or to think that problem can be in her husband but

what about doctors she questioned with agony, why they never investigate because of that she had to suffer alone.

Even men generally assumes that infertility is a women's problem one of the respondents in our study who came with a desire to have a male child had the same view:

> *Chetan had taken his wife to various places for treatment to have a male child but no doctor had ever asked Chetan for any diagnostic test. One of his colleagues didn't have child so his colleague told Chetan ,that he had undergone tests as well but doctors never recommended Chetan any such test in private clinics. Chetan felt weak at times but he thought maybe it is because of work, then he took some roadside medicine for sexual potency. But that didn't work then finally they went to RAPAMC hospital where doctor diagnosed him with oligostanzoopermia. Then the doctors started his treatment. Earlier he thought that his wife had some problem, but that was the fault of private physicians who never asked him for any tests.*

Evan et.al (2011) in their article say "Masculinity is not hegemonic and there exists hierarchy and the one who is dominant considered masculine. Men who are not able to perform the desired role in society are highly stigmatized and considered un-masculine and feminine.' Maintaining hegemonic masculine identities can be challenging for men as manliness measured by the continual proving of manhood.' The authors explain that to keep up the idealized masculine behavior men would be reluctant to seek treatment for illnesses is associated with weakness and vulnerability and it is associated with femininity. Author gave example why African–Canadian men in Nova Scotia avoided digital rectal exams for prostate cancer screening because prostate cancer generates intense emotions connected to a sense of loss in masculinity resulting from treatment side effects such as impotence and incontinence and sexual dysfunction can have a more significant impact on men than the disease itself.

There are several women respondents in our study who expressed their inability to get pregnant because their husband refused to come for treatment even when they were diagnosed with a problem.

Rajini (M) sarcastically expressed why would her husband come for a treatment after all he was a man, his only task was to torture her and her daughters. Once he said he was born as a man and which implied he didn't have any problem because if he had any then those two children wouldn't have born and he questioned my chastity.

Sudha (M) was asked by the doctor in *RAPAMC* hospital to come along with husband so that he should also be examined but she said it took so long to convince him to come along. Once he came for the test and was diagnosed with erectile dysfunction and azoospermia, but he refused the doctor's report and said that this report is fake. After that he never came for treatment saying he had no problem as he was a man '*main mard hu muje koi dikkat nahi hai',* and became indifferent to her treatment as well. Sunayana's husband refused to accompany her. *He said to her that he didn't have any problem, she was a women and its her work to give birth to a child, he had nothing to do with it* .

Chavani (M) said that doctor told that her husband's diagnosis is also important but when she asked him to come along with her he scolded her , quarreled a lot and threatened to give her divorce as he did not had any problem 'dikkat' related to sex.

As discussed above, man and woman both are responsible for a couple being infertile. But respondents like Sunayana and Sudha are facing discrimination from their partners who are not accepting their sexual incompatibilities or the sterile status. Both of these are victimized to the level that they are not able to maintain even normal sexual relationship with their husband as advised by the physician as part of their treatment.

It is evident that the men are apprehensive about their sexual health and are not ready to take the blame of being infertile in case of childlessness. This is compounded by the bias within medical organizations which make the women the object of interventions for infertility. Against this background of social and medical compulsions associated with infertility, our thesis on gender and medicine intends to examine the role of medical protocols and treatment methods of a system of medicine, in this case ayurveda, is in dealing with couples seeking treatment to beget a progeny.

In the forth coming chapter, I discuss the trajectory of health seeking for infertility by my respondents. Not all ailments have similar patterns of health seeking behavior and infertility as a problem with deep social connotations calls for pluralistic health seeking.

CHAPTER-4

FACTORS IN HEALTH SEEKING FOR INFERTILITY

Health seeking is a theme of never ending interest for the sociology of health because it is something that varies significantly with the kind of ailment and also with social, cultural and economic factors. So it reveals new trends and is an indicator of social transformation. Priya (2012) argued that heath seeking behavior depends on the accessibility and the treatment experiences whether of an individual or collectively. She argues that people have multiple health seeking practices based on their lived experiences and illustrates by giving an example that how laboring dalits who migrated to Delhi and living in diverse locations of Delhi like resettlement colonies to escape caste discrimination , negotiating between 'modern' and 'traditional' ways of life. For them 'Malaria' is a 'physicians disease' and they consult physician for this treatment of malaria but for Jaundice they prefer traditional remedies like herbal decoctions and service from a local healer which she refers as '*jhada*'. Dalits in her study differentiate between '*daktar ki dava'* and '*oopar ki dava'*. As argued by Sujatha (forthcoming) in her article, in order to understand health seeking behavior the real life experiences needs to be taken into consideration and not merely on the basis of utilization She argued health seeking is a process which begins with the illness response through which the behavior of a person after being ill can be traced. This response depends on various factors like social, socio-economic; cultural, geographical and institutional factors.[1]Then comes utilization of formal medical care system but here again people move from one practitioner to another based on their situation and experience of effectiveness. The health seeking behavior of an infertile couple should also be studied on various levels in regard to social, socio-economic; cultural, and geographical factors (MacKian, 2003). The determining factors in this context are age, education, socio-economic conditions, financial conditions, location of hospital and distance from the health seeker is also deciding component.

In this chapter I present some factors associated with health seeking based on my female respondent's accounts, from both Mumbai and Delhi (Table-1-6).

[1]Sujatha .V,'What is the sociology behind health status and health-seeking behavior?' Forthcomig article.

Age

Age is one of the major determinants for health seeking behavior in case of infertility. Biomedical wisdom suggests that the chances for a female conceiving starts declining after the age of 30 which speeds up even more as a woman reached the age of 35 years. After getting the age of 40 years, only 5% chances remain for a woman to get fertile (Harris et al 2011).

Six female respondents from Delhi start seeking treatment for their childlessness nearly after one year of their marriage. This matches the current definition of infertility given by the WHO (World Health Organization) (2005), according to which the couple can be considered infertile soon after one year of unprotective coitus. This defining criterion in terms of the time gap was of five years till 1975 and this gap was reduced to two years till 2005. In our study we found that, respondents start searching for treatment options early as a result of social stigma. People also have multiple health care seeking behaviors starting from taking home remedies to visiting a nursing home.

In our study, some of the respondents were apprehensive and anxious regarding huge age difference with their spouse; they came to seek treatment earlier than average. During field work I come across one respondent Manjula (D), who was 10 years younger to her husband. She was concerned with this age gap but due to the power equations within her marital relation, she was not able to point this out to her husband.

> *Manjula (D)told that her husband was ten years elder than her and on the advice of some of his friend he took some medicines to overcome his weakness. But physician at AUTCH told them to go for some investigations which were all normal.*

Manjula (D) believed that her husband may have some problem of virility (*takat*) due to the age difference. The same apprehensions were in the mind of Poornima who was a graduate and working as a teacher in a school. Although all the tests of her husband were normal, she was concerned about age difference and its impact.

> *Poornima (M) asked me to confirm that whether a huge difference of age can create any problem in getting a pregnancy.*

One of our female respondents, Jeet Rani (M) who was eight years older than her male counterpart started taking treatment just after six months of marriage. According to her, she was already of 43 years and was aware of the fact that the cause of their infertility was her own medical problem. So, even without any family or societal pressure she decided that it was the right time for her to take the treatment otherwise it can lead to more medical complications. She narrated that there is no child in her natal family as her brother died and her sister are not married and she is the only one who can bear a child. She mentioned that there is no pressure from anyone, it was her own decision to have a child because she had already secured her job and settled in life. Here we can see few women have the agency to exercise their reproductive choice. Tripathi (2011) in her article says, that there is a term 'voluntary infertility' for women and she called it a typical Indian urban syndrome which referred to women who give preference to their education and career. They generally make the decision to delay the marriage or childbearing till the time they can afford good things in life." But here again question of choice and power equation in institutions matters like we have seen in case of Jeet Rani (M), she had that privilege there was another respondent who didn't had that privilege to exercise her choice. Poornima (M) was willing to have child but her husband was not interested as he wanted to achieve heights in his career. Poornima (M) mentioned that she was keen to have a child just like her neighbor.

> *Poornima(M) was found saying that she was taking treatment from this hospital since long. She got married at the age of twenty year but initially for four years she did not plan for a baby because her husband was not ready to have a child at such an early age. She told that her husband was much elder to her and always loved his professional life and he remains most of the time at office. Now whenever she saw other children playing in their chawl, she get frustrated and angry questioning herself that why only she can not have a child. She was working in a private school and about to complete her graduation. She also told that even her salary was not much but her husband still want that she should continue her job.*

Poornima was desperate to have her own child. She inquired with this researcher if age difference was responsible for her husband's lesser interest in a child.

Apart from the question of choice and social stigma, child bearing at an early age is also not recommendable in medical literature. Legally the age for a female to marry in our country is 18 years and general notion is that this is also the right age to have child. According to the modern medical science, the best age for conceiving is from 20 yrs to 30 yrs of age during which all the reproductive organs gain the maturity and stability of hormones. On the basis of different readings in ayurvedic texts, Tiwari P (2003) has categorized different stages of life of a female as *balyavastha* (up to the age of 16 years), *madhyamavastha* (from 16 years to 50 years) and *vriddhavastha* (after the age of 50 years). *Balyavastaha* (young age) has its own division like *bala*; age of general development lasting up to first 10 years, *kumari*, ranging from 10-12 years characterized by appearance of secondary sexual characters and *rajomati*, ranging from 12-16 years during which menstruation starts and cycle is fully established. Likewise the *madhaymavastha* (middle age) is again further divided in *yuvati*, the age form 16-40 years with full maturity and maximum fecundity; *praudhavastha*, the age between 40-50 years during which pre menopausal symptoms are evident and finally menopause settling near the age of 50 years. The final part of life has been termed as *vriddhavastha* (old age) during which there is generalized decline of body. In ayurveda, the recommended age for a woman to bear a child is sixteen years and for a man to be father is twenty five years (Su. Su. 35/15). It has been mentioned that if coitus is performed between any woman younger than sixteen years and a man below twenty five years of age then fetus does not survive and if it is a live birth then the child will be having weak senses.

Dube (2001), mentioned that delay in marriage is considered unnatural and such condition is worrisome for parents. She showed how in Orissa, the daughter is metaphorically equated with *ghee*, '*both begin to stink if not disposed of in time'* and in Telugu the phrase used for parents who have young unmarried girl *"Boil on the chest*". In this context parents always prefer early marriage of their daughter. She also explained that girls are socialized from childhood and prepare to follow penance in forms of worship and following *Vrat* (fast) so that they can have better husbands like lord Shiva. Dube explained that there are cultural practices to ensure that their daughters get stable marital relation because marriage brings status and happiness in girl's life. She explains "Marriage is associated with two aspects—one is the cordial relation between the husband and the wife, and the second is to reproduce a child. The

rites and rituals of marriage and some of the customs are also geared towards the fulfillment of these two tasks. For example, the custom of wearing green bangles during the ceremony of marriage and afterward in many Indian cultures indicates fecundity. Thus, within marriage, the role of the woman is that of a carrier, a vehicle for the offspring of the man (Dube 2001).

One of my respondents Mannat (D) told,

> *As Mannat told that she got at the marriage of 18 years and soon she got pregnant too but unfortunately due to her young age and weakness of body, miscarriage happened. She further told that she took treatment from the nearby hospital and spent lot of money but could not get proper treatment.*

Mannat was a case of secondary infertility. She conceived even before attaining the age of 19 years but unfortunately miscarriage happened. She believed that due to her young age, she was not able to carry her pregnancy. The miscarriage cost her in many ways. She said that since that miscarriage, she could never conceive naturally and had to undergo various treatments. She suffered physically and had to undergo mental agony.

The male respondents in my study were in the age group of 25-35 years but no body was found much concern about the age regarding their sexual or reproductive life.

Education

Education is another important factor affecting health seeking behavior of a person. Literacy empowers to take individual and collective action in various contexts, such as household, workplace and community. It also imposes a positive effect on self esteem. Of the various social determinants of health that explains health disparities by geography or demographic characteristics (e.g., age, gender, and race-ethnicity), the literature has always pointed prominently to education. Research based on decades of experience in the developing world has identified educational status (especially of the mother) as a major predictor of health outcomes, and economic trends in the industrialized world have intensified the relationship between education and health (Kaplan, 2015). But every section of society don’t have access to education. Even in middle class, the focus of good education is on the son because they are supposed to

be taking care of parents in old age (Dube 2001). Majority of my female respondents in Mumbai belonged to low income strata. Four of them were graduates, seven have completed the senior secondary and four were matric pass. The other five have studied below matric, but none of them was illiterate. In Delhi, I interviewed fifteen female respondents of which only two were graduates, two have done senior secondary and five have studied till higher secondary. Rest of the female respondents has not studied beyond 9th standard. Several respondents mentioned that they were not educated up to the mark and have no idea where to go for the treatment. They were also aware that lack of proper education effected them financially, mentally, emotionally and medically. They blamed their lower education level for not able to take a correct decision regarding their infertility problem.

Gulfam (D) was found telling that she was living in their own house at Okhla and her husband was working as a kabadi (knackers) who was earning around 12000 rupees per month. She told that now it has been ten years to her marriage and still not have a child. Initially she faced three miscarriages and so she started taking treatment around after completion of two years of marriage. It was only here where after tests physician told her that her AMH (anti mullerian hormone) was low and her tubes are also blocked. She further explained her experiences by saying that earlier she took medicine in a private hospital but was not aware of the cause of her infertility and the type of treatment they had given to her. She blamed her previous treatment for her present condition and said that they had spoiled her case but now she can't say anything to her previous physician.

Manjula(D) was explaining her pain and told that so far they have spent around two lakhs of rupees for getting treated and very piously followed the advices of her physicians. She said that she and her husband were illiterate and blindly follows the physicians, but till date they did not know the actual reason of her childlessness.

Sometimes even the people are not aware of the fact that there are different streams of treatment. They are just concerned with the hospital and physician. Because of poor education or lack of general awareness they are not able to differentiate what is

allopathic and what is, Ayurvedic? When I asked Priya, a respondent at Delhi, "which treatment you took at *LNGP hospital, from Ayurvedic or allopathic*?

> *Priya (D) replied that she was not here to be a physician. She just need a solution of her medical problem and it did not matter for her that what type of medicine or treatment she was taking.*

In lack of health literacy, patient gives up herself in a belief that whatever physician is doing is right. Due to the lack of the basic health knowledge, they do not even know what kind of medicines they were taking and would never dare to cross question the physician on any matter. I found one respondent who had studied higher secondary level got angry when I asked her about her reports and ongoing treatment.

> *When I asked Mannat that for what the finding in her reports were and what type of treatment she was taking. She replied abruptly that she was not a physician; if she would have been so educated then she would had not come here (govt. hospital). She stopped the conversation by saying that she took everything whatever prescribed by the physician and left in between to be in queue for getting the medicines.*

There have been cases where people were not literate and found themselves helpless to make a self-decision before availing any healthcare. They believe on the information's given by others or from any healthcare personnel. As advocated by WHO (2009) "Health literacy means more than being able to read pamphlets and successfully make appointments. By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment".

In my study respondents cited that they were not educated and because of lack of knowledge they landed up in clinics where they didn't get any relief and suffered. In some cases respondents said that they have reached the right place because somebody referred them and as a result they didn't had to suffer much.

Priya first went to a government allopathic hospital but from there she was referred by the physician herself to AUTCH suggesting she can get better treatment there for her particular problem.

Priya (D) told that she was not much literate and having no idea about the physician for her problem. She was asked by a known physician to consult here(at AUTCH) and so she is now taking Ayurvedic treatment.

"In a review of the impact of the patients' socioeconomic status on patient-physician communication, it was concluded that communication is influenced in part by patients' communicative ability and style, which depend largely on education and other personal attributes. Education contributes to more active communication, such as expressiveness and asking questions. In response, physicians tend to communicate less to patients who seem less educated and provide a treatment that is more directive and less participatory (Zimmerman et al, 2015)."

One of my respondents from Delhi had studied till 5th standard. She was diagnosed with pseudo pregnancy but she was not ready to accept this thing. Our conversation was followed as,

I asked Guddi (D) that physician had told her that she was not pregnant. So, she replied that madam was telling a lie. Pointing towards her tummy she asked me to see the way it has come out. She was sure of being pregnant as she has not get her menses since long time. She kept on saying that due to lifting some heavy weight, bleeding from her lower part (vagina) occurred. She blamed the physician also that they were not willing to take her case and she was sure of having a pregnancy.

Even husband of Guddi told he could not understand why all physicians say the same thing even when they were assured that she was having a pregnancy. He further told that he was sure that it was a male child in her tummy. Listening her husband Guddi exclaimed that it would be their second son and she had felt that child in her tummy kicks her tummy from inside.

Respondent like Guddi fall in some special category. These people consider themselves pregnant but don't have any medical test to prove their pregnancy. So, her behavior seeking medical attention was quite different. This type of pseudo pregnancy is discarded at a very early stage by modern physician of bio medicine. Even physician of ayurveda also use the modern diagnostic tools to confirm the pregnancy so they also try to give the clear picture to the patient. But in this particular

case of Guddi, she was not ready to accept this thing and was adamant to get treatment from this hospital.

According to physician, in their day to day practice they face such type of silly queries by patients. Guddi (D) was not much literate and it becomes very hard to make such person understand their medical condition. She told that she did not know but it may be her strong belief in a particular system of medicine or even her eagerness to have a child due to which she had to come this hospital even after consulting a allopathic hospital which had clearly rejected her doubts.

Though that physician told that in ayurveda such condition has been termed as *raktaja gluma*. (Tiwari 2003) has mentioned this problem referencing on the basis of different Ayurvedic treaties.

> *"The woman who suppresses her natural urges and uses vata aggravating diet or mode of life during conditions like amagarbha (pregnancy of very short duration), immediately following abortion, delivery or during ritukala (menstrual period), her vayu gets aggravated very quickly. This aggravated vayu entering garbhashayadwara (cervix uteri) obstructs the aartava (menstruation). This aartava keeps on accumulating every month and causes development of kukshi (uterus). The woman suffers from colic, cough, diarrhea, vomiting, anorexia, indigestion, body ache, sleepiness, indolence, feeling of stillness and excessive salivation. Milk appears in her breasts, lips and areola become black, she gets feeling of dohrda (two hearts stage, one of woman and other of child), presence of faded romaraji, dilation of yoni (vaginal canal) and foul smelling vaginal discharges. The gulma quivers just like a solid mass not from different body parts and quivering starts comparatively late. Because of its very familiarity with the signs and symptoms of pregnancy, a woman suffering with raktagulma misinterprets it as pregnancy. The treatment for this condition should also be started after completion of 10 months because by that time this gulma get maturity fully and becomes easy to treat otherwise it may cause problems."*

While talking to Guddi, it was found that she was already having three children, two daughters and one son. But in her society giving birth to more than two male

children wass considered auspicious. She said that her son was already weakened she was worried about the health of her son. For that she needed a second son who could take care of her during old age. She told that in her village people didn't consider her auspicious. It goes well with the study where Chowdhry (2015) who mentioned that women are still considered childless if they are not able to give birth to a male child. Apart from medical literature, it is culture where the parameters of defining women are varied.

Jeet rani a graduate respondent working in IT sector was very much aware of her health condition and she was not satisfied by the promises made by her previous gynecologist at private hospital. She was convinced with the statement of physician at RAPAMC for getting *panchkarma* treatment as it would have helped her to get strength and so the better chances of a successful IVF.

> *She (Jeet Rani (M)) told that previously she was taking treatment from a private hospital but did not found any improvement. Finally her physician suggested her for IVF but she was not sure about its success in her case and was not open to tell her about the number of sitting she may had required to get positive results. She was apprehensive also about its cost. Sharing her experiences (at RAPAMC), she explained that finally she got ready to take panchkarma treatment here because physician advised that it would strengthen her body and chances of successful IVF would be increased.*

Jeet rani was apprehensive about the success of treatment and she was also concerned about the side effects as well. She took the decision that she would firstly try the Ayurveda treatment. The importance of education for availing a medical facility can be well understood when it comes to decide between the choice available to a patient like private vs. public or allopathic vs. Ayurveda. Several of our respondents during interview expressed how due to their lack of education and not being able to differentiate good medical service from the bad they have suffered in the search of treatment.

Type of infertility

The behavior of patient towards searching for healthcare depends on the type of illness and its duration as well. In case of acute conditions they seek treatment at the

earliest from nearest healthcare provider or allopathic facility while for chronic illnesses they tend to seek treatment for other system of medicines. Our study on infertility shows that depending on the age and its type, patients having the problem of infertility may behave differently. In Delhi, three female respondents were suffering from secondary infertility while other 11 were having primary infertility. One of the respondents was a case of pseudo pregnancy (Table- 3). Of total 20 female respondents from Mumbai, 08 were having primary infertility while other 12 were facing secondary infertility (Table-4). As a general observation both in Delhi and Mumbai, respondents with primary infertility were seeking treatment between one to two years of marriage except one case of Shalini in Delhi who started treatment after three years of marriage. On the other hand, there is lesser urgency for the patient with secondary infertility who seeks any type of treatment any time between two to four years of marriage.

As a common trend, female respondents with primary infertility having the age of thirty plus and those with secondary infertility but lower than the age of twenty five years are much concerned about taking early treatment. There may be uncertainty in the mind of persons above thirties that whether they will be able to conceive successful . Those below twenty five years of age become apprehensive about getting a successful second pregnancy.

There was only one case of Ranjani form Mumbai already having two female children, seeking treatment for her secondary infertility after thirteen years as she was keen to have a male child. Same situation was found with Neelam who was having a male child with her first husband was married again after his death in an accident. Her second husband wanted to have his own male child and on his pressure, she approached this hospital for treatment. So, the health seeking behavior of these two cases was quite different in context to their secondary infertility.

Socio - economic status

Health care seeking behavior is influenced by the socio economic condition of the patient which is decided on the basis of her/his education, economic status and occupation. The findings of this study suggests that the average family income of the respondents in Delhi was falling in the range of 7000-12000 rupees with 5000 per

month being the lowest figure and 13500 per month, the highest [Table- 5]. Some of the women did not have an idea about their family income. Only three families were having their own house while rest was residing in rented houses. Of total 12 female respondents having rented house, only seven were having the facilities of private toilet while rest seven were using public toilets. Five families did not have television and refrigerator which is now a common thing in the household of this income bracket. One of the respondents in Delhi was a migrant from Eastern Uttar Pradesh and her husband was a daily wage laborer. Since last 10 years her husband was living alone in Delhi but now they are living in a rented house which they have taken just for her treatment. One of the respondents has sold out all their properties in Uttar Pradesh and has shifted in Delhi for the sake of treatment of her infertility problem. She told that they have tried all the options and finally have reached Delhi on recommendation of some relative. Her husband said they had taken loans from relatives for treatment and will keep on continuing treatment till the time they got a child. I will explain the narrative of her husband in the later section of significance of lineage.

Family income of the respondents in Mumbai had a varied range from 11000 to 35000 with one case at the monthly income of 9000 per month and the other at 43000 per month. Some respondent did not know their husband's income and so it was not possible to find an exact figure of their family income. Thirteen of these respondents were residing in rented houses or chawls while seven families were having their own house. Total thirteen families including all the chawl dwellers were using public toilet. Total fifteen families were enjoying common facilities of both refrigerator and television.[Table- 6] Two respondents in Mumbai and one in Delhi did not disclosed the details of their housing conditions.

All of our female respondents except one who did not disclosed her working status, were house wives and all the burden of family expenditure was borne by their husbands. In Mumbai, half of the female respondents were employed including those two who were employed on part time basis. On an average, monthly income of working respondents in Mumbai was between 2500- 10000 rupees per month except one who was earning rupees 45000 per month.

It is notable from the demographic profile of the patients that many of our respondents were migrants from other states and belonged to low income bracket in these cities.

Though that might be good enough at their native place, in terms of their cash earnings, they may fall under the category of urban poor and often they are unable to meet the living expenditure in these metro cities. According to (National Population Policy, Govt. of India, 2000), urban poor constitutes almost 30% of total urban population of India. These are mostly slum dwellers and even though they live close to quality health facilities, they are unable to access them. One of the worst parts is that the existing inequalities in different economic groups of urban population are masked and average health facilities available to these urban poor are worse than total urban average. The reason for this may be that they are living in degraded environment, illiteracy, irregularity in employment, inaccessibility of health care and negotiation capacity to demand a particular service. Most of these are the migrants who come to metros in search of a job and had to live in slum like places which are already overpopulated. This enhances their chances of getting ill. This was mentioned by one of the physicians at Mumbai that at times the success of the treatment get lowered due to the living conditions of women especially of those living in chawls and using the public toilets. She gave the reasons for that the higher chances of getting infection in public toilets. According to her woman is supposed to take rest and live in a hygienic place after she has been administered *uttar basti*. She further told that women do not wish to stay in the hospital during the treatment because they cannot miss their days work. As a result they have noted that they do not always get the expected outcomes from such patients in comparison to those who stay in the hospital during the treatment period and have hospital diet.

Cost of treatment

In a specialized center for infertility through ARTs, total cost will include the consultation, cost of medicine and if there is need of any surgery then cost of the procedure, surgical items, and hospital stay, transportation and many other miscellaneous expenses also get accumulated. The urban poor had to lose his daily wages as well for getting treatment in hospitals.

National Family Health Survey-III (NFHS-III), report have findings says that primary source of healthcare is the private sector which is serving 70% of urban and 65 % of rural population. Due to out of pocket payment incurring on health, every year almost 3.3% of total population is pulled down to below poverty line (Garg 2013). According

to one study conducted in two *Jhuggi Jhopari* colonies of south Delhi, it has been put forward that, catastrophic impact of treatment cost on gynecological and reproductive diseases falls second after accident and injuries. The average out of pocket payment share is highest for private registered practitioner followed by public hospitals and then for non-registered private practitioner. The data also shows that the head count of poor increases from 62% to 100 % after paying for gynecological ailments in the private sector. The worst thing coming out of this study is that to avoid out of pocket payment, these poor take treatment from non-registered practitioners which help them to avoid poverty in the short run, but the long term effect of that treatment may be more hazardous. It has also found that cost of treatment in public hospitals is much less but the indirect cost involved due to the long waiting time resulting in a work day loss is quite high which result them to land up to a non-registered practitioner (Chowdhury et al, 2011).

The condition of Mumbai is no different as mentioned by Sanneving et al, *"A study on expenditure on maternal health care showed that the poor living in slums in the city of Mumbai spent catastrophically on care, which is assumed to occur when the health expenditure exceeds a proportion (usually 40%) of the total household income. The study also showed that a high proportion of the total spending was spent on informal costs. The same study also showed that poor households in the slums were likely to use wage income, as compared to higher income groups that used savings, and borrowed money to pay for maternal health care, which is assumed to increase the risk of both transient and chronic poverty* (Sanneving et al 2013).*"*

I tried to estimate the expenditure incurred on the previous treatment for infertility but I observed that, respondents were not able to remember the exact figures of their expenditure and could recall only the tentative figures. Respondents at both the institutions told that they have spent a lot, even in lakhs of rupees to get treatment for their infertility problem. Amongst all the cases from Mumbai who disclosed the expenditure on previous treatment only Sushi was the only one who had spent 10,000 rupees, otherwise everyone else had spent 80,000 or more without any positive outcome [Table-10]. In Delhi, only Faiz was the one who spent 5,000-6,000 in 3 months and left the treatment due to side effects of allopathic treatment while all the others from Delhi have spent 25000 or more [Table-9]. Though they have not spent

this money in a single transaction at a particular Centre but they had spent it during past years at different centers for treatment only. Some families had taken loans to pay for the treatment.

Most of these patients belonged to low income group, yet they approached private allopathic hospitals. There are multiple reasons for such behavior like their lower education, fear of losing daily wages and sometimes the proximity of a particular health provided. Another reason was the notion that infertility is a big problem and only available treatment is biomedicine (*angrezi dawa*). So, some of them had availed services from non-qualified private practitioners as well. It was also observed that they were initially unaware about Ayurveda and availability of Ayurveda hospital in their locality. These ayurveda institutions were their last resorts. There were some people who availed roadside treatment from dawakhanas which they referred as *desi dawa* and not Ayurveda.

Dyer et al (2013, c.f Russell) mentions that, catastrophic expenditure may force the house hold to reduce the consumption of other basic needs like food, clothing and even moving to a cheaper rented house, sale of property or taking loans and finally may lead to impoverishment. Some of the experiences from our study were as follows.

Habiba (D) was feeling depressed and explaining the cause for the same told that she was still childless even after taking treatment since last seven years and was in heavy debts due to expenditure on previous treatments. She was burdened with these debts and was concerned about the possibilities of clearing it in near future. She told that it was very tough to live in such cities where cost of living was so high and that is was the reason that it was her last hope to get a child with the treatment from this hospital. She cited that her neighbor was aware of their problems and suggested them to come to this hospital where she can have a low cost treatment.

Manjula (D) told that everyone kept asking her if she had conceived or not. She also told that her husband was older than her and they had a huge age gap. She was worried about the future of her child even if she conceive as they were already in debts because of the previous treatment. She said that

she went in to depression thinking about that how would his husband manage to repay such a big amount.

Riya told that she had been working in a parlor and her husband was working as an electrician. She told that in hope of having her own child they have already spent two lakh rupees on previous treatment. Physicians suggested them to go for IVF but since they were already in debt, they didn't had the money to do so and it was getting difficult for them to manage their house rent and meet the daily expenses.

As mentioned earlier also, the cost of assistive reproductive techniques is very high in India and it is not a viable option for low socio economic group of societies to avail them. Sometimes the couples seeking treatment for a long time become so desperate for it that they even start spending on it beyond the limits of affordability (Dyer et al 2013)."

Shalini's husband told that he would not stops taking the treatment and will do anything to have a child. He said that he had everything he could do to have a child. He had been to private and public hospitals, temples, Arawakan (folk medicine) and even to pahadi vaid (roadside tents) and Peer Dargah. He said that he did the last rites of his father and want his son to do the same for him. He said apart for him everyone in his village had a child and he often thought what sin he had committed in his previous birth that he had to face this.

Avani (M) told that it had been almost three years since she started taking treatment for her tubal blockage. She told that she had spent almost three lakh rupees for this treatment but she was still to see any results.

Desperation to have a child may reach such a level that couples set it as target of their life. Shalini's husband was in deep despair but still was adamant to have a child at a time when he had spent so much and faced lot of pain. In our study I came across one patients in Delhi, Gulfam, who although belonged to a low socio economic status but were willing to pay for her infertility treatment if she got assurance about a positive outcome. Gulfam was advised for IVF in a public hospital but she did not opted for as the assurance demanded by her was out rightly rejected by the physician there. Avani

from Mumbai who was advised some surgery also cited the same reason for giving up her previous treatment.

Gulfam (D) told that one of her friends suggested her to go to Lok Nayak hospital (Government hospital). She underwent laproscopy there but still could not conceive. Physicians told her that IVF would be required but they never gave assurance that she will be able to conceive. The physicians were asking for twenty thousand rupees for IVF so she decided to take Unani medicines. She said that IVF was a big thing and she had already spent her husband's earning on her treatment.

> *Avani(M) told that she had spent three lakh rupees on her treatment and all her money went in vain as she never found any improvement. Finally the physicians told her that she needed a surgery and demanded fifty thousand rupees for it. She told that she was not willing to spend that much amount without any assurance.*

So, it can be summarized that Due to high cost of biomedical treatment, the respondents abandoned treatments or followed them intermittently. Some had taken loans, some were in debts.

Our respondents from Delhi were dwelling mostly within the radius of 10 kms except few others who were residing more than 12 kilometers away from this hospital [Table-2]. On an average, each respondent had to spend around 50 rupees per visit to reach the hospital. The respondents had to attend OPD on regular basis at an interval of minimum seven days and maximum 15 days. For some gynecological problems where treatment and investigation depends on the menstrual cycle, this follow up visit may extend up to 30 days. So, a respondent had to visit the hospital at least twice a month and she had to spend something around 100- 300 rupees per person per month availing common public conveniences.

As discussed earlier, the indirect cost also involves the loss of daily wages which the respondent’s or her attendant is earning. As per our data from Delhi, eleven respondents were attending the hospital with their husbands. These women were not employed, but their husbands had to lose their salary for that particular day. Only on few occasions husbands could be able to manage to attend the OPD on the day of their weekly off. As it was not possible with each family, on an average each respondent

has to lose at least two days salary for attending OPD in a month. In Delhi, there were only five respondents who underwent panchkarma treatment along with other procedures for which they had to stay at hospital itself. This hospital stay may range from minimum two days to 10 days depending on the treatment protocol. According to the hospital norms, for such cases the attendant of the patient must accompany her. In such circumstances most of the time the husbands stayed with their wives. Sometimes if other members in the family were available then respondents tried to manage for someone responsible but not earning member from their family. In case of non-availability of such a member, their husband had to compromise with their job which affects the total salary their husband received at the end of the month.

Manjula (D) told that the biggest problem with government hospitals was that they had to spent whole day waiting to get the treatment. First they had to spend time in the queue to get registration done and then they had to spent time in queue to see the physician. She said that this whole process became useless if they didn't find the medicines prescribed by the physician in the dispensary.

Priya (D) told that she had to come to the hospital dispensary every week to collect the medicines. She said that she had to spend three hundred rupees every time she has to come to the hospital to get the medicines and lost her one day salary also doing the same. She had already spent fifteen thousand rupees to get all the diagnostic tests and only after requesting the physician repeatedly, physician now prescribed her medicines for twenty one days at a stretch.

The respondents in Mumbai were visiting the hospital from long distances and one of them was travelling around 70 kilometers to get the treatment here. [Table-2] The mode of commutation availed by respondent was city bus, local train or auto rickshaw. Here also the burden of losing one day salary was big for some of the respondents. Riya in Mumbai narrates her reluctance towards government hospital because of its distance from her house.

Riya(M)told that someone suggested her to consult Ayurvedic hospital. She said that the Ayurvedic hospital was very far from her house. She said that

she was working in a parlor and taking a day off was difficult for her. As she had already spent a lot of money on her treatment in a private clinic, she was not in a position to lose even one day salary. She also said that in contrast to the private clinic the treatment was good in government hospitals but the government hospitals had fixed timings.

As mentioned by Sujatha (2014) in her book that poor prefer a biomedical cures irrespective of its source as they need only quick relief and want to be at work as soon as possible. This statement is also supported by our data where some of our respondent told that they didn't prefer to avail treatment from public hospital earlier because coming to public hospital means wastage of one full day in OPD and then in the queue to get medicine. It was the effectiveness of the treatment and the low cost which was also supported by their friends and villagers, these respondents reach these hospitals for treatment.

Multiple Health Seeking Behavior

Studies have suggested that victims of infertility seek treatment from various sources like home treatment, formal medical system (both private and public hospitals or specialist of the field), spiritual healers, traditional reproductive health specialists, priests, etc. (Inhorn and Balen, 2000). As stated by Smith, et al in their study**,** there is rise in use of CAM (complementary and alternative medicine) and expansion of this procedure had started in other developed parts of world where its use has been reported by 29% of population in northern California (29%), 40% in UK and 40% of population in Canada. It has been concluded that "CAM use is associated with a baseline predisposition of using CAM, higher household income, and failure to achieve a pregnancy (Smith 2010)." Sujatha (2014) has pointed out that CAM has been revived in the post modern West. Earlier it was the population of the global south that resorted to multiple therapies, but due to globalization and commercialization and promotion of herbal products, now traditional medicines are availed by "the global North and elite sections of the global south". The reasons are quite obvious like she mentioned, 'raised incomes', 'more leisure' and 'consumerism' led to the revival of CAM (Sujatha, 2014). Our study is a special case of low income population seeking traditional medicine in the 21st century because working classes in the cities generally prefer bio medicine as it offers quick relief. Our informants were

not initially aware of what Ayurveda is and that it is available in government hospitals. Data from our finding showed that five Mumbai respondents have taken various streams including Allopathy and, eleven persons specifically took Allopathic medicine from private hospital, two did not disclosed; only two reached this hospital directly. Finding from our data also shows that the first choice is generally the allopathic treatment whether in private or a government set up. In Delhi, seven respondents has visited various places (including Allopathy) while five had specifically got treatment from a Allopathic hospital or clinic. Here only one respondent had never taken any treatment and one other had sought only Ayurveda medicine before reaching to AUTCH. The respondents like Niranjani in Mumbai and Shalini, Neelam, Guddi, Priya, Habiba, in Delhi were migrants so they have availed whatever facilities were in their vicinity. Bano was originally from Bihar and she had consulted some Dai in nearby area. She told,

> *Bano (D) told that she had not seen any results even though she was getting a treatment since seven years now. Everyone suggested her to consult a hakim and she even got a treatment from Dais but the treatment almost took her life.*

All these respondents told that they spent a lot in previous treatments and were misled by the physicians in fertility clinic. It may be possible that they are referring to non certified clinics because only they offer fertility services for Rs 10000-20000 that my informants would have spent compared to certified clinics which charge much more. Taking treatment from the non-certified class of practitioners for infertility which require longer duration of treatment may cost even more than a specialized center. Some of respondents experienced this.

> *Nayak (M)told that her wife was also getting treatment since last two years. He had already spent seventy thousand rupees for his wife's treatment. His wife's reports were normal but still he didn't had any child. He said that he went to a physician who demanded fifty thousand rupees from him. Then someone told him to come to RAPAMC hospital. The physicians here told him that his sperm count was very less and after that he was getting his treatment at RAPAMC hospital.*

Priya's husband, Saaket (D)told that he went to Bengali physicians and pahadi Vaidya also but it was such a waste of money and the treatment was not effective. After someone's advice he started to seek help from a physician and he was feeling better with that treatment.

It was found that unsuccessful treatment was the first major factor to seek treatment in the hospitals under study. 65 percent respondents from Mumbai and & 70 percent respondents from Delhi did not find any positive result from their previous treatment and they started searching for other options [Table -9,10].

In urban areas, it is the cost of treatment which may compel the patient to get treatment from different sources. Sarkar and Gupta (2016) who did a survey to provide district level estimates on reproductive and child health (RCH), family planning, immunization and other reproductive health indicators, found that “only half of the total women seeking infertility treatment receive allopathic treatment and the other sought any alternative system of medicine or other traditional or religious methods. One of the reasons for getting non allopathy treatment is the high expenditure of allopathic services which specially restrict the poor and low socio economic people to avail these services. They have also pointed out that there is an urgent need to consider this emerging health issue and also the need to regulate all infertility clinics run by both qualified and unqualified practitioners to ensure the quality and affordability of the services. Data collected in our study showed that 35 % respondents in Mumbai and 28.5% in Delhi revealed high cost of their previous allopathic treatment as one of their reasons for getting treatment in Ayurvedic hospital. Some of them started treatment in the Ayurvedic hospital, because of their low family income only.

Side effects of biomedical fertility treatments are another major push factor toward Ayurveda. In a questionnaire based study titles as “general awareness on allopathic, ayurvedic and homeopathic system of medicine in Chhattisgarh” by Nagori K et al (2011), states that out of the 492 people from general population, more than 90% participant thinks that Allopathic medicine produce side effects. In our study two respondents from Mumbai and one respondent from Delhi told that they were here due to side effects of their previous treatments. Some of the common side effects noted by the respondents were acidity, weight gain and weakness.

Faiz(D) told that she was coming here since January and earlier she had taken lot of treatments but no treatment was effective. She told that she started to have lot of health issues after these treatments. Her husband suggested her to stop going to parlor to work .But then her mother in-law told her to stop all these medicines and advised to try Ayurveda medicines and after that only came to this hospital.

Some educated lot of urban people has been now very particular and before taking any treatment they study all the possible pros and cons of any therapy in advance. One of our graduate respondents, residing in Karol Bagh, New Delhi narrated,

Lata(D) told that IVF treatment was very costly and it was the side effects of the IVF that concerned her the most. They were worried that the success rate of IVF was not good and were willing to have IVF only if she had no choice left.

Side effects of bio medicine has been an area of concern and Ayurveda is considered a safe system of medicines with its holistic approach. Respondents praised this system of medicine as they felt rejuvenated after the Ayurvedic therapies.

Along with medical treatment, another thing which was most evident was faith in prayers. After getting successful conception several respondents replied that they were ambivalent which treatment worked but they were sure that prayer worked. Some respondents said they don't know what worked '*dawa*' (medicine) or '*dua*' (prayer).

Religious vows

Role of prayer in healing has been established through many studies. In USA, prayer has been included as a therapy to be considered under (CAM complementary and alternative medicines). In a survey including 31,044 US adults ,it was found that total 62% were using CAM including prayer for health in last one year. But when prayer for health was excluded from CAM, only 36% reported using CAM. (Tippins et al 2009)

Rajiv in his study (2009) argued that, the role of prayer in healing of different diseases show different outcome. The same study give a reference of a study from South Korea which proved the success of pregnancy and implantation in IVF is increased with distant prayer facilities provided for the women undergoing infertility treatment (Andrade and Radhakrishnan , 2009).

Sayeed (1999) has mentioned that women visit at least one holy place or spiritual healer to fulfil their desire to have a child. The often low cost and easy accessibility of religious ritual and healers, along with a deep faith in religious institutions and practitioners, were the main reasons why so many sought religious or traditional help. The strong beliefs and varied religious practices of these women were often reflected during the in-depth case studies.

Spiritual healing has also been mentioned in ayurveda which classify *bhesaja* (medicaments) in two parts namely *daivavyapasraya* (spiritual) and *yuktivyapasraya* (rational). The first variety includes the therapies which are under the influence of divine powers and includes chanting of *mantra*, *mani* (gems), *mangala* (amulet), *ausadhi dharana* (talisman), *bali* (sacrifices), *uphara* (auspicious offerings), *homa* (oblations), *niyama* (precept), *prayascita* (penance), *upvasa* (fasting), *svastyayana patha*, *pranipata* (worshiping God) and *gamana* (going on pilgrimage). This type of medicaments cures the disease instantaneously. Some of the examples of these treatments include performing some auspicious ceremony before panchkarma or surgery, or taking medicine while facing eastward or northward. *Yuktivyapasraya* (rational) means all the therapies including *samsodhana* (purification) as well as *samsamana* (palliative) treatments done with rational use of food and medicines. This type of treatments can be done with the help of physical medicines (*dravyabhuta*) like having any tablet or without medicines (*adravabhuta*) like fasting. Results of this therapy can be observed directly. The other one *satvavajaya* (abandonment of mind from harmful subjects) is also one type of treatment which is used mainly for the diseases related to psychic. With visible results of these therapies it can be included under *yuktivyapasraya* and under *daivavyapashraya* when results of these are beyond perception (C. Vi. 8/87 cf. Jindal, 2016). Ayurveda as a medical system reserve itself the task of providing "*Yukti*" based rational approach, it doesn't deny the presence of religious rituals and practices for the cure of ailments.

Faiz (D) was having a great faith in almighty. In our first meeting Faiz cited that the physicians told her that good things will happen very soon and that she should wait and pray daily. During follow up, Faiz got the positive result with the medicine and she got pregnant. Like her was the other case of Geeta who was also ambivalent and claiming that without the help of almighty nobody can get a positive result. She was ambivalent about this but had more faith in Allah as she quoted-

> *she was pregnant now and almighty had blessed her with a child. She told that she did everything from getting medicines to praying every day but until the time the almighty is pleases nothing will happen. She aid that she took all the treatment and left everything to the almighty in a hope that the almighty will listen to her prayers one day. She further said that nothing happens without the grace of the almighty.*

> *Geeta(D) said that she did fasts, went to temples and even took treatment in her village. She said nothing happens without the grace of the almighty and it was the result of her worship and fast that she was able to conceive.*

Approaching a hospital

Searching a good hospital in terms of its reliability and effective treatment for a particular disease is a tough task in metro cities. Most of the female respondents in Delhi were migrants from Uttar Pradesh or Bihar as their husbands had shifted to Delhi for their employment in this city. In such circumstances they have to rely on the words of their family members, friends or neighbors. So, word of mouth is the main source of information for patients in the process of health seeking. Of our total 15 respondents in Delhi, six got reference from their neighbors while some others were advised to go AUTCH by their relatives. In Mumbai, fifteen were referred by the some near ones while five had reached the hospital directly.

Reliability

One of the reasons for most referral by neighbor may be that most of the respondents were migrants with poor education level. In cases like infertility, patients do not rely easily on others and want to share their problem with persons who can keep the confidentiality. As mentioned by our most of the respondents, they came to this

hospital on getting reference from a friend or neighbor and in some cases a relative who have been treated in that hospital. They found it least expensive and most reliable because some of our respondent told that their neighbors praised this hospital as it is nearer to us and good for treatment of many diseases.

Mannat(D) told that she had to take medicine just after one month of her marriage and that her neighbor suggested her to get treatment at AUTCH as her neighbor was already getting the treatment there.

Jayanti(M) told that her neighbor told her about RAPAMC hospital one day and asked her to get Ayurveda treatment as it was better and didn't had any side effect.

Salma(M) told that one of her neighbor told her that the hospital was very good and she should go for treatment once. One of relatives of her neighbor was finally able to conceive after getting treatment here.

Due to improper knowledge and less education, the weaker section of society is devoid of updated knowledge. They are also lacking common medium of information like newspaper or television. Only five of our respondents in Delhi were having the facility of television at their houses. Due to poor education these were also not able to understand the educational programs broadcasting on the televisions or radio which may be useful for their health. They were also not much confidant due to lack of proper education. There was only one respondent in our study, Avani who herself was a graduate and working in a government office. She was having the facility of internet in her office where she searched about infertility treatment in ayurveda and also searched for RAPAMC.

Avani(M) told that she started exploring all the options available on the internet and that was how she came to knew about Ayurveda. She then searched for a good hospital in Mumbai and came to knew about the RAPAMC hospital. She cited that she told her husband to try Ayurveda as it had high success rate and had very less side effects. Her mother in-law also suggested her to try Ayurveda once.

Some hospitals or physicians gain a reputation of providing a better healthcare for some specific disease. Some of the respondents told that they were at AUTUCH for its reputation since years.

Some of the respondents felt cheated in private hospitals whether in terms of treatment or its cost. This was one of the reasons for these patients to seek treatment in these government institutions which they find more reliable and authentic.

> *Jayanti (M)told that she had undergone IVF five times. The physicians gave her a free IVF after that as they realized that they had committed some mistake. She told that she became very weak after that and her health deteriorated.*

> *Geeta(D) told that government should take some stand to close the private clinics as the patients are ignorant and these private clinics provide wrong treatment. She said that she was in debt and it might had been her bad karma that she had to suffer so much. She said that the physician here was like a deity to her and she would recommend Sarkari hospital to anyone facing similar problems.*

> *Neelam(D) said that there were many places in Delhi that provided treatment for male child but she would always recommend a government hospital as they were genuine. She also told that her husband had taken medicine from private clinics for potency but it was totally ineffective. But after getting treatment in government hospital he saw improvement.*

> *Lata's husband (D) told that the treatment in government hospitals was authentic and much cheaper than private clinics. He cited that he had almost spent twenty thousand rupees for the treatment in government hospital while he might had to spend a lot in private clinics.*

Sometime people see the system of medicine with their religion also. One of our respondents was Muslim and she came to AUTCH for unani medicines.

Gulfam(D) told that one of her friends advised her to go to AUTCH. *She told that she more faith in Unani treatment as it was more attached to her religion.*

Gulfam could not get any result with Unani medicines and so she finally turned to Ayurveda. With such examples it can be stated that irrespective of religious belief, patients prefer to the system of medicine which they found more suitable for them. This fact is also evident from the data from Delhi where four Muslim patients were getting treatment in ayurveda at a time when parallel facilities were available in unani section of AUTCH.

Choosing a public Ayurveda hospital

Health care utilization patterns generally find that in case of acuteness of disease, proximity of healthcare provider's matters while for chronic illness cost of healthcare influences the healthcare provider choice (Raza et al, 2016). So, acuteness of the disease determines which healthcare system can provide treatment in the proximity irrespective of his/her degree and the preferred choice of medicine is allopathy. Infertility is not an acute disease still higher proportions of people choose to visit an allopathic center whether private or public. According to a study by Manna et al. (2014) conducted in West Bengal on the infertile woman seeking treatment for infertility at primary health centers, it was found that people seek allopathic treatment as their first resort and the private allopathic hospitals were preferred over public hospital.

Allopathic medicine seems to be the first resort for healthcare especially for acute illness irrespective of the provider. It seems that cost matters less for infertility as people in rural area first seek a private allopath facility which may be from a non-qualified allopath provider. Another study finds that public hospitals are having deficiencies in their infrastructure and manpower due to which they are not in a position to manage the patient load (Bajpai, 2014). So, people generally avoid these hospitals and seek treatment from private hospitals.

I find a different trend in my study which is based in two metro cities where public allopath health care is comparatively better and cheaper in comparison to other part of country. Despite accessibility to good quality allopathic healthcare in the metro cities

under study, some informants seem to have chosen to the ayurveda departments in the government hospitals. The chief determinant for seeking treatment in these hospitals was found as lower cost of treatment.

The findings of my study revealed that predominantly lower economic sections of society were availing treatment for infertility in these hospitals and many of them were here after exhausting much of their money previously at various places. Some were found saying the following.

> *Faiz (D)told that her expenses in the hospital were not very high as could avail all the medicines from the hospital itself.*

> *Babita (D) told that one lady from her neighborhood told her to consult at* AUTCH *hospital. She told that she came to the hospital with her neighbor and her total expenditure was one third of the expenditure she had spent in private clinics.*

She was elated after conceiving and compared the physician to God.

> *Jeet rani(M) told that she went for IVF in government hospital and was able to conceive successfully after that. She cited that the total money she spent in the government hospital was equal to the money she spent in the private clinics in just one sitting.*

The present study was done in two ayurveda institutions and there are several cases I came across who took treatment or shifted to ayurveda because of faith and experiences of their own, family member or their relatives in government institutions.

> *Faiz (D) told that the medicines in the government were far better than private clinics. She told that while taking medicine from private clinics she used to feel really weak and would often have stomach aches. But after going to the government hospital she didn't had to suffer the same and even could get all the medicines free of cost from the hospital.*

Faiz was here as her mother-in-law advised her for this hospital. She at some point of time herself had availed treatment here and her delivery was also conducted in this hospital. Some patients found it a better therapy in terms of adverse effects with their previous treatments.

Mannat (D) told that the Ayurvedic medicines were better than the previous medicines she had taken. She hoped that the medicine will work and left everything in Almighty's hand.

Reeti (D)told that she felt better with the medicines here at the government hospital. Her appetite had increased and she no longer felt giddiness.

Manjula(D) told that she often felt uneasiness when she was taking the treatment from private clinics. The medicines prescribed by physician were costly as well as the she was charged exorbitantly by physician in private clinic. She used to feel nausea, sleepy and had uneasiness while she consumed medicine from private clinic. But after coming to this hospital she felt better and the medicines from the hospital were free of cost. She had to buy just one or two medicines which were prescribed by the physician.

Sonia (D)told that she had to spend very less at the government hospital in comparison to the private clinics. The medicines were better here at government hospital. She had put on a lot of weight while taking allopathic medicines. But when she started Ayurvedic medicines she was able to conceive. She said that she was not aware of the expenditure of the treatment as her husband used to take care of that. She further said that she felt that the physicians were very good here.

Some respondents found ayurveda medicines unpalatable but still they felt better in long terms.

Surya Kiran(M) told that she faced a lot of complications from allopathic medicines bit after taking Ayurvedic medicines she felt better. She said that she faced some pain during the time of uttar basti and the ghee used for vamana and virechana smelled bad but after these therapies she used to feel good. She further told that the treatment was way cheaper here.

There was one respondent who was here at RAPAMC on recommendation of her family members but she found herself very uncomfortable with Ayurvedic medications. She even argues that there physicians were doing the allopathic procedures in the name of ayurveda and if she had to take IUI or something it is better to go to an allopathic hospital.

Poornima (M) told that she didn't liked these procedures as they were ineffective. She told that although the modern medicine had many side effects, it was more effective. She said that she wanted to shift to Allopathy again. She cited that the physicians did IUI and felt that Ayurveda treatment would cost her the same as allopathic treatment although she didn't knew the cost. She felt Ayurveda was too slow and the medicines taste very vague. She further said that her sister conceived from the same hospital but she felt this treatment was not for her and she would instead take the modern medicines.

Avani(M) told that she felt better after this treatment. She told that she had lost weight through panchkarma and felt better. She said that she didn't felt any weakness and cited that she felt Ayurveda was far better than Allopathy .

The experiences of the respondents were mixed as some found it better in comparison to allopathy. On the scale of side effects while some discarded it due to its palatability. The common feature observed in favor of these treatments was the better health even after medication which is very uncommon with bio medical treatments provided for infertility.

Study of treatment of male infertility

During course of my study I found that men were also there in large numbers with their wives at AUTCH and when inquired, the physician told that some of these males patients come for their sexual health problems and go to the unani medicine wing which is considered better for sexual health. The physician mentioned that she also treat cases of male infertility including low sperm count or reduced motility with Ayurvedic medicines like Chandraprabha Vati, Gokshuradi Guggul and some proprietary medicines like Addyzoa, Semento etc. She also referred some of the patients to the panchkarma department for some procedures. I could interview only five male patients seeking treatment for their infertility status along with sexual

health. All of them were husbands of my female respondents. Most of them were having problem of low sperm count while premature ejaculation, loss of libido and no desire at all were the other symptoms as reported by them. (Table-7)The narratives of such patients have been incorporated at appropriate places.

In our study at Mumbai we interviewed seven male patients most of them were belonging to the low income group. They were here mainly with the problems like erectile dysfunction, premature ejaculation, loss of sexual desire, unsatisfactory sexual life and painful intercourse. Of these seven men, two were having erectile dysfunction while four were suffering with premature ejaculation. Two respondents complained of unsatisfactory sexual life of which one was having pain during intercourse. Only three of these were having the problem of infertility due to seminal diseases. (Table-8)

General treatment protocol for male reproductive health include use of panchkarma like *vamana, virechana basti karma* and *uttar basti*. As part of treatment general advice related to diet and lifestyle were also given to all these seven by the physicians at RAPAMC. Some of them were also advised to practice yoga to reduce stress. As part of medicinal treatment, four were given only uttar basti while in others firstly yoga basti karma was done followed by uttar basti.. Commonly used oral medicines were like Chandraprapha Vati, Gokshuradi Churna, Ashwagandha Churna, Pushpadhanva Rasa and Musali Paak.

To sum up, many factors play role simultaneously when it comes to health seeking. The prevailing factor in a particular case depends largely on the socio economic status of a family. In our study respondents were more from the lower income group and therefore health seeking was conditioned by the cost of treatment. Lower cost of treatment is welcomed by the low socio income group and they avail it extensively. Socio economic conditions sometimes may compel patient to get treatment from untrained health providers. Though this type of practice is commonly expected in rural or semi urban areas but even in metros like Delhi this practice is not uncommon amongst the urban poor. It may be the infertility and the social factors related to that, respondents were found having spent catastrophically and finally shifted to public ayurveda facilities for getting treatment of infertility which need a longer duration of treatment and regular follow up. Lower education of the respondents was also found as a contributing factor for them getting treatment from non-qualified practitioners.

Some of the respondents were not aware of the type of treatment they were receiving here as they were much concerned about the outcome of treatment and the system of medicine hardly was a matter for them.

Despite the fact that ayurveda is less popular among the economically weaker sections the prohibitive cost of allopathic treatments for infertility, attracts the patients to these government ayurvedic facilities. With some level of satisfaction, patient flow increases by sheer reference through word of mouth. Eagerness to have a male child was one of the factors attracting some of the respondents to these hospitals because they were in a belief that with certain ayurveda medication they can surely have a male child though none of the hospitals ever mentioned this.

The emergence of non-biomedical systems in public health is a significant development in this country characterized by standalone biomedicine in public health for more than a century. We just saw how these facilities; despite low budgetary allocation and limited infrastructure compared to biomedical departments do provide health care to the needy sections of society. In the next chapter we will examine how ayurveda as a system of medical knowledge conceptualizes reproduction, the male and female body and infertility.

CHAPTER-5

GENDER AND MEDICINE: AYURVEDA ON INFERTILITY

Ayurveda has been the subject of many a anthropological enquiry since the seventies starting with Leslie's work on Asian medical systems followed by the volume on asian medical knowledge. While there have been some anthropological studies on the ayurvedic theory of the body in general (Young 1976, Leslie 1976, Trawick 1987, Zimmerman 1978) on the ayurvedic concept of digestion and metabolism (Tabor 1981, Nichter 1986, Sujatha 2014), antenatal care (Naraindas 2006), there are few social science enquiries into the ayurvedic theory of the human body in relation to conception and fertility. Alter's work on yoga does deal with sexuality and the male body, but less on fertility and reproduction.

The ayurvedic framework is considered non-anatomical (Jayasundar, Sujatha 2012) and this aspect of physiological view of bodily functions ayurveda shares with Tibetan medicine (Adams 2006, 2008) and Chinese medicne (Farquhar 2011) . But as mentioned above, we have little information in the social science literature on how male and female bodily functions are conceptualized in ayurveda. The observations in this chapter are hence based on a study of original ayurvedic texts made available with Hindi and English translation. Some of the texts which I studied are Charak Samhita, Susruta Samhita, Astanga Hridaya, Kashyapa Samhita and Harita Samhita. The commentary on Charak Samhita by Chakrapani and on Sushruta Samhita by Dalhana were also referred to clear some queries. I also gone through 'Ayurvediya Prasuti Tantra', a popular book of ayurveda curriculum related to the subject of infertility. Besides that some books on the history of ayurveda were also referred.

In this chapter I will begin with introduction of ayurveda and its approach towards disease and especially infertility.

Introduction to ayurveda

Ayurveda is the codified system of knowledge that can be traced back to at least 1500 B.C on the basis of its first documented text Sushruta Samhita (Yadav 2009). The ayurvedic approach to the body is not linear but it considers the body to be a part of

the cosmos having the representatives of wind, sun (fire) and moon (water) in the body represented by *vata*, *pitta* and *kapha* (Ch. Chi 28/246). The basic theories of *tridosha* (roughly, three bodily functions, does not fit neatly into any criteria of biomedicine), *sapta dhatu* (seven bodily tissues) and *trimala* (roughly, three bodily wastes.[2] Ayurveda means the science of life and it prime purpose is prevention and cure of disease through diet, lifestyle, drugs and clinical procedures and has been practiced in the south Asian region for several centuries. The concepts of ayurveda are based on theories which have been verified over many centuries of clinical observations. Ayurveda has a distinct approach and its main thrust is to maintain the state of health by attainment of balanced state of the *dosha*s. Ayurveda defines the state of health both at physical, mental and social level. According to the definition of ayurveda a healthy person have balanced state of *dosha* , *dhatu* and *mala*; all of his *agni s* (enzymatic reaction) are normal and his physiological functions are proper. He should also be having happy state of mind, senses and soul (Su. Su. 15/48).[3] Any deviation from these states of normalcy and happiness has been defined as disease. In Sushruta Samhita it is written that, an ideal treatment is one which alleviates the present disease and do not produce any new disease (Su Su 35/27). Actually it is the disease which need to be cured and not the symptom (Jayasundar, 2010). The holistic approach of Ayurveda, contrary to the reductionist approach of biomedicine may be easily understood through the case study mentioned by the contemporary ayurvedic physician Girija (2013), where she mentioned how a young man having difficulty in passing urine and having a bloated abdomen was not able to get treatment in biomedicine, could be treated successfully with ayurveda treatment correcting his *apana vayu* which is responsible for all excretory functions. The focal point of ayurvedic interventions is not one organ or anatomical part or cell structure. *apana vayu* for instance is one of the sub types of *vayu* which resides below the navel in the testicles, urinary bladder, penis, navel, thighs, groin and anus. This subtype of *vayu* is responsible for elimination of *shukra* (semen), *mutra* (urine), *purisha* (feces), *aartava* (menstrual flow) and *garbha* (fetus). *Basti* is an excellent therapy for treating *vayu* as it treats the *vayu* at its original place. *Uttar basti* is specialized treatment for diseases related to *shukra, aartava* and *garbha*.

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[2]*Tridoshas* are *vata, pitta* and *kapha*. *Sapta dhatu* includes *rasa, rakta, mamsa, meda, asthi, majja* and *shukra*. Trimala are the body waste in the form of *mala, mutra* and *sweda*.

[3]समदोषः समाग्निश्च समधातुमलक्रियः। प्रसन्नत्मेन्द्रियमनाः स्वस्थ इत्यभिधीयते॥

Holism of ayurveda

The ayurvedic theory of holism covers the physical, mental, emotional and spiritual well being. This can be easily perceived through the definition of health stated in Sushruta Samhita, the balanced state of *dosha* , *agni* (digestive fires), *dhatu* (body tissues), *mala* (waste of body) and normalcy of physiological activities are the marker of physical healt.[4] The *prassana* (content) state of *atma* (soul), *indriyas* (sense organs) and *manah* (mind) is the indicator of mental, emotional and spiritual well being.

The personalized approach of ayurveda considers each body different in respect to *dosha* (humoral), *bheshaja* (medicine), *desha* (habiat), *kaal* (time), *bala* (physical strength), *sharira* (body), *aahaar* (food), *saatmya* (wholesomeness), *satva* (mental strength), *prakriti* (body constitution) *and vaya* (age)(Ch. Vi. 1/3).

Personalised treatment approach

Dosha literary means morbid matter which causes disease when deranged but in the balanced state of health it is considered as basic element of body. These *dosha* s are mainly of two types i.e. *Sharira* (related to bodily) and *mansika* (related with psyche). *Vata, pitta* and *kapha* are the three *sharira dosha* while *rajas* and *tamas* are considered as *manasika dosha* . *Vata* is related with all type of motions in the body; *pitta* is related with all the digestive reaction while *kapha* is responsible mainly for structure formation. All these three have their subtypes and are linked with every activity of the body. They cause diseases independently, in collaboration with the other two *doshas* or sometimes even all three can cause disease. Knowledge of these *dosha* is most important as each of them has its own characteristic and on the basis of symptoms produced during a disease condition, physician can decide the pathological process running in the body and treat it as per the dominant *dosha* . The pharmacological effects of any medicine are dependent on its basic qualities like *rasa, virya, vipaka* and *prabhava*.[5] It is the caliber of the physician how he/she use a

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[4] समदोषः समाग्नि समधातुमलक्रियः। प्रसन्नात्मेन्द्रियमनः स्वस्थैत्यभिधीयते॥

[5] *Rasa* is the basic attribute (in the form of taste) of any substance which can be perceived through tongue. Six rasa have been mentioned in ayurveda naming *madhur, amla , lavana, katu, tikta* and *kashaya*. Each of it has different composition on the basis of five basic elements. Each of the rasa affects the body as per their basic quality. *Virya* is the active principle of any substance through which it execute its function in the body. It is of two types, *ushna* and *sheet*. Vipaka is end result of any substance after digestion with the *agni* . It may be madhur, favoring *kapha*; amla, favoring *pitta* and

medicine considering the above said factors because there is nothing in this world that cannot be used as medicine (Ch.Su 26/12). The knowledge of pharmacological properties of natural substance are said to help physician to choose best available medicine from the lot that it is not antagonist to any of these said factors. *Desha* implies both to the body itself (*sharira*) and habitat. *Prakriti*, *aaharshakti*, *samhanana* (compactness of body), *pramana* (body measurements), *saar* etc. are part of examination of *Sharira desha*. Consideration of habitat (*desha*) one of the salient features as it exerts its own impact on body. Ayurveda evolved in India where three types of mainland *jangala; with abundance of heat and wind, anupa;* with abundance of water and *sadharana; having characteristics* of both *jaangala* and *anupa desha.*. The place of birth and growth and where body was afflicted to the disease matters during diagnosis and treatment. This is the foundation for the use of different medicines for the same disease process when it occurs in different parts of the world. Importance of *kaal* (time) has been mentioned in relation to collection of herbs; to get the enriched medicine in their natural seasons, for treatment; time of action according to disease and season etc. The other aspects which physicians have to consider are *bala* and *satva* which is the indicator of physical strength and mental strength respectively. A physically strong person is a good subject for using any type of treatment modalities and so there is categorization of patients in three levels of *pravara* (strongr), *madhya* (moderate) and *alpa* (weak) to prescribe medicine accordingly. It is the *satva* which stabilize the person in circumstances of adversity and prosperity and a patient with good mental strength is able to undergo any type of treatment whether it is oral medicine, a panchkarma procedure or the surgery. *Vaya* (age) has broadly divided in three phases i.e. *balya (young), madyama (middle age)* and *jeerna(old age)*. The dominance of certain *dosha* in a particular age make persons belonging to that age group susceptible for diseases related with that *dosha* . Age also play a key role in deciding prognosis of disease like the diseases of young and middle age are sukha sadhya (easily curable) while the diseases of elderly are *kricchasadhya* (tough to cure). Anything which is favorable to body (*aatma*) and does not cause any harm to the health is called as *saatmya* (wholesome) (Dal on Su. Su. 35/39). It includes all the diet and lifestyle which are favorable to body. Sometimes unfavorable things also become wholesome

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katu, favoring vata. Prabhava is the special potency of a particular substance which makes it extraordinarily effective in certain conditions despite of its other naturalattributes.

to the body due to regular use. This is called as *oak saatmya*. Ayurvedic etiologies of disease always have a list of the causative factors related with diet and lifestyle. For this reason, physicians always try to find out that particular factor to make the patient aware of it and advise her / him to skip it until the completion of the treatment. (Ch. Su. 6/49)

Assessing the Prakriti

One of the specialties of Ayurvedic treatment is importance of *prakriti* (body constitution). According to Charka, three types of basic body constitutions are found i.e. *vata prakriti*, *pitta prakriti* and *kapha prakriti*. *Prakriti* of a person formed at the time of fertilization and its basic traits remain the same lifelong. Both *shukra* (semen) and *aartava* (egg) are made of three *dosha s* (Ch. Vi. 8/95). At the time of fertilization *dosha s* undergo changes in their proportion. During this transformation, all the *dosha s* may be in equipoise state or the condition may be dominated by one or two *dosha s* at the same time. This influences the nature of embryo in a characteristic manner which finally becomes the *prakriti* of an individual (AD on Ah. Su. 1/10). The person of a specific *prakriti* possesses some peculiar characteristics which are reflected in their appearance, activities and at mental level also as explained by the physicians, "In general persons with *vata prakriti* have *krisha* (emaciated) and *ruksha* (dry) body with less hair on the head. They are talkative and do not have a stable mind. During sleep, they dreams about flying in the air. In general persons with *pitta prakriti* face early greying of hair. They are intelligent, get angry easily and sweating is very much there. They see lightning, stars etc in their dreams". Generally persons with *kapha prakriti* are intelligent, bulky body structure and smooth hairs. They are strong and dream about water bodies during sleep (Ch Vi-8/96-98) (Sh. S. P. 6/65-67). *Prakriti* is a determinant for selecting line of treatment, medicines, diet and lifestyle also.

Concept of *agni* in ayurveda treatment

The ayurvedic system of medicine very much focuses on digestive power of the person . The health of a person depends on its *jathaaragni* (digestive power) which is helpful in digestion of food and nourishes all the other twelve *agni* s present in the body. Five of these *agni* are the *bhutaagni* (related to each mahabuta of body) and seven are the *dhaatvagni* (each one related to a particular *dhatu* of the body). A

person with strong *jathaaragni* can ingest good quantity of food and easily digest it. Ayurveda suggest that a person should consider his digestive power and should take food only two third of his/her total capacity so that it can be digested properly in time. There is description of *asta-vidha aahaara vidhi visheshayatana* which can be said good eating practices. These includes *prakriti* (basic qualities of food), *karan* (processing of food), *sanyoga* (combination of food), *rashi* (quantity of food), *desha* (place of origin of food), *kaal* (time of having food), *upayoga sanstha* (rules of healthy eating) and *upyokta* (the consumer). To get proper digestion of food it should be hot, unctuous, and not having any contradictory property in relation to body. It should be taken in proper quantity only after digestion of previously taken food. A person should eat it at a place of his choice with concentration of mind without making any hurry or undue. He should avoid talking and laughing while having food (Ch Vi-1/21 & 24). So, *agni* remains in the focus of physician during treatment also as lowered digestive power is the root cause for many diseases and such person may not be able to digest the medicine as well. So, one of their basic target during treatment is to maintain the digestive power at the optimum level. Rama Jayasundar (2013:p.461) explains the importance of *food and its constituents, she says. "ayurveda gives as much importance to digestion and absorption of food as it gives to the composition of food. It categorically states that proper digestion is an indication of good health and poor digestion leads to many diseases"*

Modern practice of ayurveda

The practice of Indian system of medicines has been divided mainly in two parts comprising the first in pre-colonial system during which the Dutch, Portuguese relied on the Indian healers. Even the British in their early settlement also preferred the skilled Indian physicians to get cure of the tropical diseases because the European physicians were not having knowledge of diseases happening in tropics. It was the mid of 19th century when the colonial establishment took place which took aside the Indian system of Medicine. Till the 19th century the education of ayurveda was given in guru-shishya paramapa system but after this structure was changed from the early 19th century with the incorporation of hospital settings for medical training. In the 19th century itself the western medicine has been upgraded to the prime healthcare system relegating the Indian system of medicines as secondary. In the early

20th century, with the formation of Nikihil Ayurveda Parishad efforts were started to re-establish the lost glory of ayurveda to compete with the flourishing of western medicine through modern medical colleges. As Leslie (1992) has noted, "leaders of ayurvedic revivalist movement in the early twentieth century competed with biomedicine by adopting modern technology, ideas, and institutional forms to found new Ayurvedic colleges, hospitals, and professional associations" (Reddy,2002)

In this quest, the first ayurveda college in Kolkata was established in year 1916 followed by many other colleges. After independence, Government of India tried to examine the potential of Ayurveda, Unani and Siddha at par with the biomedicine. Many committees were formed to get in to the real lacunas and appropriate steps were adopted to make the ayurveda education to withstand the demand of people and to compete with the prevailing biomedicines. In this course, the astanga ayurveda[6] having its eight specialties was divided in to fourteen departments on the same grounds in which modern medicine was taught. In these efforts, in 1964 a government body was formed for quality control of ayurveda medicine. In 1970, the Indian Medicine Central Council act was passed to strengthen ayurveda education. In these efforts National Institutes, central council of research in ayurveda and siddha was also established. A separate department of AYUSH was established to look after the alternative systems of medicines namely ayurveda, Yoga, Unani, Siddha and Homeopathy. In year 2014, a separate Ministry, AYUSH was formed to get the focused promotion of Indian systems of medicine. Another shift is the mass production of ayurvedic medicines, which is considered as a force that took ayurveda into the twentieth century (Banerjee,2004)The mass production of ayurvedic proprietary drugs has also led to the entry of ayurveda into the global market for natural products. Sociologists and anthropologist have written about different aspects of these transformations in traditional medicine. Reddy (2002) in her article argued that all these reforms to some extent give rise to the formation of contemporary ayurveda practice within modern South Asia and it had a long history of professionalizing which start with changing Ayurvedic curricula since early twentieth century. The introduction of scientific manuals and modern textbooks which leads to

[6]Astanga Ayurveda includes kayachikitsa (medicine), kaumarbhritya (paediatrics including gynecology and obstetrics), shalya tantra (surgery) , shalakya tantra (ENT and Eye), Agad tantra (dealing with poisioning), bhuta vidhya (delaling with demons etc), rasayan tantra (rejuvinaion) and vajikarana (aphrodiasiac).

integration of ayurveda with biomedicine, she argued , “during the past two centuries, revivalists used the ideology of medical revivalism to create parallel institutions and an official, professionalized system of Ayurvedic knowledge for the modern Indian nation/state” (Reddy, 2002).

Banerjee (2002) notes that ayurveda has shifted from the vaidya’s rasashala to mass industrial production of drugs which has led to commercialization of the system. The author said that ayurveda was challenged in epistemic, economic and pedagogic arenas in this process. Yet, it has survived and thrived, but it is not the same ayurveda of the past centuries. Raising the same issue Naraiandas (2014) has argued that contemporary education, training and practice of ayurveda is creolized one and far from its basics the pedagogy is changed and ayurveda scholars learn the language of biomedicine, use tools of western medicines for diagnosis and biomedical researchers are used for selecting a herb to treat the symptom and not a disease as a whole. He further highlights that presently three types of medicines are practiced, first being the shastric yogam; prepared in accordance to classical texts, second category includes those which has some modification in their composition from the original one , which he argued that is considered plagiarized and pharmacies are manufacturing these products on the basis of experiences of physicians. The third category has no relation with the basic concepts of ayurveda but are based on the researches done on the plants which have been included in the British pharmacopoeia sometime in 19th and 20th century) but were originally from Indian system of medicine.

To put it briefly, Sujatha (2011p.115) identified three major stages in this process: ‘The transformation of ayurveda in the past two centuries may be understood in terms of three phases: one spearheaded by vaidyas till the 1950s, the second ushered by the government of independent India, and lately, the third phase lead by biotech pharmaceuticals and commercial lobbies in the global health care industry.’

Ayurveda and infertility

One of the objective of this study was to understand the view of ayurveda on infertility. It was found that the presentation of the ayurveda Samitas is altogether different from the books on biomedicine. To understand the ayurveda approach

regarding infertility is becomes mandatory to study the structure of human body described in ayurveda.

Description of human body

The anatomical description of human body in a clinical sense is available exclusively in the Sharira sthana of Sushruta Samhita. Besides some other relevant topic like *pramana* (body dimensions), one of the tool to assess longevity and strength of body, has been separately given to describe the average size of different body parts. This description is generalized and only the important differences in a man and woman body have been given. Main difference has been mentioned in the form of external orifice of body which woman has extra three in comparison to man, one vagina and two openings of breasts. There is one extra *aashaya* in the body of woman named as *garbhashaya*.

Description of female reproductive organs has also not been provided entirely and different texts have used different nomenclature. The classical term used for vagina is *yoni*. In the text, its shape has been described as that of sankhanabhi (hallow portion of conch shell). The third curve of this is called as *garbhashayya* (uterus) (Su. Sha. 5/10). The term *bhaga* seems to represent the external genital organs of female (Tiwari, 2003). Its shape in Ayurvedic text has been explained like a leaf of *pipal* tree and its size is of twelve *angulas* (Su. Su. 35/12). *Smaratpatra* of female body is mainly related with sexual act and gets excited during intercourse which has been assumed as clitoris in female body (Dal. on Su. Sha. 5/10). Menstrual flow has also been mentioned as of prime importance for conception and different terminologies have been used to describe its relevance. It includes *rajah* (menstrual blood), *aartava* (menstrual flow) and *stree beeja* (ovum), *lohita, pushpa* and some others. The secretion of this flow roughly starts at the age of twelve and finishes by the age of 50 yrs (Su. Su. 14/6).

In the male body, size of penis is said to be four *angula* and that of testicles is two *angulas*[7]. The ideal shape of testicles has been compared with an ox. On the basis of physiological difference, description of *aartava* (menstrual flow) and *shukra* (semen) has been given. The originating structures *aartava vaha srotasa* in a female body is

[7] Angula is the unit to measure the body dimensions of a person with his/her own finger.

garbhashaya and the arteries carrying menses. In male body, *vrushana* (testicles) and *stana* (nipples) are the roots for *shukravaha srotasa* (Su. Sha. 9/12).

Description of female infertility

The term *vandhya* has been used in Ayurvedic text to denote female infertility. The word *vandhya* is derived from the root "*Vandh*" with "*Yak*" Suffix, which means barren, unproductive, fruitless and useless.In Sanskrit, *vandhya* literary means a woman in whom there is a hindrance of any kind to the normal process of conception. Some other words like *avatoka, avakeshi* and *aphala* are also used for almost same conditions as *vandhya*. As told by physicians, unlike male reproductive problems no clear description of female infertility has been given in major samhitas. Infertility (childlessness) is described as one of the symptoms under twenty types of *yoni vikar* which includes various gynecological problems. *Aartava* has been described as female counterpart of *shukra*. Like *shukra dosha* , eight anomalies of *aartava* have been defined of which five are incurable and rest are difficult to treat. These may or may not be associated with *vandhya*tva (infertility).

Sushruta has described six types of *vandhya* and also the specific causes for each. There is a chapter heading *yoni*vyapada having description of twenty diseases related to female genital organs. Here one of *yonivyapad* is *vandhya yoni* which has been described as not able to bear a child (Su. U. 38/10). Charka has mentioned a disease named *shandi* having characteristic of infertility. This is caused due to due to abnormality of *beejamsa* (Ch. Sha. 4/30 and Ch. Chi. 30/34).[8] In other chapters like Siddhi sthana, Charka has described the medicine for panchkarma procedure that is helpful for an infertile lady to have a child. Some other words related with different type of infertility are also used in Charka Samhita. *vandhya* refers to incurable congenital or acquired abnormalities resulting into absolute sterility (Ch. Sha.4/30). *Apraja* denotes a woman who can conceive only after treatment. It is considered as primary infertility (Ch. Chi. 30/16, Charkrapani). *Sapraja* is a condition in which woman in her active reproductive age does not conceive after giving birth to one or more children or it refers to secondary infertility. Chakrapani has described *Avandhya*

[8]This type of abnormality of female reproductive system happens to that woman whose mother was having the abnormality in their *aartava* (ovum) at the time of conception of this particular child. Due to her faulty diet and lifestyle her ovum gets deranged even affecting the *beejamsha* (genes) responsible for development of female reproductive organs.

for a childless woman who has a capacity to conceive at a very late stage (Ch.Sha.2/5, Charka.). This condition is a one type of primary infertility. In this condition there is no necessity of treatment. This condition comes under unexplained infertility.

Only Harita Samhita has described *vandhya*tva as a diseased condition. Harita has defined *vandhya*tva as failure to achieve a child rather than pregnancy, because he has included *garbhasravi* (in which miscarriage happens spontaneously) and *mrutvatsa* (delivers a still birth) also under the classification of *Vandhya*tva. In the text of Harita, the following types of *vandhya*tva have been described like; *Kakavandhya*, The woman who has one child but second time she is not able to conceive; *Anapatya*, The woman who has no child; *Garbhasravi,* the woman who has repeated abortion; *Mritvatsa*, the woman who has repeated still births; *Balakshaya*, infertility due to loss of bala (strength) and last one is u*nexplained* which never conceives due to *garbhakoshbhang* (injury to the Uterus) and loss of *dhatus* during childhood (Ha. Samhita, sthana 3rd /48).

Kashyapa Samhita is the text mainly related with the mother and child health. Under the description of *Jataharinis* (group of diseases related with females only), Acharya Kashyapa has mentioned one *Pushpaghn*i, having useless *Pushpa* (no conception) and certain others characterized with repeated expulsion of fetus of different gestational periods Since in these conditions also the woman fails to get a child, it can be included under infertility (Ka.K.6).[9] Other text like Madhava Nidana and Sarangdha Samhita also present scattered observations related to infertility. Interestingly in some other text related to mineral and metallic pharmaceutics like *Rasa Ratna Sammuchaya,* nine types of *vandhya* have been described as *adivandhya, vataja, pittaja, kaphaja, sannipataja, bhutaja, daivaja, raktaja* and *abhicharaja*.

Our preliminary study of ayurvedic texts indicate that while delivering a healthy progeny is the foremost concern of the medical interventions, this is attained only by ensuring the health and wellbeing of the mother and not at the cost of it. Infertility of the woman is viewed under the broader rubric of woman's health.

[9] In kashaya samhita, Revati has been designated as the leader of Jaatharani (some sort of infections) who are supposed to destroy pushpa (ovum),the embryo, fetus or even infant. It specially afflicts the persons who are non religious, demon like nature etc.

The etiological factor described in ayurveda for female infertility includes improper treatment of *yonivyapadas*(gynecological disorders), injury to *aartavavaha srotas* (trauma to organs involved in menstruation), *manasika abhitaapa* (mental stress) like fear of having sex, marital disharmony and infrequent coitus affect the fertility, *aartava dushti* (abnormality of ovum and ovarian hormones produce infertility), life style related issues such as abnormal mode of life and suppression of natural urges are said to aggravate *dosha* s, which produce various gynecological abnormalities. Other than supine posture of the women during coitus, discharge of semen on *samirana nadi* or outside the vagina comes under defective practice of coitus. In all these conditions probably semen is not properly deposited inside the vaginal canal. Thus sperm fails to enter uterus causing infertility. Besides, factors from the male counterpart in the form of *shukra dushti* involving quantitative and qualitative abnormalities of the sperm along with spermatic fluid are said to cause infertility (Tiwari P, 2003).

Favorable diet to maintain pregnancy

Ambu (the fluid nourishing the fetus) is one of the four factors essentially related with successful pregnancy. It has been mentioned that with the appearance of the sense in the fetus, mother may demand food which may not be suitable for pregnancy. As mental stress is also one of the factors for miscarriage, the pregnant woman may be allowed to have food of her choice but with certain limitations like processing it in a manner that it does not harm or giving it in very little quantity. The common things which are advised during pregnancy includes milk, *mamsa*, Lashuna, root of Langali, Shatarvari, root of Devadali , root of Bandhyakarkoti, root of Bruhati and Kantakaari etc. Some food article which should be avoided during pregnancy are *surana, amla (sour), kanji, vidahi aahara* and *teekshan aahaar*.

Mamsa (meat) has been indicated in ayurveda as it is beneficial in many conditions. Different type of meats and their suitability according to the disease and season has also been mentioned. All this has been described in view of health only but there has been no compulsion of using it by vegetarian women. But vegetarian women diagnosed with weakness can make an exception and consume meat as medicine.

Treatment protocols for infertility in Ayurvedic text

According to physicians interviewed in my study, the treatment protocols for treating *vandhya*tva are not clearly mentioned. In classical text it has been mentioned that for conception, four major factors works in collaboration. These are the *ritu* (time), *beeja* (ovum and sperm), *kshetra* (uterus etc) and *ambu* (nourishment of female). The first refers to favorable timing for conception in terms of ovulation. The second factor *kshetra* and it denotes the female reproductive organs. This is very important because it is the location of the conception process. The diseases related to this system have been described in the name of *yoni vyapada*. The third factor is *ambu* which representative of the *aahaar ras* of the food taken by the female which nourishes the fetus. The fourth one is the *beeja* which is representation of *aartava* (ovum) in woman and *shukra* (sperm) in man. So, the causes for *vandhyatva* (infertility) may range from the diseases of *aartava* (due to female), disease of *shukra* (due to male) and *yoni* roga (diseases due to female genital organs) and above all, malnutrition or faulty and/or inadequate diet is another prime factor for infertility according to ayurveda. The physician has to first find the level at which treatment has to be targeted.

Unlike modern medicine which is able to diagnose the exact cause of infertility through various invasive and non-invasive techniques of diagnosis, classical ayurvedic diagnosis relied on acute and sharp clinical investigation of the patient and her symptoms as diagnostic technology was not there for determining the underlying pathology. Ayurvedic physicians had to rely only on the signs and symptoms which are perceived during examination of the patient and even today where ayurvedic physicians do read and rely on biological investigations, clinical observation of patient still plays a bigger role than in biomedicine. In ayurveda classics, the characteristics of pure *aartava* (menstrual blood) and *shukra* (semen) are given which represent their healthy state. Contrary to this there have been many other characteristics of *shukra* and *aartava* mentioned which denotes their pathological state. For example, *shukra* may be having pathologies like *phenil, tanu, ruksha, vivarna, puti, picchil, avasaadi* and *dhaatu upsamsrita* etc.[10] All these may be

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[10] Tanu (diluted), phenil (frothy), ruksha (dry) etc. are the charactestic features of vitiated semen due to *dosha* s.

correlated with specific disease conditions caused by *dosha s* which in the present time are considered as pathologies at the hormone level.

As discussed earlier, *apana vayu* is responsible for the normal physiologies related to *shukra* (semen), *mutra* (urine), *purisha* (stool), *aartava* (menstrual flow) and *garbha* (fetus) (Ch. Chi. 28/11). So, *vayu* is considered as basic reason for disease related to *yoni*. On the basis of this logic, all the treatment protocols should be started with treatment of *vata dosha* (Ch. Chi. 30/115). After this , further treatment is followed according to the presentation of the patient and disease which may be palliative (oral medicine) or bio- purification (*panchkarma*). Physicians these days frequently prescribe panchkarma therapies before starting oral medicine because they believe that after purification of body and elimination of wastes, oral medicines work properly and body gets rejuvenated

Panchkarma-Bio- Purification

What is panchkarma that occupies an important place in the treatment of infertility? A specialized technique of cleansing the inner mechanism of the body named panchkarma is practiced for therapeutic and wellness purposes. As we have mentioned earlier that a particular food substance may be responsible for an increase in particular *dosha* in the body. This also happens with seasons like cold seasons are responsible for accumulation of *kapha*, hot seasons for *pitta* and rainy seasons for *vayu*. Health is the state of balanced *dosha* and to maintain this balance, waste (vitiated *dosha s*) should be removed from the body from time to time in prescribed and moderate seasons. The three *dosha* s of the body i.e. *vata*, *pitta* and *kapha* have their specific sites in the body and it is easy to eliminate these *dosha* s from an orifice in the body which is nearest to this site. So, for the excess of *kapha, vamana karma* is done which help to eliminate the *kapha* from the mouth by way of medically induced vomiting. In the same manner, *virechana* is administered to treat excess of *pitta*. This procedure helps to eliminate the *pitta dosha* through anus by way of purgation. To treat *vayu*, *basti karma* is used which is a medicated enema administered through the anus. This therapy is practiced very much in ayurveda and due to its effectiveness it is regarded as contributing significantly to the success of treatment. The fourth procedure is *nasyakarma*(nasal inhalation) through which different forms of medicines is poured in the nostrils of the patients. This modality is

mainly used for the diseases of the head and neck region. The fifth component of panchkarma treatment is *raktamokshana* which is to drain out dirty blood from the body in a controlled manner. For some illnesses these therapies are prescribed for treatment when collected waste has reached the peak value or suffering has attained a chronic nature. This is followed by use of palliative medicines so that it can uproot disease more effectively from a purified body. These treatments have to be administered in specific seasons to be effective. *Kapha* in *vasant* (spring season) through *vamana*, *pitta* in *sharad* (autumn season) through *virechana* and raktamokshana and *vata* in *varsha* (rainy season) through *basti karma* (Su. Su. 6/38).

Panchkarma is used frequently to treat infertility in men and women. For treating infertility, ayurvedic physicians use this therapy according to the underlying pathology. If they found excess of *kapha* in the patient and the causative factor for her infertility is *kapha* then they prefer to give *vamana karma* so that the excess and morbid *kapha* can be removed from the body which could have been causing problems known as tubal blockage, amenorrhea and PCOD. The oral medicines are given after the initial preparations and purification of the body to receive and assimilate the drugs for treatment. *virechana* specifically has been considered as a common line of treatment for the entire *yoni vikar* (gynecological disorders). This helps to regulate the hormonal axis related to various gynecological problems related to ovulation. I observed that physicians used *Triphala Churna, Eranda Taila* or *Avipattikar Churna* in the start of the treatment. On discussion with senior residents at Mumbai, they told these medicines are meant for *virechana* purpose and used at the start of treatment as purgative in some cases.

Basti therapy is a procedure which is very commonly used now in Ayurvedic colleges. *Basti karma* is one of the most practiced panchkarma procedures in contemporary ayurveda. As per its definition, any medicine injected with the help of an instrument named *basti* is called as *basti karma*.[11] Actually the term '*basti'* was indicative of the urinary bladder of ox, male goat or the sac of bird named as plava which was used for injecting medicine in the anus in the earlier days. On the basis of this instrument, *basti karma* was used for all those therapies in which any medicine

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[11]बस्तिना दीयते इति बस्ति।

was injected in to the rectum through anus or in to the urinary bladder through urethral opening. For *anuvasana basti*, medicated oil is used as medicine while *niruha basti* is a combination of medicines like *kwatha* (herbal decoction), *taila* (oil), *madhu* (honey), *kalka* (herbal paste) and salt. There are many *basti* preparations mentioned in Charka Samhita which has been praised as useful for gynecological problems now referred to as uterine fibroid, PCOS and even for infertile or sterile women.

One form of *basti* is specially designed for gynecological, urinary and reproductive disease. This is named as *uttar basti* and is used frequently for the treatment of infertility. *Uttar basti* is not a part of regular panchkarma treatment. It has been prefixed with the word *uttar* (better) due to its superiority over other type of *basti* like *anuvasana, niruha* and *matra basti* for treating urinary and gynecological disorders. According to another explanation the term *uttar* has been designated to this due to its site of administration which is prior (vagina or utrethra) to the anus where other *basti*s are administered. *Uttar basti*[12] is designed in such a way that its medicine directly reaches the uterus and so in the cases of infertility or any other gynecological problems its results are expected to be very good (Su Chi 37/126). Depending upon the extent of the pathology, physicians use medicated oil or decoction for *uttar basti*. Oil is mainly used for pathologies related to *vayu* or for nourishment of uterus, while decoction is used for *kapha* dominant diseases or for cleansing of the uterus.

This *uttar basti* is given both in the urinary bladder (for the diseases related to urine) and into the cervix through vagina (for gynecological disorders) (Ch. Si. 9/50, Charka.). *Uttar basti* can be given with *sneha* (medicated oil prepared with classical methods) or *kwath* (decoction prepared with herbs) but *Sneha* is more useful in most of the diseases of *garbhashaya* (uterus) because *sneha* is used for treatment of *vata dosha* . The doses for *uttar basti* vary for different age groups. The dosage also depends on the material used for *basti* (Su. Chi. 37/106 and 116). In females, *uttar basti* is administered during *rutukala* (after the menses) because it is at that time the

[12]*uttar basti* is mainly indicated for diseases in which abnormality in the functioning of *apana vayu* occurs. It has been indicated for disease of semen, abnormalities related to menstrual flow like its excess, absence or painful secretion, urinary problems like hesitancy and suppression of urine, diseases related to *yoni* and stagnation of placenta, urinary stones, pain in penis, bladder and groin region and many other severe diseases related to basti.
(शुक्रंदुष्टंशोणितंचाङ्गनानांपुष्पोद्रेकंतस्यनाशंचकष्टम् | मूत्राघातान्मूत्रदोषान्प्रवृद्धान्योनिव्याधिंसंस्थितिंचापरायाः ||
शुक्रोत्सेकंशर्करामश्मरींचशूलंबस्तौवङ्क्षणेमेहनेच | घोरानन्यान्बस्तिजांश्चापिरोगान्हित्वामेहानुत्तरोहन्तिबस्तिः ||)

yoni mukha (mouth of the uterus) is opened, but in emergency conditions it can be administered at any time (Ch.Si.9/62). Before using *uttar basti*, normal *basti karma* having alternate application of *anuvasana* (*sneha basti*) and *niruha* (*kwath basti*) should be done. In this way the waste products of the body get eliminated and the *vayu* which is the basic pathological factor is pacified. *uttar basti* is given consecutively for three days. Dose of *sneha* should be increased every day. Thereafter, it should be stopped for three days then again repeated for three days continuously at a stretch (Ch. Si. 9/69) (Ah. Su. 19/82).

During my field work, it was found that *uttar basti* was given in most of the cases to women in both institutions, but in Mumbai *uttar basti* was also administered to males who were willing to take it. While physicians considered it one of the most useful procedures, they also said it is difficult to convince males for *uttar basti* and comparatively fewer males came for treatment. As far as my study is concerned, respondents gave mixed responses towards *uttar basti*, some said it was comparatively less intrusive and gives better results than biomedicine but some found it intrusive with no results. But in majority of the cases, respondents said they were surprised to know about this procedure as they had been thinking that ayurveda is only about *jadi buti*.[13]

Commonly used Ayurvedic medicines for gynecological disorders

Commonly used medicines are in various forms like powder which is called as *churna*. Some of the commonly used powered medicines are Ashwagandha Churna, Shatavari Churna, Avipattikar Churna and Triphala Churna. Shatavari and Ashwagandha powders are used as general tonic for both male and female patients. Of these Shatavari help in promotion of semen and increase the quantity of breast milk. Its basic attributes are also said to be helpful for the female reproductive system. Ashwagandha is a rejuvenation medicine and helps to increase the quality of semen. For females it is used to strengthen the body and to relieve mental stress. Triphala is a combination of Haritaki, Bibhitaki and Amlaki. This is commonly used as a laxative.

[13] As a common perception, ayurveda medicines are the powdered herbs or decoctions so called as jadi buti. Sometimes people say it as churana- chatani also where chatani is meant for some medicinal preparation that is taken orally by licking it.

It is also used for leucorrhoea.[14] It is helpful for the betterment of reproductive health of both male and female. Avipattikar churna is a combination of many medicines having Katuki in the major proportion. This help to take out excess *pitta* from the body by way of purgation. So, in patients who have pathologies related to *pitta*, it is used in combination with other medicines.

Arogyavardhini Vati it is used for multiple purposes and adjuvant for many medicines. Kanyalauhadi Vati is used for general debility, amenorrhea due to *dhatuksaya* (diminution of body tissues) etc. Chandraprabha Vati is one of the most commonly used medicines which act as a tonic for urinary system and reproductive organs. Rajah Pravartini Vati is used for amenorrhea and various *kaphaja* disorders. Pradarantaka Rasa and Chandrakala Rasa are used for common gynaecological problems like menorrhegia, leucorrhea etc. Once the woman has conceived, (for well being of fetus) medicine like Garbhpaal Rasa is given as it is supposed to protect the child from various intrauterine pathologies.

The medicines are also used in the form of decoction like Pancha Valkala Kwath and Varunadi Kwath which are used for various infections of vagina and uterus.[15] One of the most frequently used kwath is Dashmool which has multiple uses.[16] It is mainly indicated for *vata* and *kapha* condition. Commonly it is used after delivery to maintain health of the new mother (*sutika*). Oil and ghee based medicines like Dashmool Taila, Phala Ghrita, Jeevantyadi Ghrita are mainly used for *uttar basti* or for oral use to strengthen the uterus and female reproductive system.

Some of the classical drugs formula also been modified as proprietary medicine and pharmaceuticals have patented these medicines.[17] Commonly used patent medicines

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[14]Leucorrhoea is a very common complaint for seeking treatment by females. There is no description of this entity in major Ayurvedic text like charak samhita, sushruta samhita or astanga hridaya. This has been described as 'Swetapradara' in ayurveda texts dated post eleventh century like Sarangadhara Samhita, Bhawaprakash Samhita and Yogaratnakara.

[15] Kwath is the first basic preparation of medicine which is prepared by boiling a single herb or a combination of herbs with water in a fixed ratio.

[16] Dashmool is a widely used combination of ayurveda used in multiple health problems. It is a combination of roots of ten plants named Bilva (Aegle marmelos), *agni* mantha (Premna integrifolia), Shyonaka root (Oxoxylum indicum), Patala (Stereospermum suaveolens), Kashmari root (Gmelina arborea), Bruhati (Solanum indicum), Kantkari (Solanum xanthocarpum), Shalparni (Desmodium gangaticum), Prushniparni (Uraria picta) and Gokshur (Tribulus terrestris).

[17] A classical preparation is one which has same formulation and mode of preparation as has been mentioned in classical text. The other class of medicine is properitary medicine ingredients of which are not mentioned in classical text. These are developed by a pharmaceutical company or a practitioner

are also part of regular prescription in these hospitals like *Hemapushpa, M-2 tone, Shatavarex, Hyponidd, Leucol, Evecare* etc. *Hempushpa* is a general tonic and useful for hormonal imbalance and general debility. M-2 tone is used for menstrual irregularities, hormonal imbalance, infertility and ovulation. Shatavarex is a patent preparation having Shatavari is the only herb in it. It is non-hormonal medicine acting to enhance lactation. Leucol is a combination medicine having Shatavari, Dhataki and Punarnava in it. It is used for fungal infections causing leucorrhea and other infections causing pelvic inflammatory diseases. Evecare is used to check excessive menstrual bleeding due to hormonal imbalance. It has Lodhra, Vasaka, Ashoka and Shatavari. Lodhra and Ashok have been specially indicated for menorrhagia like conditions to stop excessive bleeding per vaginum.

Gender and Fertility in ayurveda

According to ayurveda the four factors required for successful conception includes, field (uterus), ambu (female hormones and nourishment), *beeja* (ova and semen) and the time (the time for ovulation) (Su. Sha. 2/35). Despite the fact it is the semen only which represents the male part of conception, majority of the diseases related to semen contribute almost (around 40%) to be the cause for infertile couple in the present scenario (Kumar N, Singh A K, 2105). As far as intrusive procedures are considered they are mainly targeted to the reproductive structures like *uttar basti* which is the choice of treatment for reproductive and urinary problems. For treatment of seminal disorders, panchkarma procedures have been indicated followed by *uttar basti* (Su Sha 2/6). There are systemic factors also for abnormalities of semen where *uttar basti* may have limited role. In such cases Charka has mentioned use of aphrodisiac and other rasayan medicines like Jeevaniya Ghrita, Chyavanprash and Shilajeet has been described (Ch Chi 30/148). Use of milk and ghrita has also been mentioned for production of healthy semen. Physicians hold a view that *shukra* is the last *dhatu* in sequential transformation of food in to body tissues. Rasayan and vajikaran medicines nourish all the body tissues with a difference that vajikarana medicines also promote instant secretion of semen (Ch Chi 1/6-12). This is the reason for suggesting vajikarana medicine which not only increase the quality and quantity of semen but also help in modifying sexual function leading to successful conception

with own experiences, research and methodology. Commonly pharmaceutical company gets patent for such product from the regulatory to sell them in open market.

and progeny. The description of *klaibya* or *shanda* is mainly of impotent or those infertile males who are not able to have a child due to sexual dysfunction or defective semen quality. In such cases, the role of modern ART's is quite interesting. On this part it can be said that despite their own problem, male get an escape of facing pain or intrusion which his wife has to face for getting their child. One of the physicians mentioned in an interview that gender asymmetry may be an issue these days but importance of female to bear a child is one thing which cannot be replaced by any other means at least for now. This is made by nature and not by human.

The concept of *Punsavana karma*

This particular therapy of ayurveda is said to facilitate getting a male child and various physicians provide these medicines. But the physician at RAPAMC clarified that there are misinterpretations regarding this as studies on these methods have not found any such result. Charka has mentioned *punsavana karma*as one of the methods of getting desired sex of the child. This can be done through the medicines and nasal inhalation of medicine. Different medicines like Laxmana, Sahadeva, Maasha, *Vata* Shunga, steam of Shali rice etc can be used for this purpose. This should be done before the appearance of signs suggesting a male or female child appears (Ch Sha 8/19).

In ayurvedic texts this particular topic has been described in continuation with other topics related to pregnancy As a subject of scientific interest it has been praised as a procedure to interchange the desired sex before expression of the sex of the fetus, whether this could be read as gender bias needs further examination. These days *Punsavana karma* is prohibited due to the government policy against the sex determination of the child. Recently there was a controversy related to herb named as Putrajeeva whose seed is said to help to be *garbhad* (helpful for pregnancy). This particular medicine was sold as over the counter product by Pantanjali pharmacies. Though it has been described as *garbhada* (helpful to get pregnancy) and *vrishya* (to increase virility in man) in Bahva Prakash Nighantu [18], it was supposed being promoted by Pantanjali as a medicine for getting a male child. Baba Ramdev countered this allegation by saying that there was never such promotion of this

[18] An Ayurvedic text written by Bhava Mishra. It has description of herbs and their medicinal qualities

medicine and promised to add a disclaimer for the same clearly mentioning that this medicine is not for male child. This medicine is available again in a new packing.

In Sushruta Samhita as well, *punsavana karma*is mainly indicated for getting a male child but in a different reading of Sushruta Samhita, it has been also indicating for getting a desired child of either sex. According to that reading when nasal inhalation is done in right nostril, the child will be male but if it is through left nostril, the female child takes form (Su Sha 2/34). On another instance the timing for coitus after completion of menstrual cycle has been explained. It has been mentioned that coitus done on 4th, 6th, 8th and 10th night results in male child while on 5th, 7th, 9th and 11th night help in getting a female child (Su Sha 2/32).

Ayurveda believes in the health of mankind and that both on physical and mental level. The description in various Ayurvedic texts is for the wellbeing in every aspect of life and at each level. That is why they have described the chapter of Rasayan (rejuvenation therapy) at the start of the Chikitsa sthana in Charaka Samhita. Rasayan medicines help to get longevity, memory, intellect, youthfulness, beauty, luster and attaining *vaaksiddhi.*[19]After the description of *rasayan*, the chapters on *vajikarana* (aphrodisiac) are there which are dedicated to male sexual health (Ch Chi 2(4)/ 51).[20] All the medicaments advised are focused to increase the vigor, virility and most importantly the quality of semen. In ayurveda, a man without progeny has been compared with a dry tree which has lost all his leaves, fruits etc. such type of persons is condemnable in the society.[21] There is no separate branch or no medicine has been indicated for a woman to enhance the pleasure and this is because of the fact that woman has been termed as best aphrodisiac itself (Ch. Chi. 2 (1)/4).

[19] The exact happening of something in future as said by one person in termed as Vaaksiddhi.
[20] Word Vajikarana is originated from vaji (horse). So, those medicaments, food or lifestyle which enables a man to indulge in sex repeatedly and powerfully alike a horse are said to be vajikarka.

[21]–सन्तान रहित पुरुष उस छाया रहित वृक्ष के समान होता है जो एक शाखा युक्त है जिसमें फल नहीं आते हैं तथा जिससे अनिष्ट गन्ध निकलती है।

-प्रजा रहित पुरुष उस दीवार पर बने हुये दीपक के चित्र की तरह होता है जो सुन्दर तो होता है लेकिन प्रकाश नहीं देता है अथवा उस सूखे तालाब की तरह है जो किसी की तृष्णा को शान्त नहीं कर सकता। अथवा धातु युक्त होते हुये भी अधातुवत् होता है। अथवा उस तृण पूली द्वारा निर्मित पुरुषाकृति के समान होता है जिसे किसान अपने खेतों में पशुं व पक्षियों को डराने के लिये बनाते हैं।

-जिस पुरुष कि कोई सन्तान नहीं होती है वह इस संसार में प्रतिष्ठारहित नग्न शून्य एक इन्द्रिय युक्त एवं निष्क्रिय जीवन जीता है।

बहु सन्तान युक्त व्यक्ति बहूमुर्ति बहु मुख बहु व्यूह बहु क्रिय बहु चक्षु बहु ज्ञान एवं बहु आत्मा वाला होता है। ऐसे व्यक्ति का जीवन माङ्गल्य युक्त प्रशंसनीय एवं सौभाग्यशाली होता है। वह व्यक्ति वीर्यवान एवं पुत्र पौत्रादि से युक्त बहुशाखा युक्त वृक्ष के समान होता है।

There are some other instances also like the need of a *putra* (son) has been highlighted as a medium to achieve *dharma, artha, priti and yasha* (Ch Chi 2/3). Some people consider it as the bias of ayurveda towards the male gender, but the view of physicians interviewed by me was different. According to a *vaidya* (whom I interviewed in Delhi) here *putra* denotes both male and female. He gave the example of ayurveda theory of origin in which the word *chikitsiya purusha* has been used. This *chikitsiya purusha* is the subject under consideration for which all the knowledge of ayurveda has been described. This is made up of 24 elements and this theory of ayurveda is influenced by *Samkhya yoga*. Here word '*purusha'* is inclusive of both male and female. She further explained that woman has been praised as a procreator and just like a son, she endorses *dharma, artha, laxmi* and *loka*. Here word '*loka*' literary meaning 'world' is self-explanatory in glorifying the image of a woman (Ch.Chi 2 (1)/7).

Another physician had a different view and explained there are two concepts here related to man. First is their reproductive health and the other is their sexual health. These two are very different things but has been subject to misinterpretation. As far as reproductive health is concerned it is aimed for the birth of healthy children in each generation which are free from congenital defects and who can survive in this world. The other thing is sexual health which is related with sexual gratification and is described as *priti.*

The description of the diseases particularly of male can be grouped under reproductive health and sexual health. The diseases like *shukra dosha* (diseases of semen) mainly dealt with the reproductive health while others like *klaibya*, *napunsaka, shanda* are related with various sexual health problems. *shuka dosha* (disease related to penis) may also find place under sexual health (Ch Chi 30/154-157).[22] Description of *Vaajikarana* (aphrodisiac) is aimed to provide medical solution for both reproductive health and sexual health problems.

[22] Klaibya is a condition described in ayurveda with characters like erectile dysfunction, loss of libido and weakness during intercourse.
-Sushruta has described five types of napunsaka who are able to perfom sex only after getting arousal with some atypical forms of stimulation. Shanda is also one of these types but he is completely devoid of semen.

Shukra dosha are the diseases of semen which are the basic cause for male infertility. It has been described on the basis of deranged semen quality because of underlying one or more *dosha* . Sushruta described ideal semen as looking like *ghrita,* color like *sphatika* (quartz stone), having smell like that of honey and tastes *madhur* (sweet) (Su. Sha. 2/13). Only this type of semen can produce a healthy progeny but if it get contaminated with vitiated *dosha* s of the body, it may be having characters like *fenil (*frothy semen) atypical *, tanu* (diluted than normal), *ruksha* (having dryness) *, vivarna* (having deranged color) *, puti* (bad smelling)*, picchila* (sticky in nature)*, dhatu upsamsrita* (mixed with other *dhatu*s)and *avasaadi* (getting submerged in water) (Ch.Chi. 30/140). Sushruta also has mentioned eight types of diseases related to semen though the nomenclature there is different. He has described it as *vatika, pittaja, kaphaja, kunapa, grandhi putipuya ksheena* and mixed with *mutra-purisha*. Amongst these eight types of diseases only first three are easily curable, next four can be treated with more efforts, while the last one cannot be treated at all. For the treatment of these diseases of semen, depending on the condition one may has to use different medications like oral medicines, aphrodisiacs as well as *uttar basti* (Su Sha. 2/6).

The problems related to sexual health caused due to seminal disorders are mainly discussed under the heading of *klaibya*. The physicians related this condition with impotency which is of various types. Some of its form may be treated while some other is permanent. The types of klaibya include *beejopaghaataja* (non-production of semen due to pathological reasons), *dhwajabhanga* (due to erectile dysfunction), *jarajanya* (due to old age) and *shukrakshayajanya* (due to excessive sexual indulgence).

Sushruta has mentioned five types of persons who are not able to perform intercourse normally. These are named as *kumbhika* (arousal after getting anal sex)*, irshyaka* (arousal after watching others having sex)*, saugandhika* (arousal after smelling vagina and penis)*, and aasekya* (arousal after licking semen of other person). *Shandaka* is a person who is devoid of semen and despite having characters of a particular sex, displays contradictory sexual behavior (Su. Sha. 2/41-47). These types of diseases are tough to treat or may be incurable. There are eighteen type of *shuka dosha* (diseases of penis) also as described in Sushruta Samhita. The persons who excessively indulge

in sex, use multiple methods to enhance pleasure may get some infections (equivalent) or due to use of various medicines to increase the size of their penis may get this type of diseases.

The diseases related to male reproductive health and sexual health can be cured through use of *vajikarna* medicines. There are many sexual health problems of the male in which infertility is one of the symptoms. It can be concluded that apart from the reproductive health, *vajikarana* medicines have been described for sexual health as well because a robust sexual life that includes physical and emotional satisfaction is essential for getting healthy progeny. Health of the person and the health of the progeny seem to be the rationale for Ayurvedic interventions.

Ayurveda on infertility in International Journals

In this section, I would like to present some discourses from contemporary ayurveda available in the form of research papers in order to bring out how the field of ayurvedic discourse on fertility looks like The field of ayurveda did not get much attention until 1995 when central government formed a separate department of AYUSH under the Ministry of Health and Family Welfare for all non-biomedical systems put together -ayurveda, Yoga, Unani, Siddha and Homeopathy. Ayurvedic education is under the Central Council of Indian Medicine since its formation in the year 1976. There have been many reforms during these years and Ayurvedic curriculum has undergone multiple changes with a significant percentage of biomedical subjects in the ayurveda degree course. The inclusion of post-graduation as essential qualification for teachers has led to growth of post graduate education in ayurveda. In this process, the recruitment rules for different post were changed and some universities try to opt for the University Grant Commission norms for up gradation of the faculty. Publication of books and articles in peer reviewed journals has become integral part for promotions in ayurveda colleges and university departments.

In the meanwhile all the major states introduced entrance examination for admission on merit bases for BAMS (Bachelor of Ayurvedic Medicine and Surgery) courses. Now the students come from the science disciplines with prior knowledge of biology, chemistry, physics and laboratory research, latest technologies. These batches of

students were much different from their precursors who were mainly Sanskrit graduates and were devoid of knowledge of modern science. With the start of 21st century, with the emergence to ayurveda as one of the most searched alternative medicine, the need for evidence based on laboratory methods of research was felt so that the people of western world can be making convinced for adoption of ayurveda. This corresponds to the spurt in global demand for natural and herbal medicines. Till the start of 21st century only few Ayurvedic periodicals were in circulation but the articles published in these periodicals were not peer reviewed and generally case studies were published. None of these periodicals were available online and so there reach was limited to its subscribers only. Some institute like IPGT & RA (Institute of Post Graduate Teaching and Research in ayurveda), Jamnagar and National Institute of ayurveda, Jaipur were having their own journals, but they were also not online.

In the past decade, however there has been a boom in the emergence of online ayurveda journals. Most of the articles are original articles published by ayurveda Scholars with MD degree. They are based on the research done by them during their post-graduation. As the topics for research allotted to these students are mostly influenced by biomedical subjects, the construction of language is mostly in the biochemical terms of biomedicine. Even the ayurvedic technical terms were translated to English as for instance *kapha* was referred as phlegm, *pitta* as bile and *vata* as wind. In some the articles there is a condition to write the most close English term in the brackets to make these articles more understandable to the western world.

In the last decade many new online journals have been started which publish research work of alternative medicines worldwide. Of these only a few specifically publish articles on ayurveda otherwise most of the articles are primarily of plant research done by scholars of botany, biochemistry and pharmacology. These researches are based on chemical analysis of a particular herb described in Ayurvedic texts and their biochemical assessment on the basis of modern tools. Some of the popular international journals in which ayurveda articles get published are Ancient Science of Life, AYU International Journal of ayurveda , BMC Complementary and Alternative Medicine international, International Journal of ayurveda Research, International Journal of ayurveda Medicine, International Journal of ayurveda Research, Journal of

ayurveda and Integrative Medicine international, Journal of Research in ayurveda and Siddha and Journal of Research and Education in Indian Medicine

In the following section we present a glimpse into the subject matter of published articles in ayurveda journals on infertility and related problems in order to give an overview of recent discussions on the theme and as a background to our next chapter on ayurvedic protocols for infertility in public hospitals. The papers presented here were also written by ayurvedic physicians like my informants in the study and could serve to set out the discourse behind current ayurvedic practices..

An article titled as 'Role of *nasya* and *Matra basti* with Narayana Taila on anovulatory factor' was published in AYU International Journal of ayurveda (Jan-Mar, 2013) that comes from Jamnagar written by Krupa R. Donga, Shilpa B. Donga, and Laxmi Priya Dei. The present study was done at IPGT & RA, Jamnagar by the department of Stri roga and Prasuti tantra. The study was conducted on total twenty two patients of who two dropped out of the treatment in between. The problem under consideration is infertility due to anovulatory cycles (menstruation cycle without ovulation) of the female. Here anovulatory cycle has been compared with the *Beeja dusti* more precisely the *antahpuspa* which is a representative of ovum of female. The importance of *tridoshas* has been emphasized by saying

> "Tridoshas *have an impact over all the process involved in ovulation. Vata stands for proliferation and division of cells (granulosa and theca cells), rupture of the follicle, etc.Pitta is associated with its conversion power, like conversion of androgens to estrogen in Graffian follicle maturity of follicle by its function of Paka Karma. kapha stands as a building and nutritive factor. It binds all the cells together and gives nutrition for growth and development of the cells.*"

Apart from routine blood and urine tests, transvaginal sonography was the main investigation to study the ovulation pattern. It is a procedure in which a probe is placed inside the vagina to study cervix, uterus, ovary and other reproductive structures. It also helps in diagnosis of ectopic pregnancy, malignancy of uterus, placental abnormalities and many other disease conditions. Treatment protocol was decided considering *vata* as the main culprit which plays major role in the physiology

of reproductive system. So, *basti* was selected as the initial course of treatment for *vandhya*tva. Narayan taila as mentioned in Sarangdhar Samhita was used for both for *basti* and *nasya* karma.

This particular study represent the approach of modern ayurveda practitioner who are trying to compare two ayurvedic panchkarma therapies, *basti* and *nasya*, by validating with the modern parameters of diagnosis. According to the paper "*basti* stimulates the enteric nervous system of the intestine which ultimately stimulates the central nervous system. In this way it affects the hormonal system in the brain and helps in ovulation." In this article only few technical words of ayurveda like *vata*, *pitta*, *kapha*, *basti*, *nasya,* *basti* etc have been used.

Another article titled 'Clinical efficacy of ayurveda treatment regimen on Sub fertility with Poly Cystic Ovarian Syndrome (PCOS)' published in the same journal, AYU (Jan-March, 2010) is written by S. A. Dayani Siriwardene, L. P. A. Karunathilaka, N. D. Kodituwakku , and Y. A. U. D. Karunarathne all associated with Institute of Indigenous Medicine, University of Colombo, Rajagiriya, Sri Lanka. The study was done in an ayurveda center at Rajgiriya, Sri Lanka where forty patients with modern diagnosis of Poly cystic ovarian syndrome were treated with a particular ayurvedic regimen. The exclusion criteria for the participants of study was also in tune with bio medical diagnosis like diabetes mellitus, hypertension, hyper prolactinemia, heart diseases, renal failure and many others.

In this article an attempt has been made to correlate the condition of PCOS with artavakshaya as described in ayurveda text. A three phase treatment was given to these patients in the form of different combinations of herbs and classical preparation. The treatment protocol has been given in detail but no classical reference for the same has been provided. The effect of individual medicine has been described on the basis of modern pharmacology. All the investigation to validate the outcome post treatment has been made through modern techniques like blood investigation for hormones and ultrasonography.

This study indicates that innovative researches are also going parallel to mainstream ayurveda. While commenting on this paper, my informant, an ayurveda physician noted that ayurvedic concepts have been used but no particular line of treatment has

been followed by the researchers. She also told that the medicines used in the study are those which has mentioned for reproductive health so it may be a possibility that the researcher have used these medicines on their personal experience considering the *prakriti* and *desha* of the subjects of the study.

- A review article published from IMS, Banaras Hindu University was also analyzed. This was published in 2008 with the title Ayurvedic Management of Polycystic Ovarian Syndrome refers to PCOS as Infertility Queen in Journal of Research Education in Indian Medicine and was authored by Mishra D and Sinha M. In the beginning of this article, facts about PCOS described by the scholars of bio-medicine have been described. After this all the cardinal features of polycystic ovarian syndrome has been described in detail. An attempt has been made to correlate different disease conditions with *vandhya yoni vyapada*, *Shandi yoni vyapada, vikuta jatahaarani* and *pushpaghni jatahaarani* which have been described in different ayurveda texts having common symptoms of childlessness. In the end of the article the modern management of PCOS followed by its possible management with Ayruvedic diet, lifestyle, medicines and panchkarma has been given. Considering the fact put by bio medicine persons that obesity and faulty lifestyle is responsible for PCOS, importance of diet management, weight reduction and Yoga has also been highlighted here as a possible solution for treating PCOS. As quoted in this article,

"*Aahar and Vihar - Balanced diet is essential for normal health. Because dietetic abnormality vitiate dosha s which cause various gynecological disease may result infertility. It also produces loss of dhatu which influences hormones causes' menstrual irregularity. Abnormal diet hampers nourishment of fertilized egg and implantation of zygote."*

> -*"Weight reduction by pathya / apathya aahar and vihar. - Mode of life as suggested in the ritucharya and dincharya should be followed properly."*
>
> -*"Following are some yoga techniques helpful for weight reduction and to decrease blood sugar level as well. Like: AnulomaViloma, Kapalbhati and Mandukasan. Vyayam (exercise) enhances tissue sensitivity to insulin (80% of the body's insulin mediated glucose uptake occurs in muscles)."*

This type of study is common among ayurveda scholars. Ayurveda believes in correcting the pathological process and the ayurveda scholars of present times try to find a possible pathological process in their text that may help to understand the newly introduced nosologies of disease categories. This I observed during my study while interacting with interns; modification of lifestyle through yoga and following ayurvedic dietics is advised by most of ayurveda physicians as common practice,. Such articles may be written to help the readers to understand the importance of lifestyle modification in view of ayurveda along with therapeutics.

An article by Kamayani Shukla (Upadhyay), Kaumadi Karunagoda, Nita Sata, LP Dei titled as 'Effect of *Kumari Taila uttar basti* on *fallopian tube* blockage' was published in AYU (2010). This study has been done at IPGT & RA, Jamnagar, by a team of ayurveda and modern medicine physicians to study role of *uttar basti* for the treatment of fallopian tube blockage. In ayurveda there is a term used as *aartava vaha srotasa* which is responsible for secretion of *aartava* (menstrual flow). On the basis of textual evidence, here fallopian tubes have been correlated with *aartava beeja vaha* srotas.[23] Author has detailed the probable pathology of tubal blockage in following manner,

> *"Tubal blockage was considered as a Vata- kapha-dominated Tridoshaja condition, as Vata was responsible for samkocha, kapha for shopha, and pitta for paka. Thus, all the three dosha were collectively responsible for the stenosis or the obstructing type of pathology of the fallopian tubes."*

Interesting thing in this article is presentation of results of some investigation (X-ray of patients with corneal block) in a quest to provide an evidence base which is commonly questioned for ayurveda treatments. Here scholar has used hysterosalpingogram (HSG) to make a confirmatory diagnosis of tubal blockage. Choice of medicine for *uttar basti* was Kumaryadi Taila described in text written by Bhav Prakash. The oil was prepared with classical method as mentioned in the original text with medicines after their pharmacognostical examination. Prepared oil was also tested pharmaceutically and its physiochemical and organolepic characters have also been mentioned. During treatment modern norms of clinical practice were

[23] *Srotas* are the differnt channels with in the body trough with movement of a particular type of fluids takes place.

followed and ayurvedic medicines or procedures were used to counter infection. This study has been claimed very fruitful for tubal blockage.

This article is a good example of showing eagerness of modern generation of ayurveda physicians who are desirous of proving themselves and their science as well. In this regard analyzing Ayurvedic medicine on the set modern science parameters and following good clinical practice is widely prevalent and accepted way of contemporary ayurveda. This kind of integrative approach in which ayurvedic treatment is administered for a disease identified in biomedical terms and signs may be seen more vigorously in near future.

One interesting thing can be observed through this article that ayurveda scholars collect the scattered facts in different Samhitas at one instance to correlate ayurveda and modern concepts. An ayurvedic physician in Delhi clarified that this sort of referencing is authentic to read Samhitas which is done on the basis of "*tantrayukti*", the techniques to understand the text. The common pattern of the research these articles is, correlating a biomedical disease with ayurvedic pathologies, adoption of certain medicines or procedures according to the assumed pathology in tune with ayurveda and finally testing these medicines on some previously set subjective criteria based on signs and symptoms described in ayurveda and validating through evidences in the form of invasive or non-invasive laboratory tests. On most of the instances, selection of drugs for the test is on the basis of its qualities as mentioned in classical ayurveda text and often pharmacological properties established by modern sciences are also taken into consideration. In most of the research articles, discussion part have probable mode of action and in that way they try to authenticate their hypothesis. This modernized way of presenting their research on global platform indicates the urge to pose their science as equally efficacious.

Bilingualism used by physicians

Physicians in both institutions said that though there are many terms described in different texts for conditions related with infertility but matching them with the diagnosis of modern medicine becomes very tough. They generally prefer to use modern names for the sake of convenience and satisfaction of patients because the nomenclature coined by biomedicine persons is widely accepted. This helps them to

interact with the patient, interpret biomedical test results and discuss with other modern scientists also who are not aware of their classical terminologies. They are very much familiar with the classical terminologies which are part of their own peer discussions. The use of bilingualism is not confined to the government institutions; even some pure ayurveda clinics like Sanjeevani also use the bilingualism in its publications and explain this approach for the convenience of readers (Girija, 2013). To be heard widely ayurveda physicians try to use the biomedical language in scholarly articles even which is found not much effective as weightage to such papers is not given in journals related to biomedicine. A physician narrated, one of his papers was sent back by the editors saying it '*alien to ethos*' even when it was in the realm of that journal. This has been attributed to the hegemony of biomedicine as Sujatha (2011) mentioned in her article, "ayurveda practitioners have to speak the language of biomedicine in order to enter into a dialogue with the existing system. The BAMS training of the ayurveda practitioner facilitates the dialogue, but in an interdisciplinary team, the ayurveda professional has little control over the end result of the dialog. (Kim 2007 c.f. Sujatha 2011,) also notes how the scientific community in an international conference did not even acknowledge the concepts and methods of Korean medicine even when translated into scientific language. In such an asymmetrical relationship, prolonged subjection of ayurveda to the language of the laboratory would erode its integrity, as testified by the experience of other Asian systems of medicine." Whereas sociologists and anthropologists express concern about the influx of biomedical terminology into ayurveda and erosion of ayurvedic discourse, the practitioners think that this is the only way forward.

One of the issues of concern may be the audience of these ayurveda articles as the impact factors for leading journals publishing ayurveda article is not much. Ayu, 'the international journal of Ayurveda' the leader in this lot even has not get impact factor as citation of these articles is very less. One physician in Delhi was asked about the low citation issues, he replied that it may be due to the fact of the terminologies and the concept of Ayurveda which are not understandable to other biologists. He further told that one of his case study published in a reputed journal could get only one interdisciplinary citation that too in a pharmaceutical journal who have taken a reference of a particular herb used in his study. But on a positive note, he said that he gets continuous queries from the patient all over the world for the problem discussed

in that article because this cannot be cured by bio medicine. So, it indicates that the value of these publications may be of no interest for those who only read mainstream scientific writing in English but seems to be a good medium for ayurvedic scholars to reach population at large who are in search of treatment options for those conditions where bio medicines fail. But it may present an apprehension that in lack of proper attention in the society, these young Ayurveda scientists may get discouraged in future which may be a sure setback for ayurveda.

The study by Adams and Fei-Fei Li' in a Tibetan medical hospital shows the confusion in matching definitions of disease and determining treatment outcomes in integrative practice. For instance, a study of efficacy of Tibetan medicine on hepatitis was conducted here and Tibetan treatment was judged inefficacious even though patients reported 83%–100% relief from all the eight clinical symptoms designated for evaluation. Besides they noted non-recurrence of symptoms in a 5-month follow-up study, yet the treatment was judged inefficacious by the biomedical team. This was because the definition of hepatitis in terms of viral load adopted by the biomedical experts did not match with the Tibetan medical definition of the liver disorder. The authors found several such mismatches in concept and diagnosis in which biomedical decision was accepted even though patients reported improvement. This led to loss of confidence among Tibetan physicians in their own system and they increasingly abandoned their holistic concepts in favor of narrow biomedical tests. Adam and Fe-Fei Li regard such attempts as imposition of biomedical epistemology (theory of knowledge) on traditional Asian medicines which in their opinion is likely to threaten the integrity of Tibetan medicine (Adams.V 2008).

In this chapter we started with the ayurvedic theory of human reproduction and etiology of infertility. Sociological interest in medical protocols comes from a curiosity to understand the underlying concept of the body in ayurveda and to examine how such ancient theories continue to guide and inform medical practices today.

We saw how the eight branches of ayurveda do not have a separate branch for women as their health problems are discussed in various specializations where it is relevant. What is known as reproductive health and obstetrics today is found in the classical branch of Kaumaryabhritya dealing with pediatrics. (Singh A, 2005)

"*Obstetrical and gynecological matters are not consolidated in one place in the classical medical texts that we have inherited. As a specialized discipline, this subject was subsumed under Kaumārabhritya (pediatrics), one of the eight branches of ayurveda. Stri Roga (gynecology) and Prasuti Tantra (theory of midwifery) have a significant place in Kaumāra Bhritya (pediatrics). The pregnant woman was seen as a person bearing a child and thus her care was subsumed under Pediatrics, a science of new person. However, in general, women's conditions and diseases are handled in all branches of Āyurveda*." (Singh, 2005)

'Infertility' is one of the several problems discussed in the texts in connection to reproductive ailments. But it is interesting that there was a special branch of ayurveda called '*vajikarana,*' dealing with sexual functions and dysfunctions which continues to be a popular specialty in folk traditions and local practices as we witnessed in the numerous dawakhanas or mobile and roadside dispensaries attending to sexual health and reproductive problems frequented largely by men. It seems that the branch of Vajikarana has been the inspiration behind the many forms of practice in the oral traditions associated with male sexual dysfunctions.

We briefly mentioned the debate around *punsavana karma* and its interpretation in terms of gender issues in ayurveda. We saw in the earlier chapters that there is also a popular perception among my respondents that ayurveda has medicaments for begetting male progeny, but the hospitals under study do not make any such offer.

We also saw how the production of healthy progeny in every generation depends on the health of the parents and hence there are the regimes of diet and lifestyle for ensuring the overall digestion and metabolism of the patient, both male and female. Preparations and cleansing the body from inside to receive the drugs to administer is a critical preliminary step in the treatment. The drugs and medicines that come later are also of many kinds, as we just saw.

We then examined a few contemporary writings in the form ayurvedic research articles to understand the modes of discussion and legitimization found in contemporary ayurveda. However, these articles on infertility treatment also advocate panchkarma and other ayurvedic medicaments but are articulated in partly biomedical

terminology. This is necessary to set the ground for the forthcoming chapter on ayurvedic protocols in two public hospitals.

CHAPTER – 6

AYURVEDIC TREATMENT PROTOCOLS FOR INFERTILITY

In the previous chapters, we examined the concepts of ayurveda and its stand on infertility treatment. On the basis of literature review and the physicians' perspectives on many subjects related to infertility, we found that classical approach of ayurveda is holistic and their concern with regard to infertility is in relation to overall health and robust progeny. But with time the approach of ayurvedic physicians have changed to cope with the present demands. So, in this section we will study the protocols followed by the physicians and their applicability with regard to success, cost effectiveness and overall impact on the health. After this we will discuss the integrated approach adopted by these physicians to provide a cost effective treatment for poor's.

Treatment protocols followed for Infertility in AUTCH and RAPAMC

Of specific interest to us is to understand how reproductive health is understood in ayurveda and how much intrusive are the treatments of ayurveda used for infertility. We find numerous procedures and drugs mentioned for various types of reproductive health problems. The choice of the right protocol for the right patient depends on the analysis of the *kala, bala*, stage of the disease. Accordingly in the following section we present few examples from our prescriptions analysis conducted at two hospitals in order to further comprehend how contemporary physicians handle these protocols.

Some of the case studies and relevant interview of the physician has been given here.

- Gulfam, 29 years old coming at AUTCH covering some distance of 20 kilometers from Okhla was suffering from secondary infertility. She has got treatment at various places in last six to seven years. She had three miscarriages in the past and finally she was diagnosed with tubal blockage and low levels of anti mullerian hormone.[24] On recommendation of her friend, she consulted a gynecologist at the government allopathic hospital in Delhi and a laparoscopic procedure was done

[24] Lower level of Anti Mullerian Hormone is responsible for lower ovulation.

which went ineffective in her case. Finally, she was advised to go for IVF, but she refused to go for it as it was costly and they could not assure her about its success.

With regard to her case physician noted that,

> '*Considering the underlying pathology I thought it a very tough case because her AMH (anti mullerian hormone) was low, I recommended her the panchkarma treatment including virechana karma and basti karma. For this I use Phala Ghrita for snehapana and Trivrita Avaleha as the medicine for virechana. After this I performed basti karma with anuvasana of Vailiya Amrutadi Taila and Bala Guduchyadi Taila. Besides that some oral ayurveda medicines were also given*.'

Gulfam has been advised IVF at Govt. allopathic hospital and she had already spent a lot. In AUTCH she got all the medicines from dispensary expects some of which she had to take from outside. She was also taking hormones as prescribed by physician in this hospital, which she was told as a medicine '*ande banana ki dawai*' (for egg formation).[25] She said that she used to feel so weak all the time with previous allopathic treatment but with ayurvedic medicine she felt healthy and all her associated symptoms have vanished.

In her case physician was using allopathic medicine along with panchkarma treatment. According to physician, I advised her to continue the allopatich medicines at it was necessary for her underlying pathology and panchkarma enhances the chances of conception while *uttar basti* is the best method to treat tubal blockage.

- **Sudha (M)** aged 40 years got married at the age of 36 years. She was a case of primary infertility who never sought any treatment for infertility previously and has visited RAPAMC many times. She was having low AMH (Anti Mullerian Hormone) and tubal blockage. Physician told me that Sudha had come to them many times; she had discontinued treatment many times previously also. due to her financial problems. We gave her *virechana, basti karma* (with Tila Taila and Dashmool Kwath), followed by *uttar basti* and had performed AID (artificial insemination of donor) four times.

[25]Clomiphane citrate is a non steroidal medicine used to induce ovulation.

Performing AID in an ayurveda college was quite surprising for me and I enquired the physician, “Why AID?” Physician told that her (Sudha) husband is azoospermic and medically in her case only artificial insemination of donor is possible because her husband is not ready to take treatment.

Sudha (M) was excited after the treatment and told that earlier she felt very weak and dull but after getting the virechana she was feeling so good and strong. She shared her bad experience also that medicines were bitter in taste but anyhow she could take it as it was not bitter than the harsh words of people who stigmatized her for not having a child.

I enquired to Sudha, “the procedure what physician performed was AID. Was is it an ayurvedic procedure?

Sudha (M) narrated that as this procedure was being performed in an ayurvedic institution and ayurveda treatment is always good. She further told that physician has explained her about the impossibility of getting a child from her husband due to lack of sperms when husband is not willing for treatment and many patients like her had got child with this treatment. So, she was also hopeful that with this treatment she could be able to have a child. Sudha explained her experience with the procedure saying that it was little painful, and she had pain for some time in her abdomen and vagina after this procedure'.

So, it was interesting point to note that patients trust their physician very much and the feedback from other patients count for them. They are not bothered about the treatment methods and their original form. They need a child and for that matter they can have any treatment.

- Riya (M) had spent two to four lakhs rupees before coming to this RAPAMC. She came to this hospital at the age of 33, almost after getting no positive results in last nine years. She was a diagnosed case with PCOS (Poly cystic ovarian syndrome) and tubal blockage and her husband was azoospermic. Here she was first administered the panchkarma therapies in the form of *basti karma* (*yoga basti* for three cycles) along with some oral medicines which included Evecare (Himalaya), Hingvastaka churna, and *Rasa Paachak Kwath* for three months.

With this treatment she got regular menstrual cycles with ovulation. After this she was given *nasya karma* with Mahanarayan Taila and *uttar basti* for three cycles. Along with this course she was administered Shatapushpa and Shatavari and Hyponidd tablet for PCOS. She was advised to practice *yoga*. Her husband was also given *uttar basti* for azoospermia but no positive result was found in his case. After ascertaining that tubal blockage was clear, she was given AID (Artificial insemination of donor) which finally resulted in a successful pregnancy leading to male twins. She had already taken treatment from various places earlier but here she got a successful treatment not only in terms of conceiving a child but get better overall health as well. The expenditure for her in RAPAMC was comparatively very low from her earlier treatments. She expressed with smile that she had to spend only 20000 rupees at RAPAMC for a fruitful treatment against the two to four lakhs spent earlier.

Riya (M) narrates how she was surprised by getting treatment like uttar basti. She told that she was in a view that ayurveda means the treatment with jadi buti only but when she had to undergo the uttar basti, she felt like undergoing some minor surgery. She explained that she though ayurveda is also a science so she accepted the treatment here. On AID she told that yes, she knew it was a modern procedure but she took it here as it is very costly in allopathic hospitals. She had to spend nothing there except for arranging the sperms from a centre and purchasing an IUI cannula.

She yelled that she was so happy after these ayurvedic procedures and had sensed the feel of well-being in her. Here she was able to get two sons of her own after spending just twenty thousand rupees which was too less in comparison to lakhs spent on previous treatments. She shouted happily, 'this hospital is the best.'

Yoga also helped her to get better health, as mentioned by physician

"We advised her Pranayam Dhanurasana, Tittaliasana, Tadasan, Pashimottanasan, and *Padmasana. These yoga practices help to maintain the mental health. Proper secretion of hormones occurs due to yoga and*

*ovulation takes place."*Once a person maintains peace at her mental level her Agni becomes strong and oral medicines acts more potently.

- Jeet rani (M), aged 43 years now, was a graduate and working in IT sector got married at the age of 39 years. Her spouse was four years younger to her. She was given *basti karma* and *yoni pichu* as part of panchkarma treatment.[26] She was also given *mrudu* (mild) *vamana karm*a and *uttar basti*. After this some oral medicines were used and considering the fact that IUI was not possible due to her low AMH (Anti Mullarian Hormone), she was referred for IVF (In Vitro Fertilization) where her husband's sperms were fertilized with donor ovum to get the successful outcome with delivery of a female child. In this case ayurveda helped her to get a healthy uterus in which IVF became successful.

  Jeet rani (M) narrated that physician suggested here *to go for panchkarma treatment before IVF because it would help her in increasing chances of successful conception. She referred her to government hospital for the same where she got a successfully done IVF at very reasonable cost. Finally she could get good health and her own child too*.

According to the ayurveda physician**-**

> ***"****Panchkarma is to maintain balance amongst all dhatus and which ultimately leads to maintain physiology and metabolic system. Hence it is beneficial for proper ovulation and metabolic disorder cases. Digestive system is important for good absorption of nutrition from food and assimilation of oral drugs. "*

- Sonia (M) was a case of secondary infertility having a female child. She has now been diagnosed with PCOS. Here she was administered panchkarma treatment like *yoga basti, yoni dhavana* and some oral medicine to get normal ovulatory menstrual cycles. After the ayurvedic treatment, she conceived naturally.

  Sonia (M) narrated in enthusiasm that *hospital was one of the best hospitals as she got her child here and for her this hopital was like a temple and*

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[26] *yoni pichu* is a method of localized *snehana* in vagina. In this procedure, a cotton cloth soaked in medicated oil is kept inside the vagina.

physician was like a God. She shared the results of treatment by saying that after treatment her body is completely rejuvenated and lighter than before. Now she felt so good that she had started loving her body once again. Now she find herself able to do any work but earlier it was not so with previous treatment when she used to feel weak and shallow all the time. She finished by saying that now she felt happiness all around and no sadness was there.

- Ranjani (M) a resident of Parel Mumbai was keen to get a male child as she was already having two daughters one of which was mentally challenged. She was treated with IUI in an allopathic hospital but without a positive result. In RAPAMC, she was given panchkarma treatment like *basti karma*, *yoni pichu*, *and yoni dhavana* and *uttar basti* for three cycles. All this could make her conceive but due to fever abortion took place after some time. Here she was administered IUI because she could not conceive through natural coitus. So, Ranjani's secondary infertility could be treated but unfortunately she could not get the child till my stay at Mumbai for study. Ranjani was also surprised of getting IUI in an ayurveda institution. After about one year when I called upon her telephonically for follow up,

  Ranjani (M) was found saying that she never suggest anybody to take treatment for childlessness because it happened only with the wish of God, nobody can help you out without his wish. She told sarcastically that look at her because when she was taking treatment, then miscarriage happened. The moment she was strongly determined that she would not seek any treatment of any type for the sake to look after her two daughters, she conceived without any treatment. But then she went for MTP in a self-realization that she was not doing justice with her daughters. She further told that here (RAPAMC), they do good treatment but provide allopathic treatment only like IUI, AID. The only difference she could found here the low cost of these procedures in comparison to the rates at a private center.

The next respondent Bharvi was having fibroid in her uterus and her husband was unable to ejaculate. She was given *virechana* and after that she was treated with yoga *basti* using Tila Taila *for anuvasana* and Triphala Kwatha *for niruha basti*. Her husband also underwent *yoga basti* and oral treatment as pre-operative procedures before *uttar basti* that was intended to treat his disorders of semen. Due to her high

age, she was at the verge of menopause and it may not be possible for her to conceive naturally. Considering both the factors related to partners, she was referred for IVF in a modern government hospital.

Bharvi (M) was telling that physician explained her that as she and her husband both she and her husband were having problem and her husband's problem could not be treated medically. So, IVF could be an option in her case. She told that physician told her that her age was very much and to increase the chances of successful IVF and to get a healthy baby she should take uttar basti which could increase the chances of her getting good result of IVF.

During follow up it was found that Bharvi's husband did not agreed for IVF and finally Bharvi left the treatment.

There were seven male respondents who were interviewed in Mumbai for their problems. none of them was husband of our female respondents. The treatment protocols adopted for some of them are given below.

- Prakash (M) aged 26 was a taxi driver and has been married for the last 16 months. He was having complaint of not having a child due to erectile dysfunction, premature ejaculation with loss of libido. As investigation for diagnosing the underlying cause, semenogram, ultrasonography and other all basic tests has been done. The treatment prescribed to him was tablet Prosteze, tablet Erogen, Rishiphala Churna (2 tsf with milk twice a day). He was also given *uttar basti* with Palash Pashanabhedadi Ghrita in the dose of 20 ml. His course of *uttar basti* consisted of three cycles of *uttar basti* each one comprising of ten days in a month in which the medicated ghrita was injected in to his urethra with the help of syringe and rubber catheter. He had been prescribed yoga as well.

  After three months, there was improvement in the motility and viability of sperms while the percentage of abnormal sperms was reduced. On enquiry he told that he felt better in regard to the sexual desire but problem of pre mature ejaculation was still there.

- Jagat (M) was married for three and half years but was not having a child. He had taken treatment earlier as well at many places. He was a diagnosed case of

asthenospermia.[27] He was advised to have Urada Daal (black gram) and milk products in plenty. He was given yoga *basti* karma and oral medicine like Evion once a day and tablet Celin. He was prescribed Mahapaustika Churna with milk which is considered helpful in increasing sperm count and motility. The results were positive as his sperm count increased from 4.5 to 10 million. Number of motile sperms was also increased from 20 percent to 30 percent. There was increase in the active sperms also from .9 to 2 million.

So here we saw some of the treatment protocols followed by the physician in ayurvedic institutions. It has been observed that these patients get relief in their presenting complaints and in some cases change in the biomedical reports are also found which increases the faith of ayurveda treatment in these patients. But physicians are clear about the limitations and recommend the patients for modern medicines.

Pain of intrusive treatments

Physical pain may be in the form of invasive procedures for investigations, surgical procedures etc. In our study few respondents were surprised that in Ayurveda also they have to go for procedures. Some of them were already fed up with the cycles of IVF or IUI done on them as part of previous treatment in allopath hospital. Some of them explained their experiences as,

> *Ranjani (M) said that she had undergone IUI for six times and after that a laparoscopy was performed in a private clinic. She sadly told, what she could get, nothing but a live body without any soul. These physicians had done so many intrusive procedures on her body and on top of that, torture of in-laws was unforgettable for her. Blaming herself on the issue of childlessness, she said that she was not aware of the wrong doing in her life for which she had suffered so much.*

> *Niranjani faced lot of humiliation in the family in the form of taunting and physical pain in the hospital during the procedures of uttar basti. Niranjani was not given permission by husband to stay in hospital after the procedures*

[27]Asthenospermia is a condition in which the sperms are immotile and so are not able to fuse with ovum. It is one of the major cause for male infertility.

because she had to cook food and do other household chores. According to her, she had faced all sorts of pain like isolation within the family and got no emotional support during treatment.

Mannat (D) *expressed that first time she felt pain but then tolerated it due to having no second option. She was blaming her childlessness saying that being a woman one doesn't have any other option and if she was not able to have a child, she would never get respect in the family and had to face the advices of others regarding old age security. She was almost crying and said women are born to tolerate.*

Reshma (M) *during interview narrates that she had taken treatment in various places but didn't get results anywhere. She said that everybody like her in-laws, her natal family and even friends keep on telling that child was very important she should continue treatment but nobody understands the pain when miscarriage happened and she lost her child as well as health'*

The pain felt was lesser here in comparison to the modern medicine. Apart from this pain, several women respondents from Mumbai have this tendency of leaving treatment in between and come after some two months or more. Upon enquiry it came to light that they don't have any financial support that's the reason they stopped treatment and keep on saving money then again come to hospital to start treatment

Sudha was working in a factory; she generally discontinued the treatment intermittently. When she returned, the physician scolded her that if she did not follow the medication they cannot help her. After inquiring Sudha told that she is spending herself for the treatment and her salary is not much so when she left with no money then she had to stop the treatment, she said her husband would not give her money but she himself doesn't earn much.

Sudha was not getting financial support and that's the big pain for these women they were not even able to get proper treatment. Like Sudha, Sunayana also earn and survive on her own and collect money while stitching clothes, she had taken panchkarmabut said that she was not able to take treatment because she doesn't have money. When inquired that her husband supports her financially or not, she said 'no

I'll save by stitching some clothes and then I come to take treatment she said, 'The people who doesn't give me food to eat how they will give me money for treatment.'

Is Ayurvedic treatment intrusive and painful?

We discussed the biomedical procedures like IUI, AID and IVF in first chapter and found they are invasive and expensive. It is not only the surgical or para-surgical procedures but some find investigations like transvaginal ultrasonography, commonly used for ovulation study and hystosalpangiography are intrusive procedures. The insertion of nozzles (*basti* netra / *uttar basti netra*) in the anus or in vagina as may be the case of *basti* karma or *uttar basti* is both invasive and intrusive. But the pain with these procedures and chances of complications are comparatively less to major surgical and para-surgical procedures. So, the suffering of an infertile woman gets increased when she has to face the therapeutic protocols of any of these medical sciences. Intrusive procedures always exerts a mental trauma and when any such intervention get unsuccessful especially in condition like infertility which gives woman persistent pain, they do apprehensive of such therapies; Bano was found telling her previous experiences,

> *Bano (D) told that she had taken similar type of treatment in government hospitals earlier as well. It was so painful like surgery and she felt like her body had been emptied. She again said they do the painful surgeries and in her case she did not get a child and found herself held in problems. From that day she decided not to take any such treatment.*

It is commonly believed that, ayurvedic treatment consists of *jadi buti* (crude herbs), *churna* (powdered medicine) and *kadha* (decoction) etc. But they are surprised to know of panchkarma as a prominent therapeutic method. In our study most of the respondents, when inquired regarding the nature of treatment said, they found ayurveda equally intrusive. Some said it was comparatively less intrusive and painful. It was very surprising for the respondents and some of them even thought of quitting the Ayurvedic treatment. Here we present their narratives.

> *Reeti (D) also found it painful saying that she never thought that such procedures are done in this hospital.*

Lata (D) told that when physician did her uttar basti, she was shocked to know that Ayurveda people do such procedures. she clarified saying that her perception was that Ayurveda means only 'churan' (powder) and 'chutney' treatment like Chyavanprash but when she came here and physician explained her about uttar basti, then only she came to know that ayurveda is not only about churan-chutney but it has many more things.

Some of the respondents were here to get rid of intrusive procedures done on them in allopathic hospital but when told about some intrusive procedure here also, they clearly denied going for further treatment.

Bano (D) angrily said that physician in the hospital (AUTCH) told her to do the uttar basti for treating her tubal blockage (nallon ki safai). She asked how can this happen in an ayurveda hospital. She cried that she will never come again here as she had already exposed to such procedures in allopathic hospital and has suffered a lot with intrusive procedures there also. It was very painful and demanding with any positive result. She keeps on telling that after this physician suggested her for IUI which she out rightly discarded and was not willing to suffer any more. She had developed other complications as well because of that procedure. She said with anger that those physicians themselves didn't know anything but to just make others fool so she came to this Ayurvedic hospital. She was sad saying that physician here also suggested her same thing. Showing her faith in God, she told that now she would not take any treatment and now Allah will do wherever he wants. She further explained that she was already taking treatment for heart problems and depression because of all this suffering. Bano asked me if I could help her to get information of any place where she could go to adopt a child.

She is ready to adopt but there is no chance that she will go for treatment as she is done with all that procedures.

Renu (D) also expressed how she was surprised when uttar basti was administered to her and told that she was not having an idea that ayurveda physicians also do such type of procedures. She recalled how physician

suggested her uttar basti and she thought that it was some medicine. But anyhow she managed for it but find it very painful. She told that till now she had three courses of this along with some oral medicines.

The contradiction faced between the common belief and the reality was observed in our study where patient hoping ayurveda treatment to be a kind of herbal medicine were asked to go through procedures like *vamana, virechana*, *basti karma* and *uttar basti karma*. Though it is documented that the practices of traditional Indian therapies have been integrated into the daily life of the common man by way of oil massages, yearly purgatives and other health regimens in the form of medical lore (Sujatha 2007), it is to be noted that the present generation either from the village or the city does not seem familiar with them or their principles. Our study among the patients in the Delhi NCR hospitals did not indicate that traditional medical practices were part of the cultural universe of the ordinary people as suggested by the anthropologists of the sixties and seventies. There could have been an erosion of folk medical knowledge over the generations among the working sections. Their surprise with regard to ayurvedic procedures was very obvious; but the more well placed sections of Indian society are now familiar with the name panchkarma as it has been promoted as a wellness therapy in the hospitality industry. The providers of such wellness are the spa centers where a selected few gentle and soothing procedures like massages, fomentation, *shirodhara* and some *pottali sweda* are performed in the name of panchkarma. One of the physician respondents explained that it becomes tough many times to convince the patients for therapies like *basti* and *uttar basti* karma which they find as intrusion in their privacy. Sometimes they have to educate them about the procedure in advance and try to provide feedback from other patients undergoing such therapies.

Analyzing the protocols

It was observed that in most of the cases the treatment followed varied for different patients with respect to the kinds of medicine and panchkarma procedures and the dosage used in these procedures. This is attributed to the rationale of the personalized approach of ayurveda according to the physicians. Some of the queries raised by the researcher to know the logical thinking behind prescribing the treatments were answered by physicians.

Medicine like Chitrakadi Vati and Rasa Pachaka Kwath are classical ayurvedic drugs and are also common part of the prescription. Physicians explained that the concept of *agni* is very important because it help to maintain all the biological functions. Chiktrakadi Vati helps to maintain the *jatharagni* so that all the food taken by the patient is digested well and nourishes the body in proper manner. It will also help to maintain the enzymatic reaction of other dhatus as well. Rasa Pachaka Kwath is used in various menstrual problems. The concept behind it is to normalize *dhatwagni*.[28] Disease related to menses are due to diminished *rasa dhatu agni*. Rasa Pachaka Kwath maintains this *agni* and help to treat the problem.

According to the physician informants, for panchkarma treatment, they firstly try to find the underlying causative *dosha* and decide a suitable panchkarma *procedure* like *vamana*, *virechana* or *basti*. For *basti* they go with the findings of investigation and use oil or ghrita (ghee) accordingly. They commonly use Phala Ghrita and Amrutadi Taila for unexplained infertility, Dashamool Taila was used for tubal blockage, and Dadimadi Ghrita was used to strengthen the uterus. This approach is unique as physician firstly uses concepts from ayurveda to handle the situation and then validate it with finding of modem medical sciences. In conditions of non-affordability of a particular ghrita, they sometimes prepare it or may use different ghrita/oils for panchkarma on the basis of underlying disease and other parameter like dosha, *desha, kala, prakriti* and many others. This practice of these ayurvedic physicians in government hospitals is not very different from the 'samyogic experimentation' as described by Obeyesekere (1992:167) in the context of traditionally educated Sinhalese ayurvedic physicians. It implies to the manipulation of ingredients to produce a new prescription either from classical Sanskrit or traditional Sinhala traditions.

As mentioned in chapter two, some prescriptions give space to some of the proprietary medicines like Hyponidd as well. Hyponidd is a patented tablet manufactured by Charak Pharma Company constituted by isolation of active ingredients from herbs like Haridra (*Curcuma longa*) Gudmar (*Gymnema sylvestre*), Amalaki (*Emblica officinalis*), Guduchi (*Tinospora cordifolia*), Mamejoa (*Enicostemma littorale*) and Tarwar (*Cassia auriculata*) . This product is promoted by

[28] *Jatharaagni* is responsible for digestion of food while *dhatwaagnis* help in assimilation of the end product of digestion in various tissues.

the manufacturer for some common effects like lowering blood sugar level, correcting dyslipidaemia, correcting insulin resistant and effective in PCOS. This product is purely based on laboratory research and has been propagated for obesity, diabetes, skin problems etc. Though it is a herbal preparation made by an ayurvedic healthcare company, it is not part of a classical yoga. Social scientists consider it to be a perfect example of 'creolization' Harish Naraindas (2014), because it is a combination of the active ingredient in the herbs understood in terms of their biochemical properties used to address bio medical disease categories instead of the *tridosha* principles. But it is frequently used by Ayurvedic physicians for diabetes, increased cholesterol levels and PCOS. This drug was frequently used in both the institutions at Delhi and Mumbai for treatment of PCOS and PCOD just due to the fact that it works as insulin sensitizer and western medicines has approved the use of insulin sensitizer for treating PCOS. One other product by the same manufacturer is Addyzoya having active ingredients from herbs like Ashwagandha (*Withania somnifera), Guduchi (Tinospora cordifolia)* and *Amalaki (Emblica officinalis),*Kapikachchhu(*Mucuna pruriens).* This product is indicated for enhancing quality of sperm and to boost sexual desire. This medicine is also used widely in Ayurvedic practice for conditions like oligospermia.

Charak Pharma Company manufactures herbal medicines and there is no mentioning of ayurveda on any of its product. This company is providing herbal healthcare globally with a vision of taking ayurveda to the global market. There is a wide range of products like Manoll, Osteolief, Arjunin and many more by the same manufacturer which are widely used by ayurveda physicians as these are herbal. Most of the modern physicians of ayurveda do not think that the use of proprietary medicines is a problem and seeking the reason for that told that these medicine herbal ingredients which we use on the basis of our knowledge regarding *guna* and *karma* of these medicines. During the interview about the clinical reason for using Hyponidd, a physician reported that there are many ingredients in this compound that it is not possible to decide their role according the theory of *vata,pitta* or *kapha*. The company's R&D has approved Hyponidd as anti-obesity and insulin sensitizer drug, so we consider that this will be helpful to reduce *kapha* and *meda* (fat).

Other medicine to mention here is Lucol from Himalaya Drug Company. Lucol is a combination of Shatavari, Dhataki and Punarnava used to treat Leucorrhea, a very

frequently faced problem by woman. There has been no proven medicine for this condition in biomedicine except palliative care. The pharmacological action of this medicine as claimed by company is from ayurveda and modern research. Surely it is not a classical product as there is no such mention on the product which is essential according to Drug and Cosmetic Act and it is positioned as *a herbal product.* There is no mentioning of guna (properties) and, karma (drug action) of the drug in ayurvedic terminology, rather equivalent biochemical term has been used because it is mainly based on the parameters of modern research.

Shifting from classical to proprietary

This sort of practice selling herbal products in the name of Ayurveda helps these herbal companies to attract the urban educated and get prescriptions from biomedicine physicians as well. Harilal (2013) in his article says: "Currently, ayurvedic and unani health and beauty products could be broadly divided into three categories: classical formulations, biomedical providers and consumer brands. The consumer brands (over the counter products) are advertised directly to consumers through public media such as television, newspapers and magazines. In contrast, the biomedical providers are marketed to physicians, pharmacists and chemists. Liv 52, Geriforte (anti-ageing), both from Himalaya are examples for ayurvedic biomedical providers, and in principle, are available only on prescription. Classical products like Chyawanprash, Dasamularishta, and Triphala are also marketed directly and purchased without the prescription of the physicians, while some of the lesser known formulations like Praval Bhasma, Chandraprabha, and Vatika are available as per vaidya's prescription. Generally, the proprietary medicines and the beauty products fall into the category of consumer brands and seem to be fast moving in the world market."

He further writes, "There is, however, a very thin line between the three categories and quite often manufacturers shift their products between them. A case for this is Pudinhara, a remedy for gripe, stomach aches, gas and indigestion, has recently been converted by Dabur from biomedical provider category to the consumer good category, because of its huge production costs, and now it is widely advertised through popular media. On the other hand, the same product may be positioned differently by different firms. For example, Chyawanprash is a consumer good for Himalaya, but a biomedical provider for Dabur and a classical medicine for AVS."

The reputed classical manufacturers also find it tough to sustain in the market and their new marketing strategies are changing with the formation of one separate wing for proprietary medicine. The key suppliers in ayurveda are Dabur, Baidyanath, and Zandu, which together have about 85% of India's domestic market but their stake in classical product vary from 20-50 percent only(Banerjee,2002) .Even company like Dhootpapeshar, having there since more than 100 years have also introduced many proprietary products some of which have names resembling the classical one. A recently launched product of this company is Asthi poshak vati has all the ingredients mentioned in Ayurveda texts but the combination is a propriety one. It has been promoted by company as 'a calcium supplement' in different disease conditions.

Bode (2008) argued that ayurveda preference has largely become an urban middle class phenomenon, and Ayurvedic products have turned into fast moving consumer goods that are offered as remedies for urban middle class diseases of affluence such as obesity, stress, impotence etc. as well as to enhance body–beauty–health consciousness. As a result, drug companies have promoted the use of traditional ayurvedic drugs among those with a modern sophisticated outlook and ayurveda has been channeled into the manufacture of modern health products for middle-class Indians over the last few decades.

The marketing strategies of major pharmaceutical companies have changed and most of them have started an ayurvedic wing. There were only a few pharmaceutical companies since years but now there were 8400 thousands licensed ayurvedic pharmacies by 2007 with an approximate turnover of rupees 4000 crore. Around 30 companies are now doing a million dollars business per year due to the growing demand for Ayurvedic medicine. The products of these companies are included within the broad category of "neutraceuticals" or cosmetics which consisting of foods, beverages, toiletries, hair oil, etc. these larger medicine suppliers are not limited to the internal medicines but are manufacturing of fast moving consumer goods like soap, toothpaste, shampoo and many such products which are having some traditional herbal ingredients (Banerjee 2002).

Highlighting the significance of diet and nutrition

Commonly healthy diet is prescribed by any medical science during any illness. For a condition like infertility when a woman is going to bear a second life she needs extra supplementation for nourishing her intrauterine foetus. Physicians were seen regularly advising the patients about the diet which was suitable and unsuitable. They stress on the necessity of indicating unsuitable to the patient as part of *nidana parivarjana*[29] otherwise it may be hazardous for the well-being of fetus in future.

The physician respondent at Delhi highlighted the importance of diet for woman saying, "Ayurveda assigns great importance to diet and nutrition in the process of conception. In the classics there is description of twenty types of *yoni vyapada* (diseases of reproductive system) having specific characters. For all types of *yoni vyapada*, common etiological factors have been described which include *mithya aahaar-vihaar* (faulty diet and lifestyle), vitiation of *aartava* (menses), vitiation of *shukra* (semen) and *daiva* (fate of the person). *Beeja* denotes both *aartava* and *shukra* and the disease related to the ovum or the sperms contributes equally to the infertility. Both *aartava* and *shukra* are also vulnerable to be vitiated by various factors of which faulty diet like hot and pungent food is most important. The nutrition of the fetus depends on mother's diet during pregnancy. So, optimal diet of the pregnant woman is also crucial for the health of the child after a successful conception." She further explains "Not only conception or the gestation or even the delivery of the child, proper nutrition of woman is important to remain her in a state of health. This is one of the reasons ayurveda advocates the importance of healthy diet and proper digestive power of the subject. Keeping this fact in view, the anti natal diet according the month of gestation has been proposed in details in the ayurveda classic."

Here we find a vast difference in the advice of physician and its execution by the patient. In our Delhi data we found that women generally consume milk, eggs and green leafy vegetables as suggested by physicians during treatment and comparatively their situation is little better in comparison to Mumbai respondents who do even have facility of safe drinking water in chawls. Living cost in Mumbai is high; they are not in a position to arrange the diet as advised by the physician. As enquired by the researcher, they consume rice with pickle or onion most of the time. Majority of

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[29]Nidana parivarjana (avoidane of the causative factor) is the first line of treatment for any disease.

respondent have tea and bread for breakfast; rice and lentils during lunch and left over rice and chapatti for dinner. Consumption of milk and fruits was not part of daily diet. According to physician in Mumbai, generally women availing treatment for infertility were anemic.

We found that only some respondents were able to follow the regime prescribed by physicians along with treatment,

> *Riya (M) narrated that she was given AID here and got pregnant due to that, physicinq told her to practice yoga daily otherwise treatment will not work. She followed all the diet chart and practiced yoga as well, now she is having a child and a better health'*

On the other side of this, some of them like Chavani from Mumbai, face discrimination within the family due to their childlessness told me that

> *' If there is something left out from the previous night food then only she get something like rice to eat otherwise she remain hungry. Her-in- laws neither provide her food nor any money'.*

As most of the respondent were from lower income groups, there were financial constrains as well restricting the patient to have a prescribed diet. Sudha at Mumbai described her pain saying,

> *That she did not has much time in the morning and generally take tea only and then go to job and have some eatable there like vadapav and rice cooked on previous night'*

> *On my enquiry about taking any of the milk, curd or fruits, she told that she did not anything like that as she had to spent lot on the medicines.*

Perhaps this is the reality of low socio-economic people living in metro, cities that due to big social issues of poverty, they are devoid of proper nutrition in their routine life. In such circumstances a healthy diet during illness creates an extra burden on the family. According to my data, respondents having a lower economic background have to manage their survival and it was impossible for them to maintain a healthy lifestyle. Routine exercise, walk or even proper sleep is missing in most of the cases.

Their lifestyle also gets altered as per the timing of water or electricity supply. When inquired some of the respondents explained how their daily routine starts from waiting in the queue for toilet, then arrange drinking water for which again they need to be in queue, preparing food for family and then rush to work. In the evening they have to start planning for the next day. Most of them were not able to spare even an hour to spare for themselves in a whole day. Taking consideration of the actual situation of this majority of cases, these ayurvedic physicians educate the person for healthy eating habits to avoid any complication and prescribe Vitamin B12, folic acid and iron which are supposed to maintain the health of female reproductive system and to maintain the fertility. On asking about their role in Ayurveda regimen physician at Mumbai told, in pursuance government run reproductive health program, we prescribe these tablets to all those for ante natal care.

Contrary to this Girija (2013) opined that anemia as one of the cause for maternal mortality. The factors for anemia are improper food, excessively salty and sour food, excessive physical labor, *teeksna* medicines like alcohol and daytime sleep. The iron supplements given to pregnancy can cause severe digestive disorders like stomach irritation, nausea, vomiting, diarrhea, constipation, loss of appetite, skin rashes and darken stool. She recommend a medicated ghrita for woman named as Dadimadi Ghrita prepared with pomegranate. Use of this ghrita may beneficiate the woman on many dimensions like treating infertility, helping in stability of pregnancy, correction of digestion and any others.

As part of diet to overcome the problems related to male infertility and virility, regular use of milk and ghrita (ghee) has been praised as a diet for men. (Ch Chi 2(3)/20). It has also been mentioned that a person willing to have intercourse in the desire of a child should restrain himself for sexual indulgence for one month and after this he should perform some rituals. After that he should consume *shaali* rice with milk and ghrita (Su Sha 2/30). Apart from various aphrodisiac medicines, ten herbs named Jeevaka, Rishibhaka, Kaakoli, Ksheerkaakoli, Mudgaparni, Mashaparni, Meda, Vridharuhaa, Jatilaa and Kulinga has been said to be *shukra janana* (help to increase the quantity of semen) (Ch Su 6/12).

Panchkarma among inpatients

In these institutions, physicians always encourgage the patients to take panchkarma therapeies in after getting admitted in the indoor wards. This helps the patients to get better health care and to overcome her lifestyle related stress of routine life. While discussion the logic behind the stay of the patients the physician explained,

> '*In ayurvedic system there are some restrictions imposed on the person undergoing Panchkarma. This helps to maintain the harmony in the body which may be disturbed during the procedures. These restrictions involve some life style related issues also like, avoidance of daytime sleep, using hot water during the course of therapy, avoidance of mutually contradicted food, avoidance to sexual acts and many more.'*

She also mentioned how environment, improper regimen, the unwise consumption of foods and negative mental or emotional states affects the treatment. She explained how in some cases where the patients are from poor socio-economic background the procedure of *uttar basti* gives better results when patient stays in hospital premises and the same result is not possible if patient goes back to her place. When researcher inquired she explained as they have better toilet facility in IPD, patient needs not to hold her urine for longer time, and the chances of getting infections are low as hospital toilets are more clean than common toilets in chawls where patients resides, the other reason she said less amount of stress is also one of the reason and at least for some days patient will get better food in hospital, as it is found women generally take very less food and *aahar* (food) is very important concept in ayurveda as it affects the treatment outcome."

So ayurvedic physicians do not only focus on the procedures but also make sure that patient will take into consideration some factors during treatment like focus on food regime, less stress, hygienic conditions and they generally counsel patients regarding all these factors. But in practice it was found that some patients do not want to stay because of various reasons of their own and request the physicians to allow the procedures on OPD basis. Physician told that sometimes we consider the genuine reasons and with proper advice we allow to do the procedure on OPD basis but advice patient to stay till evening so that we can handle if any complication occur.

Modes of integration in infertility treatments

Choice of treatment is variable according to the need of the patient and her underlying cause of infertility. Physicians in these hospitals sometimes allow use of allopathic medicines. They clear their stand on it by saying,

> *'some of the patients were also taking allopathic hormonal treatment side by side which was mandatory for their cause of infertility; actually for some disease conditions we do not have any proven drug in ayurveda. In such cases we allow to continue ongoing treatment or prescribe allopathic medicine as per her requirement. Sometimes patients come to us after taking biomedicine for long and in such cases we do not suddenly stop their medicine but taper it day by day by adding our medicine. For some conditions the standard protocol set by the government has to be followed like ante-natal care we prescribe iron and folic acid instead of ayurveda equivalent for the same'.*

In Delhi, condition is different where allopathic medicines are banned from the ayurvedic prescription. Physicians told that, "we are not authorized to advise any allopathic medicine. Whenever we find it essential, we advise her to consult any gynecologist in a government hospital of her locality." One important factor in Delhi was free dispensing of maximum medicines of common use from the government dispensary.

The results of the prescription analysis I carried out presented in the foregoing sections reveals that biomedical terms and concepts penetrate differentially in the treatment protocols. In drug based treatment as in internal medicine, we find the profusion of biomedical terminologies accompanying the use of patented drugs. Whereas the other component of the treatment for infertility that is given in the beginning, namely, panchkarma particularly *uttar basti*, which has no parallel in biomedicine, classical medicaments as well as Ayurvedic terminology is used. The language of biology is used as post factum validation in the case of panchkarma whereas the patented drugs having that followed modern research and development protocols in the product development involves profuse use of bio medical language. It is indeed intriguing how the framework of ayurveda and biomedicine alternate in the course of infertility treatments today.

Out of total twenty respondents in Mumbai, pure ayurveda treatment in the form of oral medicine and panchkarma treatment benefitted six patients who got positive results in the form of pregnancy, live birth or starting of ovulation. As reported by the physician was administered to strengthen the body of Jeet Rani and it improved the chances of successful IVF resulting in delivery of a female child through this integrative approach. There were three other successful cases with integrated approach.[30] These were initially administered ayurveda medicines and panchkarma therapies followed by administering IUI (Intra Uterine Insemination) and AID (Artificial Insemination of Donor). Two of these got positive results in the form of live birth while in the reaming one, ovulation was started. Among all the successful cases in Delhi, one respondent was advised to continue allopathic medicines along with *uttar basti* and ayurvedic medicines; other six got positive results in the form of conception, pregnancy or live birth with pure ayurvedic treatment done here. Three of these were not sure that whether it is the medicine or the god's grace which have benefited them.

Some of the cases even though did not find the desired result for their childlessness, felt more energetic and rejuvenated after getting ayurveda treatment and panchkarma therapies. There were cases also who reported ayurveda treatment as slow and some of its procedures intrusive. It is said that fertility starts declining after the age of 30 which speeds up even more as a woman gets the age of 35 years. Interestingly in Mumbai, four women having the age of thirty plus got positive results. Amongst these four, one was aged 36 years. One of the respondent aged 43 could also get successful IVF after getting her body rejuvenated through panchkarma.

The above study shows that physicians are intact with their basic principles while treating infertility with Ayurveda. Data shows that some of the procedures like IUI and AID modified Ayurvedic nomenclature. There are innovations within ayurvedic procedures as well. In IPGT & RA, Jamnagar, some of the post graduate of Stri Roga And Prasuti Tantra developed instrument like 'uttar *basti* netra' (for IUI) and 'yoni dhupana yantra' (for fumigation of vagina to control infection) during their research work. They are performing these procedures along with panchkarma, *uttar basti* or

[30] IUI is done when there is no pathology from the woman side but for mechanical problems preventing the sperm to reach the cervix of female.
- AID is same as IUI except that in this sperms of a healthy donor are used. This is done in cases where male partner is azoospermic or chances of any genetic diseases are there.

other minor procedures which provides strength to the reproductive structures. This increases the chances of a successful IUI or AID many folds. Here point is that these physicians are only using the mechanical procedure to perform a therapy according to the principles of their own system. It seems that with this unique approach of integration they are providing low cost treatment with reasonable degree of success to that section of society who may otherwise stop treatment due to non-affordability of existing treatment options available in biomedicine. About sixty percent of my informants reported effectiveness of the treatment. This however, is a subjective measure; it is beyond the purview of this thesis and my discipline to evaluate the clinical efficacy of these treatments.

Preparing body for successful ARTs through ayurveda

Out of the successful cases at RAPAMC, four could get positive results with integrative approach by administering oral ayurvedic medicines and panchkarma treatment initially followed by ARTs according to underlying pathology. The techniques of ARTs performed at RAPAMC by the Ayurveda physicians are IUI (intra uterine insemination) and AID (artificial insemination of donor) while for IVF (in vitro fertilization), they refer the patient to government hospitals. After using IUI and AID, *prajasthapana*[31] medicines are used which help in stabilization of embryo after a successful conception. The ayurvedic physicians explained that there are certain limitations in ayurveda. When they know that this situation cannot be dealt with ayurvedic medicine, they say, ‘We will not waste our time and patient’s time and resources. But we can give them our treatment before IVF procedure so that the IVF will be successful. As we understand both approaches, we can make her body strong. As IVF success rate is low due to some blockage and weakness in the woman’s physiology, we apply Ayurvedic treatments to address this weakness and facilitate successful IVF outcome.’

AID is the procedure which is used on women whose husbands are azoospermic. For the treatment of such couples, physician first counsel both partners and suggests to arrange for donor semen from a private corporated centre which was comparatively cheaper than other private donor centers. After the arrangement of donor semen,

[31] There are ten garbhasthapana medicine named Endri, Brahmi, Shataveerya, Amogha, avyathaa, shivaa, arishtaa, mandukaparni sthiraa and purnarnava which reduces chances of miscarriage after conception.

physicians at RAPAMC perform the AID at their hospital itself. As the procedures like IUI and AID are not allowed by the state government, this is not done in Delhi at AUTCH.

This sort of integrative approach at institutional level where panchkarma and other procedures are done at Ayurveda hospital before the highly sophisticated procedures like IVF which are conducted at higher centers of biomedicine can be sought as a viable option to provide quality treatment with higher efficacy at a lower cost. This integration will not only help the society but also both the systems of medicine which find themselves helpless on in certain situations. This integration will allow a fair practice respecting each other's science and prevention of encroachment in another's area. Ayurveda will be benefited in a way that this integration will increase the demand of quality scholars from ayurveda which will help to prevent the brain drain from the field of ayurveda. The originality of ayurveda and its basic concept can be viewed in broader sense and may allow some pragmatic researches on its own concepts.

Providing a low cost treatment

The approach of integration in these hospitals with good success rate may put forward that these institutions are able to provide a low cost treatment in comparison to biomedicine treatment. The other benefits like lower side effects and rejuvenation of body are the add on features of this treatment.

On the basis of data it is clear that respondents who got positive result spent something in between around 5000-20000 in RAPAMC. There was only one case of Sudha who spent 50000-60000 INR for treatment and did not get any positive results. This average expenditure of treatment was lesser in AUTCH ranging 3000-20000. Habiba from Delhi has so far spent 50000-60000 in AUTCH but still waiting for luck to come her way. High cost of treatment in Mumbai compared to Delhi may be due to application of panchkarma therapies to almost every case under study.

Integration in ayurveda institutions for implementation of health policies

As both the institutions are under the respective State government, they are bound to abide by the government rules and to mediate the health services running through

Government. Some of the programs like RCH programs, Janani Suraksha Yojana, National Immunization Program etc. are some of the programs delivered for child and mother health. These Ayurvedic physicians are only the channels to supervise these programs and strict implementation of protocol of this is necessary as providing iron, folic acid or Tetanus vaccine to pregnant ladies.

I enquired the physician what if some patients demand ayurveda medicine for ante natal care instead of folic acid?

> Physician's reply "*In ante natal care, WHO guidelines are mandatory and protocols suggest using allopathic drugs. There is no harm in using ayurveda neutrceutcals without the allopathic drugs, but unfortunately our drugs and methods are not entered in WHO protocols, as family planning is a national programme and guidelines are same all over the world. Some patients demand Ayurvedic treatment, hence we use Ayurvedic drugs additionally in such cases."*

For diseases like Tuberculosis, international standard of treatment is fixed and stringent laws set by authorities, these institution only give supportive treatment or the treatment which will not be contradictory to that disease.

> *'Patient took treat for Koch's (TB) as advised by physician and came to us after completion of treatment .we did not give any treatment for Koch's abdomen.'*

Ambiguity about integrative approach

Physicians in both institutions are freely using the latest technologies of diagnosis like ultrasound, follicular study, hormonal assay and the like. On enquiring about this, one of the ayurvedic physicians at Mumbai explained that through the clinical description of the patient we make our diagnosis as described in our classics. For this we use the tools of ayurveda like *nadi pariksha, jivha pariksha, dristi pariksha* and many others. But to make sure our diagnosis is correct; we have to use modern technologies because it also helps us to rule out any other major pathology like cancer.

We also have to prove the result of Ayurvedic medicines so that they can be recognized all by the persons in the other sciences. So, with the pretreatment and post

treatment test results, we are able to make our point in many cases. Many times patients come to us with their previous reports and discuss the findings of reports. Some of them are so scared that they want to see the change in their very next reports after taking the Ayurvedic treatment.

So the ayurvedic physicians can never avoid the tests because patients come with them when they approach us and they need verification of our treatment. Physician also said that they stick to their approach of treating the disease until any major finding in the investigation is found. This sort of arrangement give them confidence during treatment and success as well. Some tests like Hemoglobin, Serum HIV and HbsAg are compulsory to carry out any intervention the patient and so these tests are done in routine practice. There are various medico-legal issues related to MTP (medical termination of pregnancy) and sex determination as experts in the public health system and hence these physicians are bound to go for these standardized tests whenever required.

While integration of biomedical protocols with ayurvedic methods are inevitable in public health today, the point of debate is questions about how much of integration could be acceptable and how this will affect the integrity of ayurvedic knowledge in the future that do not get discussed or debated in the contemporary forums. As Sujatha (2015) writes, "*In 18th and 19th century India, vaidyas and hakims engaged in fierce debates with allopaths and administrators on public health issues and this was a crucial reason for the survival of indigenous systems of medicine. But there is no debate in the ISM sector today; Ayurveda graduates are uncritically inducted into the existing system. Under these circumstances, the formal acceptance of integrative approach by ayurveda is not a happy development.*"

Challenges for the physicians in government setups

The approach of a physician in a government setup depends on the availability of medicines, facilities available in the ward, operation theatre, paramedical staff etc.

During discussion with the physician in Delhi she expresses her concerns of being not able to utilize her knowledge properly 'because of non-availability of several medicines in pharmacy and instructions by the higher authorities not to prescribe any medicine from outside. In that case we have to prescribe medicine which we know

will not give sure results. The other major problem is sometimes patients come with rare problems which cannot be treated with common medicines available in our dispensary, such type of problems need more complicated pharmacological preparations according to textual knowledge. This restricts the knowledge and capability of physicians to treat patients of many kinds and restricts the scope of Ayurvedic knowledge in public institutions.' According to another physician they have to mold themselves according to customary practices of the bureaucratic institution that are in place for several decades. In some cases ruling of the state government and laws related to medical profession in a particular state also influence the approach of the ayurvedic physician.

During field work in the two hospitals, I found that there was scarcity of medicines in the dispensary at Mumbai. On the other hand, in Delhi, there were only a few common classical medicines along with some proprietary medicines for general use and all prescriptions have to work around these options. All the patients had to buy the classical or raw medicines, oils and decoctions needed for panchkarma on their own.

So, all of them generally came with the proprietary drugs. It seems proprietary drugs will be important for the practice of ayurveda in future. The question of significance of proprietary medicines over classical preparations or preparations using fresh herbs is important here. When I questioned physician in Delhi, she responded saying,

> "*yes obviously there will be difference in using proprietary instead of classical drugs but you cannot help it because there are several issues in the preparation of medicine at home. Patients are from a poor background, they are generally labor class and cannot spend that much of time and money; so they get whatever is available in market. We can't ask them to buy from any particular company, phir baat ho jati hai ki physician ko commission milta hoga, so when you are in public dealing you have to keep so many things in mind and all these things are very time taking"*

Urban lifestyles demand quick consumption of medicaments in tablet/ tonic form. Nobody has the time or knows how to prepare decoctions and powders from fresh herbs today. So, the proprietary medicines are likely to increase not decrease in

ayurveda. The use of proprietary medicine in some of the prescription was defended by a physician saying that for the sake of convenience of the patients or to reduce the cost of treatment she is prescribing such products.

As mentioned earlier there is shortage of Para-medical staff in AUTCH. In the department of Stri Roga and Prasuti Tantra, only one physician is recruited and there being no post graduate or dedicated house officer in this department, all the technical work has to be taken by the physician herself. So, it is not possible to give more than 2-3 minutes, consultation per patient. Sometimes maintenance of the record of special cases and follow up treatment etc. also become difficult.

In Mumbai the departmental arrangements on division of labor can be sensed easily. This helps the physician to work in a free manner unlike AUTCH where shortage of the staff leads to physicians having to do clerical jobs like maintenance of record and other supervisory activities of the department. In Mumbai, workload of the department is properly divided and they work as a team. Post graduates under the physician are on 24x7 duties, so the physicians are able to admit most of the cases. As discussed with physician they firstly discuss the case with their colleagues and students and then decide a line of treatment.

Institutional learning affects the treatment approach

One more aspect of the approach of a particular ayurvedic physician also depends on her basic learning i.e. the school from where she did her studies. With the growing popularity of traditional medicine like ayurveda and the demand of authentic ayurveda, physicians are quite willing to practice pure ayurveda as reported by physicians in both institutions, but find it very hard in reality. The physicians in some departments like Shalya (ayurveda surgery), Shalakya (ayurveda Eye and ENT) and Stri Roga amd Prasuti Tantra (gynecological & obstetrics) are actually in a dilemma. They have been prescribing allopathic medicines since years and they have been taught about these in their graduation and post-graduation. But now due the ban on prescribing allopathic medicines by ayurveda physicians, they are not allowed to use any of the allopathic medicines like antibiotics, antipyretics, analgesics, anesthesia medicines which they used earlier. In the absence of any substitute in their own science they have to stop conducting surgeries and other procedures. It was also

observed that these physicians do not stop the allopathic treatment of certain diseases like Diabetes mellitus, Hypertension which some patients were taking during the study. They also advise the patient to continue those allopathic medicines which they found compulsory for her case on the basis of biomedical investigations.

In most of the Maharashtra colleges, the approach of physician is primarily ayurvedic while in north India, most of the physicians seem to use both equally. Due to compulsion, physician are not entitled to write any allopathic medicine. The physician from Mumbai explained,

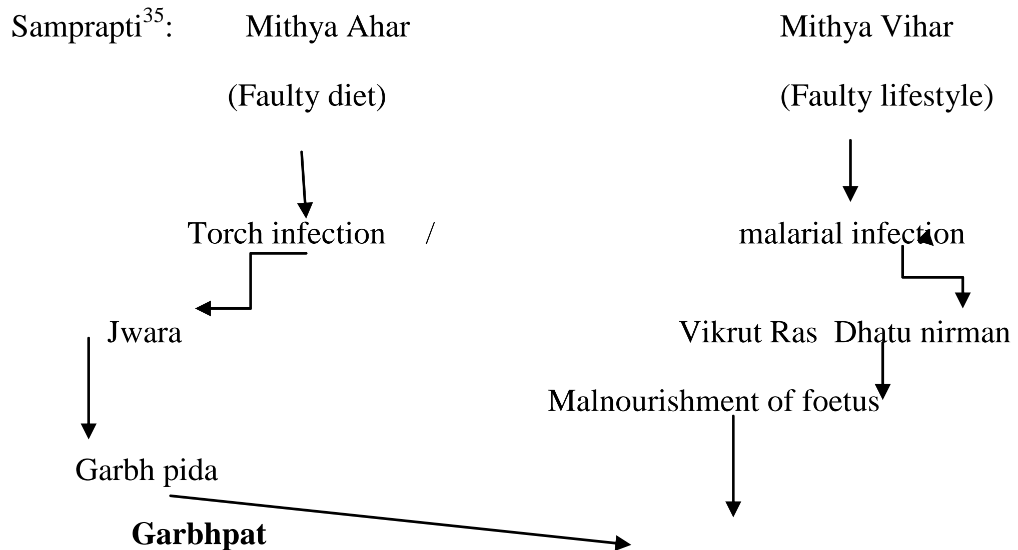
> "The concept of *agni* plays an important role as considering metabolism. So, while treating cases with ayurvedic remedies and principles, basic constituents and its equilibrium supposed to be corrected. It is not so that patient will be cured always treated according to modern physiopathology, for example for case of agnivardhan chikitsa there is not always consideration of gastrointestinal tract, it is to regulate or increase function of *dhatvagni vardhan chikitsa* (improvement of metabolism) considered. Hence keeping all these factors in mind, our Ayurvedic treatment not focuses only on the disease but also we are concern with general well-being and maintenance of normal physiology of body."

For example one of the successful cases is of Reshma, who was suffering from secondary infertility after already having a girl child. She was desirous of getting a male child. She was found to have TORCH infection and had also suffered from cerebral malaria in the past.[32] She was also detected with APLA syndrome.[33] She was administered *virechana* and *uttar basti*. She got a female child with treatment at RAPAMC. Physician explored the explanation of modern diagnosis in her own way in line of ayurveda which she kept in her mind during treatment.

> *Jwara (fever)is being cause of Garbhpata (miscarriage) it was a major cause (Nidan)of BOH (bad obstructive history). In her case infectious pathology of TORCH as well as cerebral malaria (jwara) stood as the major*

[32]TORCH stands for Toxoplasmosis, Other Agents, Rubella, Cytomegalovirus and Herpes Simplex. Any of these can cause infection and may effect adversely a developing fetus or newborn child.
[33]Antiphospholipid antibody syndrome is an autoimmune disorder. Due to this syndrome, too much of blood clotting can block blood flow and damage the body's organs.

cause of repeated miscarriages. Also Jwara leads to formation of defective rasa dhatu.[34] *As rasa dhatu is responsible for nourishment of foetus, there was a lack of good Ras dhatu in a woman when pregnant due to which foetus is unable to grow. Hence Jwara was her nidan (cause) of abortion. The term 'rupa' denotes sign and symptoms of an ailment. In case of Reshma all signs of spontaneous abortions were present during process of abortion (*so, we have considered *it as rasa dhatu dusti)*



When asked about use of different oils for panchkarma, physician from Mumbai said,

> *"It is done according to prakruti, kala (season), dosha dushti of patients. Selection of oils depends upon economical condition of patients. This is a research institute with attached to the govt. hospital hence treatment is given in tune with ongoing various research projects. So you will see the difference in medicines but the principle behind it are same".*

I found that the approach to the patient in AUTCH was different in a manner that they commonly rely on the reports lying with the patient. Here physicians are more concerned with modern diagnosis and prescribe medicines in accordance to the availability of medicines in the dispensary. Sometimes when a desired drug is not available, they try for prescribing substitutes available in the hospital dispensary. Only in case when there is no substitute, they advise the patient to take it from the

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[34] Rasa dhatu is the first product of digested food which is circulated all over thebody and converted to next dhatus in normal physiology. This rasa dhatu is also nourishes the fetus in the body of woman.

[35] Samprapti stands for the stepwise pathological process in the origin of any disease due to its causative factors.

outside. Most of the time these are the health supplement like iron or folic acid tables which are required during pregnancy. Due to restrictions of government, procedures like AID and IUI are not performed in AUTCH. The main line of treatment in this hospital is palliative treatment and some specialized procedures like *uttar basti, yoni dhavana* and *yoni pichu*.

On the other hand, physicians in Mumbai have greater freedom to integrate procedures from both systems due to the permission granted by their state government. As far as allopathic medicines are concerned, physicians at both places were in favor of these medicines in the larger interest of patients. In Delhi, physician refer the patient to allopathic hospital or she does not stop the ongoing allopathic medicine if felt necessary or supportive to their own treatment. In Mumbai, no such restrictions have been imposed and physicians practice some common allopathic treatments there.

In our study we found that commonly used procedures for female infertility treatment are *basti* karma and *uttar basti* which are both invasive and intrusive. Minimum number of days for which *basti* karma is administered in one stretch is seven days while for three days are required for one set of *uttar basti*. The frequency of using both of these procedures depends on the disease condition and they may be used repeatedly for many cycles. Men are equally exposed to both these procedures but in comparison of women chances and frequency of this exposure is lesser than women. Use of *uttar basti* specially is very much less because of the fact that most of the curable problems related to male infertility get corrected either with oral medicines or with panchkarma therapies like *virechana* and *basti* karma. Reason for higher frequency of *uttar basti* in female can be attributed to the hormonal causes related with infertility which are associated with menstrual cycle. As *uttar basti* also has a limitation of its administration just after completion of cycle, there become restrictions to use it on specific times only. So, to get the positive outcome its repetitions are generally required.

The treatment protocols in ayurveda are directed not only to the disease but also to the general health as well. As discussed earlier, ideal treatment, according to ayurvedic texts, is one which alleviates the present disease and does not induce a new one. The prime target is the normalcy of dhatu and their proper functioning. It is also evident

from our study that all the patients except a few experienced positive health after the panchkarma regardless of the fact that some of them could not get a baby. Decision of line of treatment and selection of medicines considering the general condition of the patient and not merely her chief complaint of infertility emphasizes that these physicians work on overall health of patient and are not focused only on conception. Consideration of overall health through correcting the digestion and advising diet and lifestyle shows that their approach is not fixed to reproduction only. Every system of medical knowledge is committed to the welfare of the patient until it is taken over by private companies in drug manufacture and medical technology sector. It is to be seen which path ayurveda will take.

CONCLUSION

Our aim in this thesis was to examine the relation between gender and medicine with special reference to ayurvedic medicine through the study of its concept of infertility and the treatment methods for the same. Infertility leading to childlessness is an issue with great social and psychological consequence for couples, more for Indian couples because Indians consider the birth of a child to be the ultimate purpose of marriage. Biomedical treatment for infertility has become highly technology centered, sophisticated and expensive. Yet it offers much hope and couples who flock to fertility clinics willing to invest all their savings to get a child. With the development of what is referred to as Assisted Reproductive Technology (ART), the demand of a biological progeny has been so intense that other options to cope with childlessness like adoption or rearing a child within a family are becoming obsolete.

. We saw how the NFHS-4 data makes it clear that infertility has been a neglected area in public health system till today as its focus has always been on family planning and birth control. The fertility industry is flourishing in the private sector, offering the promise of biological progeny to couples of any age, but for a huge price. There is a significant body of social science literature on the new reproductive technologies and sociologists and feminists argue that medicalization of infertility has interfered in the reproductive autonomy of women and an intrusion into their body. There is a lot of feminist writing that raises concerns about subjecting women to long drawn and invasive procedures in order to produce a child. But the critique of invasive reproductive technologies are based on the assumption that biomedicine is the only system of medicine.

In a country like India characterized by medical pluralism, it is important to see how other systems of medicine conceptualize and treat infertility. In my research I chose to study how ayurveda, the ancient system of medicine in India looks at the problem. Ayurveda is not only a traditional medicine which has accumulated medicinal knowledge over the centuries, but has also managed to enter the public health bureaucracy in the twenty first century. So the decision was to conduct an explorative study in the ayurvedic departments in two government hospitals, one in Delhi and the other in Mumbai.

Ayurveda and Unani Tibbia College and Hospital in New Delhi and RA Poddar Ayurveda Medical College, in Mumbai were identified and the data was collected from the patients and physicians at the Stri Roga and Prasuti Tantra department (analogous to Gynecological and Obstetrics department in biomedicine) of these hospitals. The total number of female respondents in Delhi was fifteen. Five male patients who were among the spouses of female respondents were also interviewed regarding their problems. In Mumbai, twenty female and seven male respondents were interviewed. Ayurvedic physicians working in both the institutions were also interviewed regarding their views on infertility, treatment methods and their rationale. The protocols for treating infertility were also observed. The literature review of modern books on gynecology and obstetrics, ayurvedic texts and some articles published in esteemed journals was also carried out.

With the objective of understanding how ayurveda conceptualizes what we refer to as infertility , I analyzed all major treatises of ayurveda and collected material dealing with reproductive health of the male and female. It was found *Kayachikitsa* (Equivalent to general medicine) is the core branch of ayurvedic therapeutics and it is said to encompass all other seven branches of ayurveda. The important finding was that while there is detailed account of various reproductive health problems of male and female bodies, there was no separate branch to deal with the gynecological or reproductive health problems of female in the core texts of ayurveda and such problems seem to have been dealt by the experts of kayachikitsa and Kaumara Bhritya (equivalent to paediatrics) . Prasuti Tantra or midwifery was well elaborated in the texts but was not a separate branch. Deliveries were performed at sutikagaar which was specially designed for this purpose. On some occasions like *mritagarbha* (intrauterine death of fetus), the help of experts of shalya tantra (surgeons) was taken for surgery. The modern ayurvedic hospitals however, have a separate branch called 'Stri roga and Prasuti tantra' to deal with gynecological and obstetrical problems. It was interesting to know that except Harita Samhita, other ayurvedic classics do not seem to have mentioned infertility as a separate problem. In others, it has been described as one of the symptoms of other gynecological disorders studied under *yoni vikar*which may be having any anatomical deformity, genetic abnormality and physiological deformity leading to different forms of infertility. Male infertility and reproductive health has been described in relation to *shukra dosha* (seminal

abnormalities) while the description of *napunsaka, shanda* and *klaibya* is in context to sexual health.

Study of protocols showed that the physicians use tablets and medicated powders treatments to improve the digestion and some disease specific treatments. It was noted that an optimum level of agni (digestive power) in the patient is considered mandatory both for good health and successful treatment. *Vayu* in general and one of its sub type, *apana vayu* has been addressed as the major pathological factor for gynecological problems in ayurveda. It is the *apana vayu* that is responsible for the proper physiology of *shukra* (semen), *aartava* (menses) and *garbh*a (fetus). Due to this reason, *virechana, basti karma* and *uttar basti* are the line of treatment for diseases related to the reproductive health of both man and woman. For female infertility use of some specific techniques like *uttar basti, yoni dhupana, yoni prakshalana, yoni pichu* and *yoni varti* was also observed in the texts. The role of *nasya karma* (nasal inhalation of medicine) for treatment of *vandhyatva* (female infertility) was one interesting thing to notice.

Physicians were using both classical preparations and proprietary medicines which have been developed in accordance to modern science research. Special part of their treatment protocol was use of *praja sthapan / garbha sthapana* medicines which help to strengthen the uterus and stabilize the pregnancy. Physicians at both the institutions were found allowing ongoing allopathic treatment for some patients. Physicians in Mumbai were using some modern medicines also which they find obligatory in respect to the findings of the patient. In Delhi, physician was found not prescribing these medicines but referring the patient to allopathic public hospitals. Use of modern medical techniques like IUI (Intra Uterine Insemination) and AID (Artificial Insemination of Donor) was also noted in Mumbai. Physicians in Mumbai initially perform panchkarma therapies to get a better outcome of IVF and other techniques.

Intrusion of female body in the name of ARTs has been a critical issue for feminists. So, my study was also targeted to have a look on the intrusive procedures done for infertility treatment in these institutions. I found that both the systems of medicines are providing intrusive treatment with a difference that intrusion of ayurveda in the form of *basti karma* and *uttar basti karma* which alongside benefits the overall health of the patient in contrast to biomedical infertility procedures that have dire side

effects. Men are spared from intrusive procedure in biomedicine but have to undergo *uttar basti* and *basti karma* as part of treatment of their infertility problems because panchakrma treatment for male infertility is almost same as for female infertility. The pain of invasive investigation is higher in biomedicines as various investigations are done frequently at each level of diagnosis and treatment. On the contrary , all the basic tests and a few specific invasive tests are advised for diagnostic purpose in these ayurveda institutions.. Due to this, to overcome the pathologies related to *kshetra* (uterus) and aartava (menses), they have to undergo many cycles of *uttar basti*. The focus of treatment largely remains on improving the overall health with the help of proper diet, lifestyle and yoga practices. They also emphasis on dietary and lifestyle restrictions like avoidance to day time sleep, coitus during pregnancy, not having contradictory food and many others according to the patient. Apart from this there are certain restrictions are also imposed during panchkarma therapies.

Findings of the study showed that most of the female respondents sought treatment with in one to two years of their marriage. As a common trend it was observed that the respondents with primary infertility were in higher age in comparison to those with secondary infertility who seek treatment at an early age. The reason for such behavior of women was the stigma faced by them with in the family and society. Some of them reported the fear of marital instability due to their childlessness. In this regard, health seeking behavior of men was found entirely different from women. They seemed more concerned to the sexual health and were found correlating their sexual health with their reproductive health. It was also found that they prefer dawakhanas over the institutional treatment probably because they get some potency medicines from there which may let them feel good for some time.

In my study, I found that it was the urban poor who were mainly attending the medical facilities for infertility treatment in these hospitals. Most of these were migrants from other states and have been settled in these cities for the sake of employment. The respondents in my study were not much educated and most of them came from weaker economic sections. Husbands of the women respondents were working in unorganized sector and their jobs were not secure. They cannot afford to lose their wages for a single day, yet they struggled and managed to get a some

treatment for infertility. Some of the women in Mumbai were also working to ease the burden of their husbands to run the family. Due to economic compulsions, a section of the informants were not able to follow the regimen prescribed by the physicians. Moreover they were living in poor housing conditions and were using public toilets due to which they were having increased chances getting urinary tract infections.

During the interviews it was also found that most of the respondents have spent a lot in their earlier treatments and to avoid their childless status were ready to pay more subjected to the assurance of getting a child. They have spent catastrophically and a few of them had borrowed money as well. The main reason for some getting treatment in these public hospitals was to get a low cost treatment irrespective of it being ayurveda or allopathy. Only a few were determined to have an ayurveda treatment because of the side effects of biomedicine. Some of the respondents directly approached these ayurvedic hospitals for their infertility treatment while others were here on recommendation of their relatives or friends.

One of the motives of my study was to study varying views of biomedicine and ayurveda and I found that the main difference was the approach of ayurvedic physicians who treat the problem of infertility as a whole unlike modern medicine which limit their treatment to reproductive system only. The consideration of dosha as a basic pathological factor and using panchakrma therapies like virechana karma and basti karma which act on all the systems of body support the view of holistic approach towards treatment. The outcome of this treatment approach was reported by the patients as improvement of overall health and the feeling of well being.

Issue of gendering was given in the center of my study. I observed during my field work that in spite of childless status, respondents were somewhat inclined to have a male child. It was one of the reasons for a few to seek an ayurveda treatment. The punsavana karma, a medicinal regime in ayurveda said to lead to male progeny and the praise in favor of son in the texts at many places raise the question about gender bias in ayurveda. But ayurvedic physicians interviewed clarified that these were the methods to get a child of desired progeny whether male or female. Literature review showed that reproductive health was placed in the context of overall health of the man and woman. The preference for a male child or praising a son by denoting it as '*putra'* at some places seems as a generalized term used for progeny. I found in ayurveda

texts, woman has given importance and her image is glorified as a procreator responsible for the existence of world.

Contrary to the general notion which gets support from the marketing of private pharmaceuticals, it is the reproductive health of man with the aim of healthy progeny and not the potency, which has been in the center of the specialized branch of Vajikarana. The specialized branch of Kaumarbhritya was dedicated to child health, both male and female and there is no discriminatory clues in this section. The aim of two specialized branches, Vajikarana and Kaumarabhritya, was to maintain the chain of healthy progeny in successive generations, male or female.

It has been clearly mentioned in Ayurveda that a physician on the basis of his logical thinking, his knowledge and with the help of '*Yukti'* (logical approach or reasoning) can make as much as innovations keeping the basics intact. In this way having the knowledge of performing AID or IUI along with other ayurvedic treatments can be considered as innovation. The data showed some encouraging results of treatment of infertility performed in ayurveda institutions which are comparatively much cheaper than in comparison to modern medicine. India is a country where people are linked with folk medicines till date and find no harm getting treated with this, incorporation of ayurveda in treatment of infertility and reproductive health problems can be helpful not only to meet a low cost treatment option but also for prevention of diseases. As data of my study is short and it may be too early to validate the success of ayurveda in comparison to biomedicine, still in future more studies can be performed to make a definite outcome. The integrative approach adopted by these physicians serving in public sector may get the name of hybrid, creolized or mixopathy by some authors, but the efforts of such physicians should not get unnoticed as they are catering their services to the underprivileged class for whom the public hospitals are the last hope of getting proper treatment without spending out of pocket.

BIBLIOGRAPHY

Abiodun et al (2012). 'Factors associated with acceptability of child adoption as a management option for infertility among women in a developing country'. *International Journal of Women's Health*:4 365–372.

Adams and Li (2008).Integration or Erasure, Modernizing Medicine at Lhasa's Mentsikhang. In Laurent Pordie*, ed., Exploring Tibetan Medicine in Contemporary Context: Perspectives in Social Sciences.* Routlegde UK, Needham Research Institute Series, pp. 105-131.

Adams V, (2006).'*Integrating Abstraction: Modernising Medicine at Lhasa's Mentsikhang, in Soundings in Tibetan medicine'. Anthropological and Historical Perspectives. Mona Schrempf, ed. Leiden: Brill.*

Adams V, Li Fei Fei. 'Integration or erasure? Modernising medicine at Lhasa's Mentsikhang' in Laurent P, editor. Tibetan medicine in the Contemporary world. Global politics of medical knowledge and practice. London: Routledge; 2008. p. 105 31.

Adams, V. "Integrating Abstraction: Modernising Medicine at Lhasa's Mentsikhang" in Soundings in Tibetan Medicine: Anthropological and Historical Perspectives. Mona Schrempf, ed. Leiden: Brill 2006

Adams, V. and Fei Fei Li, Integration or Erasure? Modernizing Medicine at Lhasa's Mentsikhang. In Laurent Pordie, ed., Exploring Tibetan Medicine in Contemporary Context: Perspectives in Social Sciences. (Winner of the ICAS, International Convention of Asian Scholars, Book Prize for 2009, Colleague Choice Award), Routlegde UK, Needham Research Institute Series, pp. 105-131, 2008.

Alter Joseph (2008:186). 'Ayurveda and Sexuality: Sex Therapy and the "paradox of virility" ,in WUJASTYK AND . SMITH ed. Modern And Global Ayurveda: Pluralism And Paradigm, State University of new york press, albany pp:177-200

Anuradha Singh." Her one foot is in this world and one in the another" Ayurveda, Dais and Maternity. In Janet Chawla ed., 'Birth and Birth givers: the power behind the Shame. New Delhi : Shakti Books

Arnold Fred et.al (2003). 'Son preference, the family building process and child mortality in India in David Cheal (ed.), '*Family, critical concepts in Sociology*, Volume II, Family and Gender issues. Routledge, Taylor and Francis .New York.

Arun Katiyar,'The Indian traumaThe biggest problem with infertility in India is the social stigma childlessness carries'.(http://indiatoday.intoday.in/story/childless-couples-social-stigma-biggest-problem-with-infertility-in-india/1/302397.html) June 15, 1993 | UPDATED 12:29 IST

Astanga Hrdyam (Vol. 1), translated by Prof. K R Srikantha Murthy, 2th edition;1994, Krishndas Academy, Varanasi.

Bajpai (2014). *The Challenges Confronting Public Hospitals in India, Their Origins, and Possible Solutions, Advances in Public Health*, Volume 2014.

Balen and Inhorn (2002). *Interpreting infertility: a view from the social sciences.* In Inhorn and Balen eds.*Infertility around the globe: new thinking on childlessness, gender and reproductive technologies*. Berkeley, CA: University of California Press, pp. 3–32.

Banerjee(2002).Power, culture and medicine: Ayurveda pharmaceuticals in the modern market' *contribution to Indian Sociology*.36:435.

Batra S 2010, The role of family in organ transplantation, in Mishra ed., '*Health Illness and medicine, Ethnographic readings'*.(278-296) New Delhi: Orient BlackSwam.

Becker, Gay & Robert D. Nachtigall (1992) 'Eager for Medicalization: The Social Production of Infertility as a Disease', *Sociology of Health and Illness* 14(4): 456–471

Berek s J.2007. 'B*erek& Novak's Gynecology'*, 14th edition, Wolters Kluwer Health (India) Pvt. Ltd, New Delhi

Bharadwaj (2003). 'why adoption is not an option in India: the visibility of infertility, the secrecy of donor insemination, and other cultural complexities' *Social Science & Medicine* 56 (1867–1880)

Bharadwaj A[1].Soc Sci Med.Why adoption is not an option in India: the visibility of infertility, the secrecy of donor insemination, and other cultural complexities.Soc Sci Med. 2003 May;56(9):1867-80.

Bhava Prakash Nighantu, commented by K C Chunekar and edited by Dr G S Pandey, Reprint;2004, Chaukhambha Bharti Academy, Varanasi.

Bode (2008). *Taking tradinal knowledge to the market; the modern image of the ayurvedic and unani indursty*, 1980-2000,(New perspectives in South Asian History), Orient Blackswan, Universiy's Press India, New Delhi

Bode Marrten.2012. 'Ayurveda in the twenty first century : Logic, practice and Ehics' in India' in Sujatha .V and LeenaAbaraham (eds.) *Medical Pluralism in contemporary India.* New Delhi:Orient black Swam.

Bode, Marten (2002). 'Indian indigenous pharmaceuticals: Tradition, modernity, and nature*' In* Ernst Waltraud (Ed.) *Plural medicine, tradition and modernity 1800–2000*. New York: Routledge, pp. 1800–2000, pp. 184–203.

Brass. P. (1972). 'The politics of Ayurvedic education: A case study of revivalism and modernization in India', In L. Rudolph & S. I. Rudolph (eds.) Education and politics in India'.*Studies in organization, society and policy*. Cambridge: Harvard University Press, pp. 342-71.

Bryson(1999).*Feminist debates, issues of theory and political practice*. 68-69,London: McMillan Press,Business Week 1993, An Ultrasound Footholdin Asia. BusinessWeek

Bryson, V. 1999. Feminist debates, issues of theory and political practice. London: McMillan Press.

Caraka Samhita (Vol. 1), edited and translated by Vd H S Kushwaha, First edition;2005, Chaukhamba Orientalia, Varanasi.

Caraka Samhita (Vol. 2), edited and translated by Vd H S Kushwaha, First edition;2009, Chaukhamba Orientalia, Varanasi.

Caraka Samhita (Vol.1-5)By R K Sharma, & Vd. Bhagvan Dash, Reprint;2007, Chaukhamba Sanskrit Series Office, Varanasi.

Caraka Samhita with Carkrapani commentary, edited by Vd. Y T Acharya, Reprint edition;2006, Rastriya Sanskrit Samsthan, N. Delhi.

Charaka Samhita (Vol.6)By R K Sharma, & Vd. Bhagvan Dash, Second edition;2005, Chaukhamba Sanskrit Series Office, Varanasi.

Chethana R and Shilpa. 2016. 'Treatment seeking pattern among infertile couples in a rural area'. *International Journal of Community Medicine and Public Health*. Oct;3(10):2884-2890

Chowdhry.2015. 'Popular Perceptions of Masculinity in Rural North Indian Oral Traditions'. *Asian Ethnology* Volume 74, Number 1, 5–36.

Chowdhury, Mehta, Das and Gosh (2011). *Health Shocks and the Urban Poor: A Case Study of Slums in Delhi*,National Institute of Public Finance and Policy.

Clarke E. Adele and Virgina L. Olesen 1999, *RevisioningWomen , Health And Healing* New York and London .Rutledge.

Conrad (1997).'Public eyes and private genes: Historical frames, news constructions, and social problems', *Social Problems* 44 (2): 141-54.

Conrad (2007). *The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders*. Baltimore: The Johns Hopkins University Press.

Conrad P. 2007. '*The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders'*. The Johns Hopkins University Press: Baltimore

Corea, Gena (1985). *The Mother Machine* New York: Harper and Row.

Das and Hammer (2005). 'i' World Bank Policy Research Working Paper, 3669

Desai and Maithreyi (1990).*Women and Society in India*.2nd edition, Delhi: Ajanta Books International.

Desai, Shrinivasan and Hazra (1992).'Understanding the emotions of infertile couples', *The Journal of Obstetrics and Gynaecology of India* 42: 498–503.

Doyal, Leslie (1995).*What makes women sick: gender and the political economy of health*. New Jersey: Rutgers University Press.

Dube, Leela (2001). '*Anthropological explorations in Gender: Intersecting fields'*. New Delhi: Sage Publications.

Dyer, S et.al 2004. 'You are a man because you have children: experiences, reproductive health knowledge and treatment-seeking behavior among men suffering from couple infertility in South Africa'. *Human Reproduction* 19 (4): 960-967.

Dyer, Sherwood, McIntyre and Ataguba (2013). 'Catastrophic payment for assisted reproduction techniques with conventional ovarian stimulation in the public health sector of South Africa: frequency and coping strategies', *Human Reproduction* 28 (10): 2755–2764

Emily B. Zimmerman et.al. 2015, ' Understanding the Relationship Between Education and Health in 'Population Health: Behavioral and Social Science Insights', , AHRQ Publication .

Evans, Frank Oliffe and Gregory (2011). 'Health, Illness, Men and Masculinities (HIMM): a theoretical framework for understanding men and their health', *Journal of Men's Heath* 8 (1): 7–15.

Farquhar J and Wang J, 'Knowing the why but Not the How: Dilemma in Contemporary Chinese Medicine'. Asian Medicine 5:57-79

Farquhar, Judith (1994), *Knowing Practice. The Clinical Encounter of Chinese Medicine*, Oxford:

Ganth,Thiyagarajan and Nigesh (2013).'Role of Infertility, Emotional Intelligence and Resilience on Marital Satisfaction among Indian Couples'.*International Journal of Applied Psychology*, 3(3): 31-37.

Garg Rajesh All is Not Well" with Medical Tourism, Indian J Community Med. 2013 Jan-Mar; 38(1): 59–61.

Gaware. V. M.2009 et al. 'Female infertility and its treatment by alternative medicine: A review '. *Journal of Chemical and Pharmaceutical Research*1(1):148-162

Gay Becker Robert D. Nachtigall 1992. 'Eager for medicalisation: the social production of infertility as a disease' *Sociology of health and illness.* Volume 14, (4)December PP: 456–47

Girija, P. L. T. 2013. '*Jeevani: Ayurveda for Women'*. Chennai: Sanjeevani Ayurveda Foundation.

Goel (2010). *Health Care System and Hospital Administration: Organizational structure*, Department Of AYUSH, Ministry Of Health And Family Welfare, Deep and Deep Publications, New Delhi,Page 141.

Greil et.al .2010. 'The experience of infertility: A review of recent literature'. *Sociology of Health & Illness,*32:1, pp. 140–162.

HARILAL MS. 2009. 'Commercialising Traditional Medicine': Ayurvedic Manufacturing in Kerala Economic & Political Weekly april 18, 2009 vol xliv no 16

Harita Samhita, Edited and translated by Jaymini Pandey, 2010, Chaukhamba Sanskrit Pratisthana, New Delhi

Harris, et.al. 2011. '*Fertility and the Aging Male' Rev. Urol* 13(4): pp:184–190

Hasanpoor et.al.The Social Consequences of Infertility among Iranian Women: A Qualitative Study, Int J Fertile Steril. 2015 Jan-Mar; 8(4): 409–420

http://www.himalayastore.com/pharmaceuticals/lukol.htm (cited on 25/6/2017 at 11:58 AM.)

http://www.who.int/bulletin/volumes/88/12/10-011210/en/ (vanderpeol, sembuya 2010)

http://www.who.int/reproductivehealth/publications/infertility/art_terminology2/en/

https://charak.com/about/ (cited on 25/6/2017 at 11:52 AM.)

https://charak.com/products/healthcare/men/addyzoa-capsule/(cited on 25/6/2017 at 10:25 AM.)

Inhorn Marcia 2003, "The Worms Are Weak": Male Infertility and Patriarchal Paradoxes in Egypt, Men and Masculinities, Vol. 5 No. 3, January pp.236-256

James F. Smith, 2010.et al . 'The Use of Complementary and Alternative Fertility Treatment in Couples Seeking Fertility Care: Data from a Prospective Cohort in the United States, and the Infertility Outcomes Program Project Group', Fertil Steril. May 1; 93(7): 2169–2174.

Jayasundar (2013). *Ayurvedic approach to functional foods. Introduction to functional food science*, Edited by Dhanik M. Martirosyan, Food Science Publisher

Jayasunder Rama 2012 'Contrasting approaches to health and disease : Ayurveda and Biomedicine' in Sujatha .V and Leena Abaraham *(ed.)* '*Medical Pluralism in co temporary India'*. New Delhi : Orient black Swam.

Jejeebhoy .1998. 'Infertility in India - levels, patterns and consequences: Priorities for social science research'.*Journal of Family Welfare*.44(2). P. 15-24.

Jejeebhoy Shireen (2004). *Looking Back, Looking Forward A Profile of Sexual and Reproductive Health in India*. New Delhi: Rawat Publishers.

Jindal (2016).*Pancakarma Siddhi, A practical approach to the basic principles of Ayurveda*, Chaukhambaorientalia.

Jishnu Das and Jeffrey Hammer (2005), 'Money for Nothing :The Dire Straits of Medical Practice in Delhi, India' World Bank Policy Research Working Paper 3669, July 2005

Kalpan and David 2015 eds. '*Population Health: Behavioral and Social Science Insights, Understanding the Relationship Between Education and Health'* Rockville, MD Agency For Healthcare Research And Quality And Office Of Behavioural And Social Science Research.National Institute Of Health .

Kasaypa Samhita with vidyotini Hindi commentary by Satyapala Bhisagacharya, 5th edtion;1994, Chaukhamba Sanskrit Sansthan, Varanasi.

Kendurkar A, Profile of adult patients attending a marriage and sex clinic in India. Int J Soc Psychiatry. 2008 Nov;54(6):486-93

Krishnan.2001. '*Culture and fertility transition in India'.* WIDER

Kulkarni J et al. (2014) A Prospective Cohort Study of Antipsychotic Medications in Pregnancy: The First 147 Pregnancies and 100 One Year Old Babies. PLoS ONE 9(5).

Kumar N and Singh A K, Trends of male factor infertility, an important cause of infertility: A review of literature, J Hum Reprod Sci. 2015 Oct-Dec; 8(4): 191–196.

Kushagra Nagori et.al. 2011, 'General Awareness On Allopathic, Ayurvedic And Homeopathic System Of Medicine In Chhattisgarh'. India, International Journal of Pharmacy And Pharmaceutical Sciences . Vol 3,(4), 2011

Kushwaha (2005).*CarakaSamhita*.Vol. 1, First edition, ChaukhambaOrientalia:Varanasi.

Kushwaha (2009).*CarakaSamhita*.Vol. 2, First edition, ChaukhambaOrientalia:Varanasi.

Leena Abraham 2005. 'Indian Systems of Medicine (ISM) and Public Health Care in India' in Gangolli V eds, 'Review of Healthcare In India. CEHAT :Mumbai.

Leena Abraham 2009. 'Medicine as Culture: Indigenous Medicine in Cosmopolitan Mumbai'*Economic and Political Weekly* Vol. 44, No. 16 (Apr. 18 - 24, 2009), pp. 68-75

Leslie (1976).*The ambiguities of medical revivalism in modern India. In Asian medical systems: A comparative study*.356-67, Berkeley-University of CaliforniaPress.

Leslie and Young (1992).*Interpretations of illness: Syncretism in modern India. In Paths to Asian medical knowledge: Comparative studies of health systems and medical care*.177-208, Berkeley-University of California Press

Leslie and Young (1992).*Interpretations of illness: Syncretism in modern India. In Paths to Asian medical knowledge: Comparative studies of health systems and medical care*.177-208, Berkeley-University of California Press.

Madhav Nidana with Madhukosa commentary, translated by K.R. Srikantha Murthjyt, 7th edition; 2005, Chaukhamba orientalia, Varanasi.

Mishra and Dubey (2014). 'Indian Women's Perspectives on Reproduction and Childlessness: Narrative Analysis'. *International Journal of Humanities and Social Science* Vol. 4, No. 6(1).

Nagori et Al (2011).'General Awareness On Allopathic, AyurvedicAnd Homeopathic System Of Medicine In Chhattisgarh, India'.*International Journal Of Pharmacy And Pharmaceutical Sciences*, Issn- 0975-1491 Vol 3, Suppl 4.

Naraindas H. 2006. 'Of spineless babies and folic acid: Evidence and efficacy in biomedicine and ayurvedic medicine. Social Science & Medicine 62 ,pp: 2658–2669

Naraindas, H. 2014. 'Of Shastric 'Yogams' and Polyherbals; Exogenous Logics and the Creolization of the Contemporary Ayurvedic Formulary. *Asian Medicine* 9 (2014), 12-48

Nazrul Islam and K.E. Kuah-Pearce, 'The Promotion of Masculinity and Femininity through Ayurveda in Modern India'. *Indian Journal of Gender Studies* 2013 20: 415

Nirmalya Manna 2014.et.al 'INFERTILITY AND RELATED FACTORS: AN EXPERIENCE FROM A RURAL COMMUNITY OF WEST BENGAL, India.', Indian J. Prev. Soc. Med. Vol. 45 No. 1-2, 2014

Nyarko and Amu (2015). *Self-reported effects of infertility on marital relationships among fertility clients at a public health facility in Accra. Fertility research and practice*. PP.1-10

Obeyesekere .1992. ‘Science, Experimentation and Clinical Practice in Ayurveda’. *in ‘Paths To Asian Medical Knowledge’*, Edited by Charles Leslie and Allan Young, University of California Press, Berkeley p.167

Obeyesekere Gananath 1992, ‘ Science, Experimentation,and Clinical practice in Ayurveda’ in Leslie and young (eds.) Paths To Asian Medical Knowledge

Ombelet (2008).*False perceptions and common misunderstandings surrounding the subject of infertility in developing countries*. Human Reproduction, ESHRE Monograph, 1:pp.8-11.

Ombelet(2011).*Global access to infertility care in developing countries: a case of human rights, equality and social justice*. F,V&V in ObGyn, 3 (4) pp. 257-266.

Pasha and Albar 2015.Assisted reproductive technology: Islamic Sunni perspective ‘, Human fertility .vol 18 ; issue-2.pg-107-112

Patel 2007, “sex- selective Abortions in India; gender, society and New Reproductive Technologies” Sage publications, New Delhi

Patel Tulsi.2012. ‘Global standards and local medical worlds: the case of childbirth practices’. In Sujatha .V and LeenaAbaraham (eds.) *Medical Pluralism in contemporary India.* New Delhi:Orient black Swam.

Patel.1994.‘*Fertility behavior: population and society in a Rajasthan village’*. New Delhi: Oxford University Press.

Patricia Uberoi1993.*Family, kinship, and marriage in India*, Oxford University Press, New Delhi.

Prasad Gitanjali.2006. ‘*The Great Indian Family, New Role Old Responsibilities.’* New Delhi: Penguin Books.

Priya (2012). ‘AYUSH and public health : Democratic Pluralismand the quality of health services.in Sujathaed’. *Medical Pluralism in contemporary times*. Orient blackswam, New delhi.

Priya ed.(2010), *The Status And Role Of AYUSH And Local Health Traditions National Rural Health Mission*, Ministry of Health And Family Welfare GOI, New Delhi.

Prof. Murthy (1994).*AstangaHrdyam*.2nd edition, vol. 1,Krishndas Academy: Varanasi.

Prof. Murthy (2003).*AstangaHrdyam*.5thedition, 2 Varanasi: Chaukhamba Krishndas Academy.

Radhakrishnan R.2009. 'Prayer and healing: A medical and scientific perspective on randomized controlled trials' Indian J Psychiatry. Oct-Dec; 51(4): 247–253

Ragone, Helena (1994). *Surrogate motherhood: conception in hearts*.Boulder: Westview Press.

Rama (2012). 'Contrasting approaches to health and disease: Ayurveda and Biomedicine' in Sujatha .V and Leena Abaraham (ed.), *Medical Pluralism in Contemporary India*. New Delhi: Orient black Swam.

Rama Jayasundar 2013, ' Ayurvedic Approach to Functional Foods' in Martirosyan D, 'Introduction to Functional Food Science' Textbook, First Edition USA, Food Science Publisher/

*Rama Jayasundar, '*ayurveda: a distinctive approach to health and disease*'* Current Science, VOL. 98, NO. 7, 10 APRIL 2010

Ramasubban and Jejeebhoy (2000).'IntroductionIn R. Ramasubban& S. Jejeebhoy (Eds.), Women's reproductive health in India'.*Rawat Publications: Jaipur,India*. (pp. 13-39).

Rao 1974. '*Studies in Family Planning'*. Abhinav: New Delhi.

Rao 2004.'The unheard scream: reproductive health and women's lives in India'.*Zubaan and Panos Institute: New. Delhi*.

Reddy (2002). *Asian Medicine in America: The Ayurvedic Case, Annals of the American Academy of Political and Social Science*, Vol. 583, Global Perspectives on Complementary and Alternative Medicine, pp. 97-121

REDDY S, Asian Medicine in America: The Ayurvedic Case, Annals of the American Academy of Political and Social Science, Vol. 583, Global Perspectives on Complementary and Alternative Medicine (Sep., 2002), pp. 97-121

Riessman. 2000. 'Stigma and everyday resistance practices: childless women in South India'. *Gender & Society,*14(1):111–35.

Rothman (1989/2000). *Recreating motherhood. Rutgers university press, new Brunswick, new jersey*,

Sadgopal M. 2009. 'Can Maternity Services Open Up to the Indigenous Traditions of Midwifery*' Economic and political weekly.* Vol. 44, Issue No. 16, 18.

Sama .2006. '*Constructing conceptions: The Mapping Of Assisted Reproductive Technologies in India'* .New Delhi.

Samik Chowdhury et.al .2011An Exploratory Analysis of Deprivation and Ill-Healthled Poverty in Urban India: A Case Study of Delhi.Indian Institute of Public Administration, New Delhi Chronic Poverty Research Centre 2011

Sanjay Srivastava .2013 **,** ' Street, Footpath, Gated Community: On the Cultures of Indian Pornography', in Sexuality Studies eds. Sanjay Srivastava

Sanneving et.al. (2008).*Inequity in India: the case of maternal and reproductive health*. Glob Health Action. 2013; 6: 10

Sarkarand i Gupta 2016. 'Socio-Demographic Correlates of Women's Infertility and Treatment Seeking Behavior in India, , J Reprod Infertility. Apr-Jun; 17(2): 123–132

Sayeed .1999. 'Childlessness in Andhra Pradesh, India: treatment seeking and consequences'. *Reproductive Health Matters*. 7 (13):54-64.

Schleifer .1996. 'Motherhood in Islam'. *Louisville*, Kentucky: *The Islamic Texts Society*.

Sharandhara samhita, translated by K R Krishnamurthy, 6th edition;2006, Chaukhamba Orientalia, Varanasi.

Sharma (2005).*SusrutaSamhita*.Vol. 1-3,ChaukhambaVisvabharti:Varanasi.

Sharma (2007).*Ayurveda kaVaijnanikaItihasa*.ChaukhambhaOrientalia:Varanasi.

Shastri (2003).*SusrutaSamhita*.Vol -2, 16th edition, Chaukhamba Sanskrit Sansthan:Varanasi.

Shastri (2003).*SusrutaSamhita*.Vol-1, 14th edition, Chaukhamba Sanskrit Sansthan:Varanasi.

Silke J. Dyer 2013. 'Catastrophic payment for assisted reproduction techniques with conventional ovarian stimulation in the public health sector of South Africa: frequency and coping strategies' Human Reproduction, Vol.28, No.10 pp. 2755–2764.

Singh, Dhaliwal and Kaur (1996).*Infertility in a PHC in Northern India*, J Fam Welfare,42:51–56.

Stacey Margaret (1995).*The sociology of health and healing*, University of Warwick, London and New York.

Strathern1992. '*After Nature: English Kinship in the late twentieth century'* .Cambridge University Press.

Sudworth Fiona, 'Infertility issues for South Asian women' .*Diversity in Health and Social Care 2006;3:281–7. Radcliffe Publishing*

Sujatha (2011). 'What could 'integrative' medicine mean? Social science perspectives on contemporary ayurveda'. *Journal of Ayurveda and Intergraive Medicine*,Vol-2 Issue-3, pp 115-123.

Sujatha (2011).Innovations within and between traditions: Dilemma of Traditional medicine in Contemporary India. *Science technology and society,vol.16 :191*.

Sujatha V, (forthcoming), What is the sociology behind health status and health seeking behavior ?

Sujatha.V and Abraham Leena .2012. '*Medical Pluralism in co temporary India'* New Delhi : Orient black Swam.

Sujatha.V. 2014. '*Sociology of Health and Medicine, new perspectives*'. New Delhi: Oxford Univesity Press.

Sunder Rajan.K (2006). '*Biocapital: The Constitution of Postgenomic Life'*. Duke University Press.

Sunder Rajan.K, 2006,' Biocapital: The Constitution of Postgenomic Life'.Duke University Press

Susruta Samhita (Vol -1), edited by Kaviraja Ambikadutta Shastri, 14th edition;2003, Chaukhamba Sanskrit Sansthan, Varanasi.

Susruta Samhita (Vol -2), edited by Kaviraja Ambikadutta Shastri, 16th edition;2003, Chaukhamba Sanskrit Sansthan, Varanasi.

Susruta Samhita (Vol. 1-3) with English translation and Dalhana's commentary along with critical notes, edited and translated by By P V Sharma, Reprint edition;2005, Chaukhamba Visvabharti, Varanasi.

Susruta Samhita with Dalhana commentry , Edited by Vd. Y T Acharya and N R Acharya 'Kavyatirtha', Reprint edition;2010, Chaukhamba Surbharti Prakashan, Varanasi.

Sutcliffe AG[1], Ludwig M. ,2007. 'Outcome of assisted reproduction. Lancet. Jul 28;370(9584):351-9.

Tabong and Adongo.2013.'Infertility and childlessness: a qualitative study of the experiences of infertile couples in Northern Ghana Philip' journal of *Pregnancy and Childbirth* 13:72

Tapio Nisula, 'In the Presence of Biomedicine: Ayurveda, Medical Integration and Health Seeking in Mysore, South India'. Anthropology & Medicine Vol. 13, No. 3, December 2006, pp. 207–224

TapioNisula. 2006. ‘In the Presence of Biomedicine: Ayurveda, Medical Integration and Health Seeking in Mysore, South India’. *Anthropology & Medicine* Vol. 13, No. 3, December, pp. 207–224

The Hindu, Baroda woman to undergo India’s first Uterus transplant on may ’18, Monday 15th May,2017

Tippins 2009 et.al . ‘ Is Prayer CAM?, , J Altern Complement Med. Apr; 15(4): 435–438.

Tiwari .2003. ‘*Ayurvediya Prasutitantra evam Striroga’*, Vol-1, Chaukhamba Oriental, Varanasi.

Tiwari P, Ayurvediya prasuti tantra evam stri roga’page, Vol-I, Chapter Garbh vyapada-page 387, HEALTH OF THE URBAN POOR IN INDIA, Issues, Challenges and the Way Forward March 29, 2007, Report of the Urban Health Resource Center: New Delhi

Tiwari P.2003, Ayurvediya Prasutitantra evam Striroga, Vol-1, Chaukhamba Oriental, Varanasi

Tiwari.2007. ‘*Ayurveda Prasuti Tantra and StriRoga’*. Part –II, ChaukhambhaOrientalia:Varanasi.

Tripathi N.2011.‘Infertility among Indian Women: Emerging Evidence and Need for Policy Measures’, paper presented in, session 57, infertility and childlessness, population association of america 2011, annual meeting program, weblink-http://paa2011.princeton.edu/abstracts/110609 at 11:28 pm

Unnithan (2001), 'Learning From Infertility: Gender, Health Inequities and Faith Healers In Women’s Experiences Of Disrupted Reproduction In Rajasthan. In Doron (Eds)’ *Health, Culture And Religion In South Asia; Critical Perspectives* (315-327). Rutledge , New York.

Verma K.et.al. 2001. ‘ A study of male sexual health problems in a Mumbai slum population’*, culture, health & sexuality*, vol. 3, no. 3, 339-352.

Wameq A. Raza et al.2015. ‘ Healthcare seeking behaviour among self-help group households in Rural Bihar and Uttar Pradesh, India, BMC Health Services Research. 2015; 16: 1.

West View Press

Widge and Cleland (2009). ‘The public sector’s role in infertility management in India*’, Health Policy and Planning*, 24:108–115.

Widge, A; Cleland, J (2011) Negotiating boundaries: Accessing donor gametes in India. Facts, views & vision in ObGyn, 3 (1). pp. 53-60.

www.infertilityny.com/blog/how-many-times-do-i-need-to-try-ivf-before-it-works

Yadav, D .2009. *Ayurveda ka Itihas* Varanasi, chaukhamba Surbharti prakashan.

Table No-1, Demographic Information of Female Respondents from AUTCH, Delhi

s.no.	Pseudo name	Present Age (at the time of study)	Religion	Caste	Education	Residing place in Delhi	Approx. distance from the hospital	Accompanying person	Reference to the hospital
1	Gulfam	29	Muslim	Malik	Matric	Okhla	20	Sister	Friend
2	Mannat	22	Hindu	ND	Matric	Baljeetnagar	5	Husband	Neighbor
3	Reeti	23	Hindu	Koli	Graduate	Anandparvat	3	Husband	Relative
4	Lata	25	Hindu	ND	Graduate	Karol bagh	1	Husband	Neighbor
5	Manjula	24	Hindu	ND	8th std.	Jai nagar	35	Bhabhi	Mother
6	Faiz	23	Muslim	ND	Matric	Filimistan	2	Mother in law	Mother in law
7	Priya	23	Hindu	Rajput	8th std.	Nangloi	15	Husband	AUTCH staff
8	Geeta	25	Hindu	Chamar	Metric	Anandparvat	3	Husband	Neighbor
9	Habiba	30	Muslim	Idrisi	8th std.	Inderlok	5	Husband	Neighbor
10	Bano	28	Muslim	Idrisi	9th std.	Loni	14	Husband	Neighbor
11	Babita	30	Hindu	ND	Intermediate	Trans Yamuna	12	Husband	Neighbor
12	Renu	22	Hindu	ND	8th std.	Nandnagri	16	Sister	Friend
13	Shalini	44	Hindu	ND	Intermediate	Anandparvat	3	Husband	Relative
14	Neelam @	35	Hindu	ND	Matric	Kishanganj	1	Husband	Self
15	Guddi#	35	Hindu	ND	5th std.	Sarairohilla	2	Husband	Self

Case of pseudo pregnancy
@ case of second marriage
ND- Not Disclosed
NA- Not Applicable

Table No-2, Demographic Information of Female Respondents from RAPACH, Mumbai

S.no.	Pseudo name	Present Age (at the time of study)	Religion	Caste	Education	Residing place in Mumbai	Approx distance from the hospital	Accompanying person	Reference to the hospital
1	Riya	33	Hindu	Badhai	Intermediate	Andheri	17	Husband	Friend
2	Jeet rani	43	Sikha	ND	Graduation	Dombiwali	50	Alone	Friend
3	Ranjani	36	Hindu	ND	Metric	Parel	4.5	Alone	Self
4	Soniya	30	Hindu	Marwari	Intermediate	ND	NA	Alone	Friend
5	Niranjani	25	Hindu	ND	8th std.	Thane	32	Alone	Self
6	Shushi	26	Hindu	ND	Metric	Gavadav	50	Husband	Friend
7	Sudha	40	Hindu	Teli	Intermediate	Parel	60	Alone	Friend
8	Surya kiran	26	Hindu	S C	Intermediate	Kalian	70	Husband	Staff in Husband's office
9	Avani	27	Hindu	Wani	Graduation	Badlapur	4	Husband	Online
10	Barvi $	43	Hindu	Boudhu	Graduation	Worli	17	Husband	Clint
11	Jayanti	35	Hindu	ND	Intermediate	Andheri	13	Alone	Neighbor
12	Poornima	25	Hindu	ND	Graduation	Santa Cruz	4	Husband and sister	Sister
13	Uchitra	23	Hindu	ND	Metric	Worli	4	Alone	Neighbor
14	Salma	25	Muslim	ND	9th std.	Worli	5	Alone	Neighbor
15	Nehal	44	Hindu	ND	8th std.	ND	NA	Alone	Relative
16	Saba	25	Muslim	ND	6th std.	Sain	10	Alone	Self
17	Reshma	35	Hindu	ND	9th std.	ND	NA	Alone	Office staff
18	Archi	35	Hindu	ND	Intermediate	Premnagar	17	Alone	Self
19	Sunayana	29	Hindu	ND	Intermediate	Goregaon	25	Alone	Relative
20	Chavani	36	Hindu	ND	Metric	Worli	4	Mother	Relative

$ a case of second marriage.
ND- Not Disclosed
NA- Not Applicable

Table No-3, Study of Age of Female Respondents from AUTCH, Delhi

S.no.	Pseudo name	Type of infertility	Present Age (at the time of study)	Age of spouse	Age at the time of marriage	Age at the time of starting treatment	Time lag b/w marriage and first t/t for infertility	Time lag b/w first infertility t/t and Ayurveda t/t
1	Gulfam	Secondary	29	31	21	23	2 yrs	4 yrs
2	Mannat	Secondary	22	24	18	19	1 yr	2 yr
3	Reeti	Primary	23	26	18	19	1 yr	4 yr
4	Lata	Primary	25	26	20	21	1 yr	0
5	Manjula	Primary	24	34	20	21	1 yr	3yr
6	Faiz	Primary	23	26	21	22	1 yr	1 yr
7	Priya	Primary	23	23	21	22	1 yr	1 yr
8	Geeta	Primary	25	30	18	19	1 yr	6 yrs
9	Habiba	Primary	30	35	20	23	3 yr	7 yrs
10	Bano	Primary	28	30	19	21	2 yr	7 yrs
11	Babita	Primary	30	32	21	23	2 yr	7 yrs
12	Renu	Primary	22	25	17	19	2 yr	3 yrs
13	Shalini	Primary	44	45	22	25	3 yr	19 yrs
14	Neelam @	Secondary	35	37	30*	35	5	0
15	Guddi#	Pseudo pregnancy	35	42	20	NA	NA	NA

Case of pseudo pregnancy
@ case of second marriage
ND- Not Disclosed
NA- Not Applicable

Table No-4, Study of Age of Female Respondents from RAPACH, Mumbai

S.no.	Pseudo name	Type of infertility	Present Age (at the time of study)	Age of spouse	Age at the time of marriage	Age at the time of starting treatment	Time lag b/w marriage and first t/t for infertility	Time lag b/w first infertility t/t and Ayurveda t/t
1	Riya	Primary	33	38	21	23	2 yrs	9yrs
2	Jeet rani	Primary	43	35	39	39.5	6 months	3.5 yrs
3	Ranjani	Secondary	36	40	18	31	13 yrs	4 yrs
4	Soniya	Secondary	30	34	23	25	2 yrs	3.5 yrs
5	Niranjani	Secondary	25	ND	20	21	1yr	3 yrs
6	Shushi	Primary	26	37	23	24	1 yr	1.5 Yrs
7	Sudha	Primary	40	44	36	38	2 yrs	2 yrs
8	Surya kiran	Secondary	26	31	19	23	4 yrs	3 yrs
9	Avani	Secondary	27	35	21	24	3 yrs	3 yrs
10	Barvi $	Secondary	43	44	39	39.5	6 months	2 yrs
11	Jayanti	Secondary	35	37	24	26	2 yrs	8 yr
12	Poornima	Secondary	25	35	18	23	4 yrs	1 yr
13	Uchitra	Primary	23	34	20	21	1 yr	2 yrs
14	Salma	Secondary	25	30	19	21	2 yr	3 yrs
15	Nehal	Secondary	44	45	34	34.5	6 months	9.5 yrs
16	Saba	Primary	25	28	19	23	4 yrs	2 yrs
17	Reshma	Secondary	35	50	20	22	2 yrs	2yrs
18	Archi	Primary	35	38	24	25	1 yr	11 yrs
19	Sunayana	Secondary	29	34	21	23	2 yrs	5 yrs
20	Chavani	Primary	36	38	34	35	1 yr	1 yr

$ a case of second marriage.
ND- Not Disclosed
NA- Not Applicable

Table No-5, Socioeconomic Information of Female Respondents from AUTCH, Delhi

S.no.	Pseudo name	Working status	Occupation	Monthly income of respondent	Husband's occupation	Husband's monthly income	Total family income	Type of house	Rent of house	Vehicle owned	Gadgets etc.	Type of toilet used
1	Gulfam	Not working	None	Nil	Kabadi	12000	12000	Own	NA	Bike	TV, Fridge	Private
2	Mannat	Not working	None	Nil	In banking sector	13500	13500	Own	NA	Bike	TV, Fridge	Private
3	Reeti	Not working	None	Nil	Private job	7000	7000	Rented	4000	Nil	TV	Public
4	Lata	Not working	None	Nil	Own business	ND	ND	Own	NA	Nil	TV, Fridge	Private
5	Manjula	Not working	None	Nil	Plumber	8000	8000	Rented	2000	Bike	Nil	Private
6	Faiz	Not working	None	Nil	Ladies parlor	10000	10000	Rented	8000	Nil	TV, Fridge	Private
7	Priya	Not working	None	Nil	Transport office	5000	5000	Rented	2500	Nil	TV	Public
8	Geeta	Not working	None	Nil	POP worker	10000	10000	Rented	3000	Nil	ND	Public
9	Habiba	Not working	None	Nil	Tailor	12000	12000	Rented	3000	Nil	ND	Private
10	Bano	Not working	None	Nil	Tailor	12000	12000	Rented	ND	Bike	ND	Private
11	Babita	Not working	NA	NA	ND	ND	ND	Rented	2500	Nil	Nil	Public
12	Renu	ND	ND	ND	ND	ND	ND	ND	ND	Nil	ND	ND
13	Shalini	Not working	NA	NA	Farmer	ND	ND	Rented	1200	Nil	Nil	Public
14	Neelam @	Not working	NA	NA	Driver	11000	11000	Rented	2000	Nil	Nil	Public
15	Guddi#	Not working	NA	NA	Security guard	8000	8000	Rented	2500	Nil	Nil	Public

Case of pseudo pregnancy
@ case of second marriage
ND- Not Disclosed
NA- Not Applicable

Table No-6, Socioeconomic Information of Female Respondents from RAPACH, Mumbai

s.no.	**Pseudo name**	**Working status**	**Occupation**	**Monthly income of respondent**	**Husband's occupation**	**Husband's monthly income**	**Total family income**	**Type of house**	**Rent of house**	**Vehicle owned**	**Gadgets etc.**	**Type of toilet used**
1	Riya	Working	Parlor assistant	10000	Electrician	10000	20000	Rented chawl	6000	Nil	TV	Public
2	Jeet rani	Working	Instructor in IT sector	45000	Driver	Not known to her	Not known to her	Own	NA	Car	TV, refrigerator, washing machine, Microwave etc.	Private
3	Ranjani	Not working	NA	NIL	ND	Not known to her	Not known to her	Rented	ND	Bike	TV, refrigerator,	Public
4	Soniya	Not working	NA	NIL	ND	Not known to her	Not known to her	ND	ND	ND	Nil	Public
5	Niranjani	Not working	NA	NIL	ND	Not known to her	Not known to her	Rented chawl	ND	NIL	Nil	Public
6	Shushi	Working	Tiffin	4000	Security guard	8000	12000	Rented	4000	Nil	TV	Public
7	Sudha	Working	Factory	4500	Clerk	6500	11000	Own chawl	NA	Nil	TV	Public
8	Surya kiran	Working	Xerox shop	3000	Office work in Packaging	6000	9000	Rented Chawl	2500	Bike	Nil	Public
9	Avani	Working	Office job Ministry	8000	Accounts management	35000	43000	Rented	4000	Nil	TV, refrigerator	Private
10	Barvi $	Working	LIC agent	7000	Police	20000	27000	Govt. accommodation	NA	Bike	TV, refrigerator,	Private
11	Jayanti	Working (part time)	Beautician	5000	Clerk	30000	35000	Own	NA	Bike	TV, refrigerator, washing machine	Private
12	Poornima	Working	Private school teacher	6000	Private company	ND	ND	Rented chawl	ND	Bike	TV, refrigerator,	Public
13	Uchitra	Not working	NA	NA	Driver	15000	15000	Rented chawl	4000	NIL	TV	Public

s.no.	**Pseudo name**	**Working status**	**Occupation**	**Monthly income of respondent**	**Husband's occupation**	**Husband's monthly income**	**Total family income**	**Type of house**	**Rent of house**	**Vehicle owned**	**Gadgets etc.**	**Type of toilet used**
14	Salma	Not working	NA	NA	Tailor	12500	12500	Rented	8000	NIL	TV	Private
15	Nehal	Not working	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND
16	Saba	Not working	NA	NA	Mechanic	11000	11000	Rented	3000	Bike	TV	Public
17	Reshma	Not working	NA	NA	Supervisor	25000-30000	25000-30000	Own	NA	Bike	TV, refrigerator,	Private
18	Archi	Not working	NA	NA	Marketing	25000	25000	Rented chawl	ND	ND	TV	Public
19	Sunayana	Working (Part time)	stitching	2500	Not known to her	Not known to her	Not known to her	Rented chawl	4000	ND	TV	Public
20	Chavani	Not working	NA	NA	News paper seller	Not known to her	Not known to her	Rented chawl	ND	Nil	Nil	Public

$ a case of second marriage.
ND- Not Disclosed
NA- Not Applicable

Table No-7, Information of male Respondents from AUTCH, Delhi

	Name	Age	Religion	Educational Qualification	Occupation	Monthly Income (In Thousands)	Complaint For Seeking T/T	Treatment	Results
1	Tribhuvan	26	Hindu	8th pass	Private job	7000	Loss of libido and infertility / Oligospermia	Oral medicines	Wife conceived (ambivalent)
2	Saaket	23	Hindu	8th pass	Transport	5000	Low sperm count,/Oligospermia	Oral medicines	Wife conceived
3	Aatmaram	30	Hindu	High school	POP worker	8000	Pre mature ejaculation /Low sperm count	Oral medicines	Wife conceived
4	Naushad	35	Muslim	11th pass	Tailor	12000	Low sperm count	Oral medicines	No result
5	Chomusingh	ND	Hindu	ND	Driver	11000	Premature ejaculation, No desire at all /Oligospermia	Oral medicines	Under treatment

ND- Not Disclosed

NA- Not Applicable

Table No-8, Information of male Respondents from RAPAMC, Mumbai

S no.	Name	Age	Religion	Educational Qualification	Occupation	Monthly Income (In Thousands)	Complaint /Diagnosis	Treatment	Results
1	Chetan	33	Hindu	under graduate	sweeper's manager	15000	erectile dysfunction +Pre mature ejaculation /oligosthanzoospermia	oral medicines with dietary restrictions	Slight improvement
2	Nayak	32	Hindu	metric	Security guard	ND	Infertility with Premature ejaculation	*Uttar basti* + oral t/t	wife conceived but PME persisted
3	Santa	37	Hindu	ND	Store keeper	ND	Primary infertility + Pre mature ejaculation	oral medicines + *Uttar basti*	Discontinued treatment
4	Prakash	26	Hindu	Illiterate	Driver	10000	Pre mature ejaculation + Erectile Dysfunction + Loss of libido along with low sperm count	*Uttar basti* + oral t/t	Improved sperm count etc.
5	Jagat	36	Hindu	under graduate	House keeping	14000	Primary infertility Astanospermia	Yoga *basti* for 3 months + oral medicine + diet+ yoga	NA
6	Srinath	ND	Hindu	under graduate	House keeping	ND	Unsatisfactory sexual life, low sperm count	*Yoga basti*+ oral medicine+ *uttarbasti*+ yoga	NA
7	Kamal	36	Hindu	graduate	Office assistant	18000	unsatisfactory sexual life, painful intercourse oligoazoospermia	*Yoga basti* + oral+ *Uttar basti*	Improved sperm count

ND- Not Disclosed
NA- Not Applicable

Table No-9, Treatment History of Female Respondents from AUTCH, Delhi

s.no.	**Pseudo name**	**Earlier taken t/t**	**Duration of previous t/t (in years)**	**Approx cost of previous t/t**	**Reason to leave previous t/t**	**Reason to seek treatment/t**	**Type of infertility**	**Previous obst. history**	**Treatment given at AUTCH**	**Result of treatment**	**Approx expenditure @ AUTCH**	**Duration of t/t @ AUTCH (till Feb-17)**
1	Gulfam	Various places including Govt. Allopathic Hospital (LNJP)	6-7	In lacs	advised IVF at Govt. Hospital	Needs a child.	Secondary	Abortions and now low AMH + tubal blockage	PK + Oral Ayurveda + allopathic medicine	No follow up	3000	NA
2	Mannat	Private nursing home	3	25000	Found it costly	Needs a child.	Secondary	Abortion	*Uttar basti* + Oral Ayurveda Medicine	Male child	7000	1 yr
3	Reeti	Various places	4	Not able to count	Have spent all, now have taken loan also	Needs a child.	Primary/ husband oligospermic	tubal blockage, irregular menses	*Uttar basti* + Oral Ayurveda Medicine + allopath medicine	Conceived but confused (Ambivalence towards t/t)	20000	1 yr
4	Lata	Ayurveda medicines only at different places	4	ND	Got no result	Needs a child.	Primary	tubal blockage	*Uttar basti* + Oral Ayurveda Medicine + allopath medicine	Left t/t	3000	1 yr
5	Manjula	Private hospital	2	Approx 2 lacs	No result after spending so much	Needs a male child due to family pressure.	Primary	with irregular menses	Oral Ayurveda Medicine	Pregnancy of 5th month (Feb-17)	3000	1 yr
6	Faiz	Private clinics	2-3 months	5000-6000	t/t did not suited her.	Needs a child.	Primary	fibroid and swelling in uterus	Oral Ayurveda Medicine	Female child (Ambivalence towards t/t)	3000-4000	2 months
7	Priya	Govt. Hospital (LNJP)	Approx. 6 months	No result and was suggested for IVF	Allopath doctor referred her to Ayurveda hospital.	Needs a child.	Primary/ low sperm count of husband	irregular menses, tubal blockage	Oral Ayurveda Medicine	Pregnant	15000	
8	Geeta	Various places	5-6 yrs	4-5 lacs	No results from any t/t	Needs a male child as had spent a lot so far.	Primary low sperm count of husband	irregular menses	Oral Ayurveda Medicine	Conceived but confused (Ambivalence towards t/t)	20000	2 yrs

s.no.	Pseudo name	Earlier taken t/t	Duration of previous t/t (in years)	Approx cost of previous t/t	Reason to leave previous t/t	Reason to seek treatment/t	Type of infertility	Previous obst. history	Treatment given at AUTCH	Result of treatment	Approx expenditure @ AUTCH	Duration of t/t @ AUTCH (till Feb-17)
9	Habiba	Private hospital	7 yrs	40 thousand		Needs a child.	Primary/ low sperm count of husband	Diagnosis not confirmed	Oral Ayurveda Medicine, Ref for AID	Under t/t,	60000-70000	
10	Bano	Various places including Govt. Hospital (GTB)	7	Can't remember due to stress	No result of t/t	Needs a child.	Primary	tubal blockage	Oral Ayurveda Medicine	Left t/t	3000-4000	6 months
11	Babita	Various private hospitals	7	ND	No positive result	Needs a male child for Moksha	Primary	No ovulation	Oral Ayurveda Medicine	Conceived after 1 year of t/t	15000	1 yr
12	Renu	Various hospital	3 yrs	50000-60000	No result even after operation.	Needs a child.	Primary	tubal blockage	*Uttar basti* + Oral Ayurveda Medicine	Under t/t No information	13000	8 months
13	Shalini	Various hospitals and systems of medicines	15-17 yrs	Spent a lot, even sold out land for t/t	No result.	Needs a child.	Primary	Unexplained	Oral Ayurveda Medicine	Under t/t	5000	5-6 months
14	Neelam @	No earlier t/t	NA	NA	NA	Needs a child.	Secondary/ oligospermic husband	Husband has low sperm count due to injury	Oral Ayurveda Medicine	Under t/t	3000-4000	3 months
15	Guddi#	Various places	ND	ND	No result.	Desperately needs a male child.	Pseudo pregnancy	Already have 1 son and 2 daughters	No t/t given	NA	NA	NA

Case of pseudo pregnancy
@ case of second marriage
ND- Not Disclosed
NA- Not Applicable

Table No-10, Treatment History of Female Respondents from RAPACH, Mumbai

s.no.	**Pseudo name**	**Earlier taken t/t**	**Duration of previous t/t (in years)**	**Approx cost of previous t/t**	**Reason to leave previous t/t**	**Reason to seek treatment**	**Type of infertility**	**Previous obst. history**	**Treatment given at RAPACH**	**Result of treatment**	**Approx expenditure @ RAPACH**	**Duration of t/t @ RAPACH**
1	Riya	Various places including Private hospital	9	2-4 lacs	No positive result , side effects	Needs a child	Primary / husband azoospermic	PCOS and Tubal blockage	AID after PK	Male twins	20000	5-6 months
2	Jeet rani	Private	5	3-4 lacs	No result and finally was advised IVF but no guarantee	Needs a child	Primary	Irregular menses	PK at RAPACH followed by IVF at Allopathic Hospital	Female child	20000	5-6 months
3	Ranjani	Private, Six cycle of IUI,	4	Approx 1.5 lac	No positive result, side effects	Needs a male child as already have a daughter	Secondary	MTP after being pregnant without any treatment.	PK + Oral Ayruveda Medicine + *Uttar basti* followed by IUI	Conceived but later on abortion occur due to fever	18000-20000	1.5 yr
4	Soniya	Private for 3.5 years	3.5	ND	No result	Needs a male child as already have a daughter	Secondary	One daughter, now PCOS	PK + Oral Ayruveda Medicine	Conceived a naturally.	8000	1.5 yr
5	Niranjani	Private in Odisha	2	Too much	No result, too expensive	Needs a child / She left her city also due to social stigma	Secondary	Abortion due to unknown reason	PK + Oral Ayruveda Medicine + *Uttar Basti*	Delivered a male child.	5000-7000	4 months
6	Shushi	Private (for Husband's t/t only	2 months	10000	Due to financial problem	Needs a child	Primary	No history but husband was oligospermic	PK procedure to strengthen her body, Husband was given *Uttar basti*	Female child	15000	18 months
7	Sudha	No previous t/t	NA	NA	NA	Needs only a male child	Primary , Husband azoospermic	Low AMH, tubal blockage	PK + AID 4 times	Left the t/t (husband refused	50000-60000	2 yrs

s.no.	**Pseudo name**	**Earlier taken t/t**	**Duration of previous t/t (in years)**	**Approx cost of previous t/t**	**Reason to leave previous t/t**	**Reason to seek treatment**	**Type of infertility**	**Previous obst. history**	**Treatment given at RAPACH**	**Result of treatment**	**Approx expenditure @ RAPACH**	**Duration of t/t @ RAPACH**
										for further t/t)		
8	Surya kiran	Many places	3 yrs	Approx-80000	No positive results, side effects	Needs a child	Secondary	Abortion of first conception, now PCOS	PK Including *uttarBasti*	Conceived Ambivalent towards t/t	ND	5-6 months
9	Avani	Private	2.5	3 lacs	No positive result, suggested for operation with no guarantee	Needs a male child	Secondary	Abortion of first conception, now Tubal blockage	PK Including *uttarBasti*	Female child	20000	1 yr
10	Barvi $	Private consultation only but not opted IVF there	6 months	ND	Got no result.	Needs a male child as already have two daughters from first marriage	Secondary	Abortion and now uterine fibroid/ Husband not able to ejaculate	PK procedure for 3 cycles	No result here, Recommended for IVF as Husband refused for *Uttar basti*	Left t/t	1Yr
11	Jayanti	Private, 5 cycles of IVF	5-6 yrs	5-6 lacs	No positive results, side effects	Needs a child	Secondary	Not confirmed	*Uttar Basti*	Adopted a child in Jan-2017	5000	2 yrs
12	Poornima	Never taken any t/t before	NA	NA	NA	Needs a child	Secondary	Abortion due to TORCH infection	PK followed by IUI twice	Female child	15000-20000	2.5 yrs
13	Uchitra	Private	ND	ND	Financial crisis	Needs a child	Primary	PCOD	PK + Oral Ayruveda Medicine	Under t/t (no contact now)	3000-4000	NA
14	Salma	Private	2 yrs	ND	Financial constrains and no positive result	Needs a child	Secondary	tubal blockage, Lt. ovarian cyst, TORCH	PK + *Uttar Basti* + Oral Ayruveda Medicine	Under t/t (no contact now)	15000	NA
15	Nehal	Private, various surgical procedures	10 yrs	In lacs	No results	Needs a child	Secondary	Ovarian cyst	PK Including *uttarBasti*	Under t/t (no contact now)	ND	NA

s.no.	**Pseudo name**	**Earlier taken t/t**	**Duration of previous t/t (in years)**	**Approx cost of previous t/t**	**Reason to leave previous t/t**	**Reason to seek treatment**	**Type of infertility**	**Previous obst. history**	**Treatment given at RAPACH**	**Result of treatment**	**Approx expenditure @ RAPACH**	**Duration of t/t @ RAPACH**
16	Saba	ND	ND	ND	ND	Needs a male child	Primary	Ovarian cyst with Irregular menses	*Basti karma* followed by *Uttar basti*	Under t/t (no contact now)	ND	NA
17	Reshma	Private	ND	ND	No positive result	Needs a male child	Secondary (already having a female child)	TORCH, repeated abortions	PK + Oral Ayruveda Medicine	Female child	ND	1 yr
18	Archi	Private/ public hospitals etc	10	Can't calculate	No result and too expensive	Needs a child	Primary	Unovulatory cycle/(husband was azoospermic)	PK + Oral Ayruveda Medicine + *uttarBasti*	Left t/t	NA	NA
19	Sunayana	Various clinics	5 yrs	ND	Left t/t due to financial constrains	Needs a male child	Secondary	Abortions, PCOS with unovulatory cycles	PK + Oral Ayruveda Medicine	Ovulation started	ND	5-6 months
20	Chavani	ND	ND	ND	Financial crisis with no support	Needs a male child	Primary	Unexplained cause	PK + Oral Ayruveda Medicine + *Uttar Basti*	Left t/t	NA	NA

$ a case of second marriage.

ND- Not Disclosed

NA- Not Applicable

CHECK LIST

- Name-
- Gender
- Place of origin
- Presently living
- Religion
- Cast
- Age
- Spouse age
- Age at the time of marriage
- Age at the time of marriage of spouse
- Occupation
- Nature of job
- Monthly income
- Languages you can read and write-
- Spouse Occupation-
- Nature of job-
- Monthly income-
- Languages you can read and write-
- Type of house-
- No. of vehicles- Gadgets-
- Educational qualification
- Spouse Educational qualification-
- Earlier taken treatment from other place-
- Since when coming to this hospital

- What was your complaint?
- Who gave reference of this hospital?
- How much cost it take to come to hospital
- How much cost it takes to take treatment from this hospital
- Medical history.
- Diagnosis
- Investigations
- Approximately how much you spend on treatment-
- Diet-
- Any addiction- smoking , drinking
- Treatment
- Experience of previous treatment
- Experience of present treatment