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EFFECT OF LIFE STYLE ON FERTILITY

Dr. Sarita Mishra*

Declaration

The Declaration of the author for publication of Research Paper in The Indian Journal of Research Anvikshiki ISSN 0973-9777 Bimonthly International Journal of all Research: I, *Sarita Mishra* the author of the research paper entitled EFFECT OF LIFE STYLE ON FERTILITY declare that, I take the responsibility of the content and material of my paper as I myself have written it and also have read the manuscript of my paper carefully. Also, I hereby give my consent to publish my paper in Anvikshiki journal, This research paper is my original work and no part of it or it's similar version is published or has been sent for publication anywhere else. I authorise the Editorial Board of the Journal to modify and edit the manuscript. I also give my consent to the Editor of Anvikshiki Journal to own the copyright of my research paper.

Abstract

Changing life style having effect on various factors i.e. Age of marriage, physiological factor, psychological factor, food habits that have their effect on reproductive system and fertility.

Good reproductive health cannot be attained by a single pathy approach in present era. Now a day's various modern tools and technology are in use to detect any abnormality or diseases related to reproductive health but still in modern medical science there is lacuna about the basic concept i.e. how to promote reproductive health and fertility. There are concepts in Ayurveda, related to maintain and promote fertility and good reproductive health of the person, in reference to:Age ,Physical status, Mental Status ,Diet ,Life style.

Key words: Fertility, Reproductive Health, Ayurveda, Life style

Introduction

In present scenario where professionalization in work is the criteria to get success in once field. Everybody wants to become an efficient multi tasker or one can say a perfect professionalist and the person become too busy to get this target, in that situation one cannot able to demarket that this busy life style implies stress to his body. Stress can be helpful and motivating factor to some degree but substantial evidence shows that chronic exposure to high stress prompts the body to release some hormone called stress hormone like glucocorticoids, which can potentially damage several body system including reproductive system.

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EFFECT OF LIFE STYLE ON FERTILITY

Problems of infertility in gaining assess in couples having high professional carrier :

- § One out of six couple have infertility challenge
- § Life style choices may contribute to their infertility
- § Professional attitude about education and carrier leads to postponement of age of marriage and defer child bearing.

Most of person are not aware of about consequences of this busy professional life style on his life and most of health care professionals are also not giving due importance to council people about effect and consequences of life style for their fertility and infertility, they are only focussing on medication.

Ayurveda is a complete life science; its main aim is "to protect health of healthy person and secondarily to cure the person if he becomes ill". Factors that are responsible for maintainence of fertility are very well explained in *Ayurveda*. Proper *garbhadhan* takes place when body is fully prepare to accept embryo, and for that our *Acharyas* have given concept of *Ritu, Kshetra, Beeja* and *Ambu*, when all four factors are in their optimal condition, a good nidation of embryo takes place and give good health to mother as well as foetus^{1,2,3,4}. Factors having effect on fertility are very well explained in Ayurveda i.e.

 $Age^{5.6.7}$ - According to *Ayurveda* male at the age of Twenty five and the female at the age of sixteen are fully mature, hence they should attempt for achievement of conception.

Acharyas have also advised that very young or old woman should not be impregnanated.

Concept behind of age of conception is that body of both partner should be in the state that form *beeja* having good quality.

Modern physiology also explains that as the age advances quality of sperm and ovum get affect. fertility declines due to normal age related changes that occur in ovaries. A woman in born with all the eggs containing follicles in his ovaries that she will ever have. At birth there are about one million follicles, by puberty that number will have dropped to about 300,000. Of the follicle remaining at puberty, only about 300 will be ovulated during the reproductive years.

A woman's best reproductive years are in her 20s. Fertility gradually declines in the 30s, particularly after age of 35. Each month that she tries, a healthy fertile 30 years old woman has a 20% chance of getting pregnant. The women do not remain fertile until menopause. The age related loss of female fertility happens because both quality and quantity of eggs gradually declines.

Unlike the early fertility decline seen in women, a man's decrease in sperm characteristics much later. Sperm quality deteriorates somewhat as men get older.

In mid to late 30s women become less likely to become pregnant and more likely to have miscarriage because egg quality decreases as the number of remaining egg dwindle in number. An important change in egg quality is the frequency of genetic abnormalities called anueploidy (too many or too few chromosomes in the egg), if fertilization occurs, the embryo also have chromosomal abnormalities. Most embryos with chromosomal abnormalities do not result in pregnancy at all or result in miscarriage.

Physiological factors 8,9

Effect of physical and mental status of couple has been explained very elaborately in Ayurveda.

Woman should not be too young or too old, woman should not be too hungry, thirsty or having done over eating.

Woman should not be frightened, avers, sorrow-stricken, angry, loving some one else, having absence as excessive desire for sex.

Woman should not be too fatty or too thin, should not be chronically ill or suffering from gynaecological disorder. obesity as major cause of infertility^{10,11}.

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Women should be well nourished. Metabolic and nutritional disturbances causes physiological stress and have effect an reproductive system. Under nutrition results in a compromised reproductive function. There are several nutritional stress factors i.e.

- § Altered body fat ratio
- § Weight loss
- § Nutrient deficiency
- § Eating disorder
- § The factor which regulate metabolic stress in body are- Decreases GnRH secretion effects pituitary secretion that results- Decreased LH & FSH (ovarian hormone) secretion,Decreased ovarian stimulation,Decreases oestrogens production ¹²
- § Stress disrupts pulsatile GnRH secretion
- § Neuro-hormonal axis works to maintain energy balance .Serum glucose and insulin provide feedback to the brain regarding fuel availability.
- § Thyroid axis is responsible for adjusting based metabolic rate¹³.
- § The GnRH (hormone that stimulates Gonads) pulse is very sensitive to stress and metabolic factors.
- § GnRH pulse is highly sensitive to insult i.e. Weight loss ,Decreased energy availability ,Altered body fat ratio
- § Another condition that is related to metabolic and psychogenic stress is functional hypothalamic Amenorrhoea (FHA). In FHA women there is no significant change in serum glucose level because elevated cortisol caused other energy sources to be converted into glucose¹⁴.

In FHA women there is reduced secretion of GnRH, LH, FSH & increased secretion of Cortisol, Growth Hormone.

Women suffering from any chronic illness i.e. Hypertension, Diabetes, Thyroid disorder, Gynecological infection have affect on fertility of women. It is very scientific vision of *Ayurveda* that apart from diet and drug psychology of couple has been given first importance¹⁵.

Modern physiology has also started accepting that stress is major cause of infertility and pregnancy related complication.

Stress has its effect on various level in male and females infertility along with effect during preconceptional period, pregnancy period and postpartum period.

Physical and mental stress in expressed in our body in form of oxidative stress. Oxidative stress affects the quality of gamete and the way in which they interact. Free radical such as reactive oxygen species (ROS) influences oocytes, spermatozoa, embryo and their environment. The microenvironment associated with follicular fluid, hydrosalpangeal fluid and peritoneal fluid have a direct bearing on oocytes quality, sperm oocyte interaction, sperm mediated occyte activation, implantation and early embryo development. Free radicals further acts through the modulation of gene expression and transcription factor¹⁶.

Stress and fertility

Expression of endothelial and inducible Nitrous oxide synthase (eNos and iNOS) has been demonstrated in its human endometrium¹⁷ and in endometrial vessels¹⁸. Endothelial NO synthase, originally identified in vascular endothelial cell, is also distributed in glandular surface epithelial cells in the human endometrium.

Oxidative stress affects both natural and assisted fertility¹⁹. Oxidative stress biomarker has been found in various site in the female reproductive tract, suggesting their role in various physiological function.

A number of studies have evaluated the role of OS in tubal factor infertility, endometriosis and peritoneal factor infertility^{20, 21, 22, 23, 24, 25, 26}).

Conclusion

Increasing stress and increasing age of marriage disturbs hormonal balance of body with increase level of oxidative stress, which produces various types of toxins in body that affects fertility in form of- Physiological changes of reproductive organ, Quality of sperm and ovum, Problem related to infertility and pregnancy

In Ayurveda calmness has been considered as best factor for conception .Sceintefic description about physical and mental stress that affects body in the form of infertility is given in Ayurveda.

So by giving proper consideration to point that have effect on fertility and take care of stress one can get good reproductive health and fertility.

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