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CRITICAL APPRAISAL OF AYURVEDA PUNSAVANA KARMA

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Abstract: Male sex organs develop in embryos with XY chromosomes, while female sex organs develop in embryos with XX, means the sperm determines a baby's sex! The maternal influence on this is almost unheard. Objective of the review is to find out the maternal influence by Pumsavana Karma on determining the fetal sex. Ayurveda-textbooks, related research articles were critically reviewed and data were gathered. Maternal influence on personality, hormonal statuses, blood pressure, genital status, psychological and behavioral effects of fetus, were described both ayurveda and modern in similar pattern. Maternal Follicular-testosterone levels were found relationship with offspring sex; higher levels are associated with violent/dominant mothers who are having more male offspring. Some herbs are found anabolic, steroid positive and produce testosterone to give birth to son. Women with a male fetus have slightly high TSH levels and a high upper limit of the first-trimester TSH reference range. Females with high-corticosteroids produced more daughters. Nasya, one of the Pumsavana methods stimulates the pituitary glands to regulate hormonal production. Mothers with high systolic blood

pressure reported to have high chances of male offspring. During Marsha Nasya, temporary increase in blood pressure is observed. Swimming behavior and selective entry of sperm into genitalia helped explain the possible mechanisms of sexual selection and found significant relationship between fetal male sex and alkaline vaginal pH, and female sex with acidic pH. Pumsavana mentioned, sperm unites ovum in a clean and healthy genital tract is home to an embryo with desired characters. There's greater spontaneous loss of frail male fetuses in response to societal stressors. Pumsavana has a benefic relationship with maternal psychological health and behaviors. It had being reported Pumsavana Karma can influence the maternal factor on determining the sex of the fetus by several mechanisms. Further, sex determination is highly influenced by the mother.

Keywords: Maternal, offspring, sex determination, Pumsavana Karma

I. INTRODUCTION

Different cultures seem to have the same belief that a mother gives birth to a boy or a girl. In a family where a son is not born, there are instances

where the mother is psychologically oppressed into believing that she is to blame. However, in modern society, this belief has been disproven, and it is now believed that the husband determines whether a daughter or a son will be born. However, in this review, all of the responsibility is placed on the female reproductive system, and the only thing men can do is release sperm into the vagina. The preference for either an X or Y chromosome carrying spermatozoa for fertilization is the result of changes to millions of spermatozoa in the female system, including killing many, lifting, transporting, activating, and permitting for their motility like processes done by female genital tract.

According to the Ayurvedic view; it is possible to give birth to a boy by applying various strategies. The mother has recommended a variety of dietary supplements and medications to be used in this regard. That is, certain changes in the mother's body can change the mother's factors that determine the sex of the baby. The mother's factors determine whether the X chromosome in the ovum is associated with the X chromosome in the sperm or with the Y. This contradicts the widely held belief that the father's male Y chromosome is the sole determinant of the sex of his offspring. Aim of this study was to analyze the Ayurveda Pumsavana karma and find out maternal

influence on offspring sex determination.

II. RESEARCH METHODOLOGY

Literature review was conducted in both ayurveda and modern scientific research articles and Ayurveda Samhitha/text books related to sex determination of an embryo. Google scholar, pub med, Medline were the search engines used with the key word "embryo sex determination". Articles written in English were considered. Ayurveda text books translated to English and some of the Sanskrit books were referred. Collected data were compiled and develop an argument on action of Pumsavana karma on sex determination of embryo.

III. RESULTS AND DISCUSSION

In humans, there is evidence that having sons has a higher physiological cost than having daughters. To maximize reproductive success, parents should manipulate the sex of their offspring born in terms of access to physical resources such as food^[1].

Pumsavana karma is a process described in Ayurveda for producing desired sex progeny^[2]. One of the sixteen rituals which are advised in Ayurveda known as Shodhasha Karmas is Pumsavana. This samskara or treatment can be carried out either before or right after conception. The wise physician acharya Charaka suggests using

genetic engineering to change sex. If mother follows his advice, she will undoubtedly give birth to a boy during her delivery. (Puman Syevyatha Anena Karmana Ithi Pumsavana Karma) the process by which promotes the male embryo is known as Pumsavana. This process is conducted during the first three month of the pregnancy. According to the Ayurvedic view, it is possible to give birth to a boy by applying various strategies. The mother has recommended a variety of dietary supplements and medications to be used in this regard^[2].

Understanding the swimming behavior of X and Y chromosome-bearing spermatozoa in the female genital tract, as well as evidence of selective insertion of spermatozoa in cervical mucus, can help to explain the potential mechanisms of sex determination. The factors affecting the motility of sperms in the genital tract are pH, temperature, viscosity, osmolality, and ions. All this evidence suggests that sexual selection depends on the female sexual environment, which changes throughout the cycle, and therefore, by altering the female reproductive system through the use of foods and drugs administered on specific days of intercourse as mentioned in Ayurvedic texts can contribute to the selection of desired progeny.

The concentration of sperm in semen increases if the coitus is performed on alternate days. More the number of Y-bearing

spermatozoa, the more probability of procuring a male progeny^[3]. The dates indicated for Pumsavana may have a strong influence with this.

Researchers are still interested in finding about the fundamentals of chromosome inheritance, as well as the maternal and paternal factors that influence sex determination. This resulted in a radical shift in our understanding of sex determination, with both parents discovering that they are equally responsible for determining the sex of their offspring. The offspring's gender is determined during the pre-zygotic stage and is determined by natural selection^[4]. Pumsavana advised consuming herbs on the same day that a conception is known to have occurred. She should swallow the remedy, combined with the roots of the Lakshmana (*Ipomoea sepiaria* ROXB), Vata (*Ficus bengalensis* Linn), Sahadevi (*Vernonia Cinerea*), Vivadeva (*Sida veronicaefolia* Lam.), without spitting it out. Women should take rice and milk together for 5 days after taking it. During Pushya Nakshatra, two healthy leaf buds of Vata (*Ficus bengalensis* Linn.), plucked from the tree's Eastern or Northern branches and grown in a cowshed, should be consumed with cow's curd, along with two seeds of black gram and yellow mustard. Similarly, the paste of Jeevaka (*Microstylis musifera*. Ridly./ *Lipas rostrata*. Reld), Rishabhaka (*Microstylis wallichii* Linn./ *Lipas rostrata*. Reld), apamarga (*Achyranthes aspera* Linn.), and Sahachara (*Barleria*

crisata Linn.) grown collectively or individually. One palasha leaf should be consumed with cow's milk. Using sukashimbi root (*Mucuna pruriens* Bek.) or the pulp of Pomegranate or Kapittha fruit (*Feronia elephantum*) or the seeds of Shivalingi (*Bryonia Laciniosa*), pestle with cow's milk definitely gives birth to a male child^[5] and those herbs have been found to be anabolic, steroid positive, and produce testosterone in order to have male offspring.^[6]

Maternal blood pressure before pregnancy is a previously unrecognized factor that may be associated with the likelihood of delivering a boy or girl. Changes in maternal vascular function are needed in early pregnancy to accommodate the increased blood flow required by the foeto-placental unit, maternal blood pressure potentially may be relevant to early placentation in a sex-specific manner. While sex-specific attrition may indeed be the mechanistic basis underlying the current findings, it should be noted that our data cannot differentiate between a lesser capacity of the female fetus to tolerate higher systolic pressures or an inability of the male fetus to tolerate lower pressures^[7]. During Marsha Nasya, which is the therapy performed to Pumsavana karma, a temporary increase in blood pressure was observed. We believe that incensement of blood pressure while performing Nasya may influence this sex specific early placentation.

Maternal TSH level in the first trimester is positively associated with the probability of delivering a male newborn.^[8] Women pregnant with a Male Fetus have slightly higher TSH levels and a maximum upper limit of the first-trimester TSH reference range than women pregnant with a Female Fetus. Females with high corticosteroids produced more daughters than females with low hormone levels^[9] According to the nasya karma mentioned in Charaka samhita Samhita (withing the pushya Nakshatra, the woman should be made to inhale the vapours of a cake that is being baked on fire, and then the mixture should be cast over the door's threshold. This water should then be applied to the woman's right nostril with a stick of cotton) .Pumsavana-Nasya may stimulate the olfactory nerve, simulates the hypothalamus, and acts on the pituitary glands to regulate hormonal production.

Regarding the comparison between acidic and alkaline vaginal pH and fetal sex, there were significant associations between the fetal male sex and alkaline vaginal pH and a significant association between the fetal female sex and acidic vaginal pH^{[10],[11]}. Pumsavana mentioned, sperm unites the ovum in a clean and healthy genital tract and is home to an embryo with desired characteristics. The cleanliness produced by Pumsavana procedures may have an effect on the pH balance of the female vagina.

A prospective study was carried out to compare the sex ratios of children born to smoking and nonsmoking mothers in terms of parity. The findings suggest that among women who smoked, primi-gravida women have significantly more male offspring than biparous women, whereas women with parity greater than or equal to 3 have significantly more female offspring; biparous women have significantly more male offspring, but the offspring sex ratio decreases with the number of cigarettes when the mothers smoked more than or equal to 10 cigarettes per day. ^[12] This finding shows that smoking or other health-related behaviors in females can influence gender determination.

The observation that societal stressors like disasters, terrorism, economic collapse ^[13-16] may reduce the proportion of boys born into a population has led to the "culled cohort" theory ^[17] which posits that there is a greater spontaneous loss of frail male fetuses in response to such adverse conditions ^{[18], [19]}. In Pumsawana all the ritual are done in the Pushya nakshastra. It is said to neutralize almost all doshas/fundamental energies of the body or flaws caused by a variety of adverse combinations. Pushya, the supreme constellation, has the ability to overcome negative forces and assets its benefic characteristics. Pushya nakshatra, region, time, and the rituals related to Pumsavana have a benefic

relationship with maternal psychological health and behaviors.

Female mammals, according to evolutionary biologists, can reconfigure the sex ratio of their offspring in response to their maternal condition, such that healthy and well-nourished mammals are more likely to give birth to a male progeny. ^[20] All research results found seem to align well with Ayurvedic concepts.

IV. CONCLUSION

Every human being contains two elements: masculine energy and feminine energy. Pumsavana sanskara may boost the fetus's masculine energy. The mother's factors determine whether the X chromosome in the ovum is associated with the X chromosome in the sperm or with the Y chromosome during fertilization means certain changes in the mother's body can change the mother's factors that determine the sex of the baby. There could be a considerable influence of Pumsavana karma on fetal sex determination. More research in this field is required to scientifically prove this argument.

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