

Failure of Male Contraception: An Insight

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Introduction

Contraception is the answer to the surmounting pressure on ecology and economy caused by rapid population growth. Contraception is decreasing fertility in humans to prevent conception of an offspring. Conceiving and bearing a child is among the most significant aspects of human existence. But limitations of a human body to conceive too many offspring and socio-economic factors constrain having too many children in human societies. That is how the idea of contraception was realized and different modes of contraception were devised to be directed at both males and females. However female contraception continues to be the more popular choice among couples in all human societies. Thus even though, male contraception and male contraceptives have been established years ago, it has not been at the centre-stage which is still occupied by female contraceptives. However the International Conference on Population Development (ICPD) held in 1994 announced the development and promotion of male methods of contraception [1]. Initiatives by the WHO, CONRAD and some other organizations have also focused on this aspect.

In recent years, oral contraceptive pills (OCPs) used by women have been found to increase the risk of cardiovascular diseases [2]. This calls for the increased use of male contraceptives. However, there are certain factors hindering contraceptive use by males. Monetary investments are being made in family planning initiatives and so there is not a dearth in finance. What give a serious setback are the socio-cultural issues associated with male contraception. In a multi-ethnic study by Martin et al. [3], involving white, colored and black male individuals, high acceptability of existent male contraception techniques was observed along with a welcome attitude towards novel hormonal methods in some groups. But lower acceptance and usage was reported in others. This study and many others attributed this variability to cultural background of the subjects besides the methods available.

A contraceptive is a medicine to be taken by a healthy individual. Its popularity depends more on factors that determine an individual's choice. In order to understand the foundation of this choice, we have to decipher the cultural context of contraception and ergo what might have led to the incessant failing of male contraception.

Contraception

Origin and history

Conservative attitudes against the rate of development of new techniques of contraception and their dissemination through societal barriers could not however brush away the idea as a whole. *Coitus interruptus* has been mentioned in the Bible while simple barrier methods of contraception were known to ancient Egyptian civilizations. Some traditional contraceptive strategies included consumption of concoctions, placing contraceptive sponges against the cervix, the infamous block pessary and wishbone intra-cervical pessaries, condoms made from sheep bladder and stem plugs that have the same mechanics as the intrauterine device (IUD) [4]. The history thus bores in it the seeds of a positive attitude towards fertility control that had to go through a long, slow, expensive process but did result in devising new-age contraceptives.

Before the revolution brought about by OCPs contraceptive options were limited to withdrawal, periodic abstinence and/or condoms [5]. Subsequent development of Intra-uterine devices (IUDs) and tubal surgical sterilization shifted the focus on women. After the latter gained popularity the males gradually felt unimportant participating in a service that is female-targeted. Eventually females became the clientele of family planning programmes and contraceptive methods available for women outnumbered those for males. Assumptions like men want more children, do not want to share responsibility of child rearing and averse to contraception, have made them less preferred targets of family planning programmes. But recent surveys have denounced this attitude in men and shown that men are showing increased interest in contraceptive measures and want fewer children to reduce pressure of large families. The partaking of parenting responsibility is observed in all cultures. The currently available techniques are limited. Each has its merits and demerits and is left to the user to have his preferred choice.

Methods

The foremost method of classification of contraceptives is on the basis of the targeted gender and the feasibility of the contraceptive's reversible nature. Non-reversible methods comprise voluntary surgical sterilization in males and females and are the most effective methods due to low failure rate and a prolonged period of protection against pregnancy. It is chosen over other methods to stop constant usage of and investing in contraceptives at regular intervals that costs both time and money. Vasectomy or male sterilization is a simpler technique than female sterilization. The techniques are common and have contributed significantly to reduced fertility rates in developing countries like Thailand and Colombia while they have been available rampantly in countries like USA, Korea and the UK. Vulcanization of rubber in 1844 revamped condoms in the second half of 19th century and made it a popular choice for contraception. Barrier methods of contraception date back to the Egyptian papyrus writings and include cervical and vaginal barriers. They are less effective than other methods and need to be used with a spermicide (sperm-destroying chemicals). Spermicides can also be used alone but might cause irritation to both the partners. Introduction of IUDs marked the innovation in birth control techniques. They appear like large drawing pins that prevent the ascending of sperm through the cervix. Although it bestows with a long-term and easily reversible protection, associated side-effects like cervical infections made it a less preferred alternative. Some hormone combined IUDs have also been introduced. Female hormonal contraceptives have been invariably the method of choice among different cultures owing to the

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ease of usage. Male hormonal contraceptives are still in the clinical trials stages undergoing stringent scrutiny due to the negative effects of oral contraceptive pills (OCPs) on cardiovascular health in women.

Theory of male contraception

Since male contraceptives have to compete with female contraceptive methods that dominate the field, the acceptance of the practice is dependent on a number of factors for comparison with the female methods. These factors can be classified as technical, economic and cultural. The technical areas that need to be addressed have to do with effectiveness, onset of action, absence of side-effects to the user and progeny, reversibility. In addition, the male contraceptive options would be more preferred if they do not impose financial burden on the user and are easily available. The mechanism of action of male contraceptives is prevention of sperm transport into the female genital tract, suppressing spermatogenesis (generation of sperm) and prevention of sperm maturation or function. The at hand options, i.e. periodic abstinence, coitus interruptus, condoms and vasectomy act by the first mechanism. The former three techniques are relatively unsafe and vasectomy has limited reversibility. This led to the emergence of classes of drugs termed male hormonal contraceptives comprising androgens, androgens combined with GnRH (gonadotropin releasing hormone) analogues and androgens plus gestagens that act by altering hormonal physiology. Alternatively chemical approaches and mechanical approaches are also being worked on to produce non-functional spermatozoa. However, most of these approaches are still in the initial stages of research.

Why is male contraception needed?

The contraceptive preference of couples varies with the kind of relationship they share, motive behind contraception and age. The currently available methods of contraception, in general, are not adequate to meet the needs of couples in widely different geographical, cultural and religious set ups. The deficiency faced by the male methods is also a great obstacle to the greater involvement of men in family planning. Increased sensitization of gender issues and importance of improved reproductive health, realized the need of an equitable share in contraceptive responsibility. The burden of contraception on the female partner could be reduced by increased availability of novel and acceptable male contraceptive methods alongside the traditional ones.

Limiting factors of male contraception

Men's approval of family planning has not transformed into an active male role in family planning [3]. The causes are numerous and multifaceted, contraception being targeted at varied cultures. The more important ones are outcomes of the following:

Religious affiliation: A religious penal code was enforced in Costa Rica in 1968 to punish anyone who caused a permanent injury to a person's reproductive organs that results in a failure in conception.

Partner's approval: Contraceptive failure resulting in conception is a brunt taken by women. This often raises a question, whether women are willing to trust their partner's to take contraceptives reliably. However a multi-centered study on populations of different ethnicities had only a few female respondents believed 'male pill' to be a bad idea [6].

Nature of medical procedure: The only medical procedure for male contraception is sterilization. Being surgical in nature it instills fear in some men.

Side-effects: Most men fear the loss of virility, impairment of libido and sexual performance as a result of sterilization. Some feel using condoms would result in sexual dissatisfaction or allergic reactions.

Accessibility: Sterilization procedure requires a trained professional and can be carried out in a hospital or health centre with a specialist. Men in remote areas (who already have other reasons to not!!) find it difficult and expensive to commute. Here, inaccessibility to information on male methods is also worth mentioning. Health workers involved in family planning programmes concentrate mostly on the women clientele and men's participation is thus limited. Lack of access to complete information on contraceptives may lead to inefficient usage and pre-conceived notions among men that prevent them from using these methods.

Acceptability of present methods: The most common reason of failure of condoms is its less preferred usage due to a high failure rate associated with it. Sterilization is also less chosen due to its irreversibility.

Cost: Condom production lacks subsidies which make it less affordable and with cheaper oral pills in competition further adds to less demand.

Reversibility: Sterilization is the only cheaper alternative to difficult to use and expensive condoms but its irreversibility makes it less wanted.

Gender-based culture norms and values implanted in various societies are also precursor to misinformation. We take the example of *Santal* tribe of Odisha state in India which is the third largest tribal community in the country. They used to be a nomadic tribe in the past but now are settled agriculturalists. For health care, similar to many tribal communities they follow local healing practices linked with magic. But we found Santals to be aware of family planning methods and this is supported by previous study on this tribe [7]. In one of our field works among *Santal* tribe, men were unwilling to undergo sterilization for they felt it might reduce their performance doing physical labor. In *Santals*, some older men believed the younger men cannot perform the religious rituals if they are sterilized. Women who are already devoid of performing such rituals during the initial days of menstrual cycle and do not hold the position of a *pujari* (priest), should rather undergo sterilization.

Conclusion

Family planning is an answer to population control and its success would solve ecological and economic problems stemming from population explosion. Male contraception needs promotion as much as the other components of family planning and it need be targeted at individual perceptions and personal needs. Oudshoorn in her book *The Male Pill* [8] suggests that changes need to be incorporated in the social and technical networks surrounding contraceptive technologies to change the relationship between these technologies and men's social identity. This would result in change of the contraceptive discourse to accommodate men. Young men face particularly tough societal pressures that prevent them from inquiring about reproductive health and availing services offered by family planning programmes. It can be suggested here that participation of community members to develop is a good alternative. The marginalized understand their needs better than health workers. So letting the people analyze their problems and choices and then negotiating to formulate tailor-made programs for them will be beneficial. Some multicultural studies have shown male contraceptives to be an agreeable option for both men and women. And so the proportion of men practicing contraception

is increasing. Minimal invasive alternatives to sterilization are making it more acceptable. Men are increasingly reevaluating their manhood that hitherto used to be having more children. The contraception responsibility now rests on policy-makers in business and politics. Nieschlag, who is among a handful of brave researchers enduring the less popular field of male contraception aptly comments:

“Male contraception lacks prominent advocates, whereas the development of female contraception benefited from personalities such as Margaret Sanger (1879–1966) and Katherine McCormick (1875–1967). Were Arnold Schwarzenegger or Barack Obama to advocate male contraception, it would become a marketable entity in no time!” [9].

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