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A longitudinal cross-sectional study on awareness of contraception

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ABSTRACT

Introduction: Contraception is a method or a way to stop or prevent pregnancy. Since from ancient times birth control has its prevalence but the safest and most efficient methods of contraception was only introduced in 20th century. An ideal contraceptive is considered when it is user-friendly, effective and reversible with less or zero side effects and lesser adverse complications and more importantly one which is easily available. There are wide range of contraception or birth control methods currently available which includes traditional methods, barriers, oral contraceptives pills (OCP), implants, Intra Uterine Devices (IUDs) and Surgical methods along with injectable. The United States Center for Disease Control and Prevention jointly with World Health Organization has provided with guidelines on the safety of contraception for women with specific medical condition. According to another report documented by World Health organization, which stated that most effective and safest methods of contraception is sterilization by means of vasectomy in males and in cases of females by means of tubal ligation, intra uterine devices and implantable birth control. This data of safest birth control method also includes vaginal rings, oral pills, patches and injections. World Health Organization Department of Reproductive Health and Research has also stated that less effective methods includes physical barriers & spermicide and the least effective methods of contraception is traditional or natural method.

Materials and Methods: A longitudinal cross-sectional study was conducted in the Department of Obstetrics and Gynecology at Gyan Sagar Medical College and Hospital in Punjab, India. Ethical approval was taken from the committee before commencing of this study.

Objectives: To determine the prevalence of awareness of Contraception and to determine the most commonly used contraceptive method among subjects.

Conclusion: We hereby conclude our longitudinal cross-sectional study by indicating the fact that prevalence of awareness of contraception is higher in urban and educated classes of our society. We thereby wanted to spread one message through our study so that special initiative on birth control method should be mandated by Government in various medical colleges and hospitals in India to create awareness in rural sections and interior villages, social awareness of safe sexual practice could be spread each and every section of our country because contraception does not only prevent pregnancy it also protects the mankind and save one's life from HIV and other sexually transmitted infections. As is always quoted correctly that "Prevention is better than cure".

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1. Introduction

From our last century, humanity has witnessed immense development in various fields which significantly have improved the quality of lifestyle of our society. However,

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with improved and increased in quality health facilities along with better living conditions had a striving impact on the growth of the population. In 1900, world population which was recorded around 2 billions, increased to 6 billion by the end of 2000 and now rocketed to 8 billion on November 15th 2022 recorded and documented by United Nations.¹

It has also been documented that rapid decline in death rate, Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR) along with increase in reproducible age group people have been a probable reason for this increase. With such increase in alarming growth rate, government was compelled and forced to take up serious measures and initiative to prevent and check the population growth. Persistent increase in growth rate is hazardous for any country across the world as it could lead to an absolute scarcity of basic requirements such as foods, shelter, clothing and hygiene which are basic essentials to sustain life. The very first initiative which was taken was to overcome this problem by motivation of contraception.

2. Materials and Methods

A longitudinal cross-sectional study was conducted in the Department of Obstetrics and Gynecology at Gyan Sagar Medical College and Hospital in Punjab, India. Ethical approval was taken from the committee before commencing of this study.

2.1. Case selection

Total of 500 candidates were selected for the study who attended the OPD.

2.2. Inclusion criteria

All women between 18-48 years of age group attending gynecological OPD who were willing to participate in the study were included.

2.3. Exclusion criteria

Individual with postmenopausal patients, hysterectomised patients and those who are not willing to participate in the study and not falling in this age group were excluded for the study.

2.4. Objective of the Study

1. For estimation of prevalence of awareness about contraception.
2. For determining the most commonly used contraceptive method.

Out of 500 individuals, all those who fulfilled the inclusion and exclusion criteria were enrolled for evaluation of study.

3. Observation

A total of 500 cases were studied and observed thoroughly.

Out of 500 individuals, all those who fulfilled the inclusion and exclusion criteria were selected for evaluation of study. They were further divided into three categories based on their evaluation criterion.

1. On basis of age of individuals they were categorized in three sub groups which are followed as :-
 - (a) Group A1 – Individuals with age group 18-25
 - (b) Group B1 – Individuals with age group 26-35
 - (c) Group C1 – Individuals with age group > 36
2. On the basis of education they were categorized in three sub groups which are followed as :-
 - (a) Group A2 – Individuals who attained primary education.
 - (b) Group B2 – Individuals who attained secondary education.
 - (c) Group C2 – Individuals who attained graduate and postgraduate educations.
3. On the basis of their residence, subjects were categorized in two sub groups which are followed as :-
 - (a) Group A3 – Urban
 - (b) Group B3 – Rural

The observation of the studies are followed respectively:-

3.1. Objective 1- To determine the prevalence of awareness of contraception

Based on our systematic analysis we derive that out of 500 cases, the prevalence of awareness about contraception was found to very high in Group B1, Group B2, Group A3. This was followed by Group C1, Group C2 and Group B3. The least aware group includes Group A2 and Group A1.

3.2. Objective 2 – To determine the most commonly used contraceptive method among subjects

We further surveyed, analyzed and observed and completed our investigation on which is the most common contraceptive method among 500 cases. We inferred that oral contraceptive method has the highest prevalence as compared to all other birth control methods.

4. Discussion

4.1. What is contraception?

Contraception is a method or a way to stop or prevent pregnancy. Since from ancient times birth control has its prevalence but the safest and most efficient methods of contraception was only introduced in 20th century.²

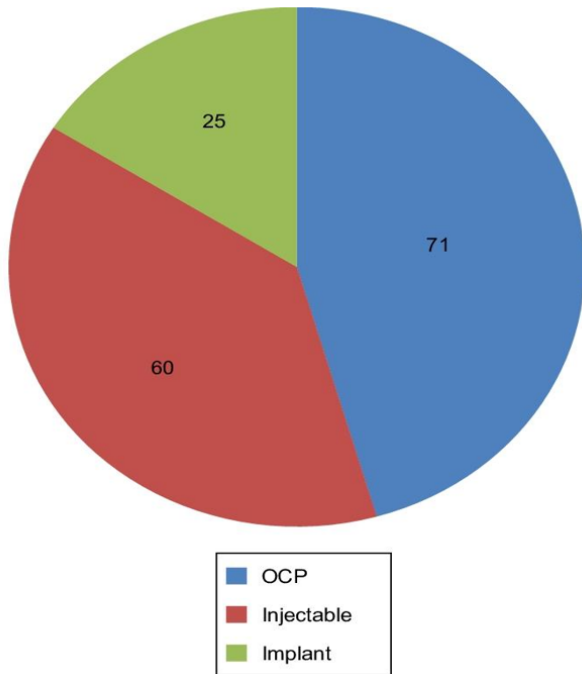


Fig. 1: Oral contraceptive pill (OCP) indicates the highest application among other contraceptive methods

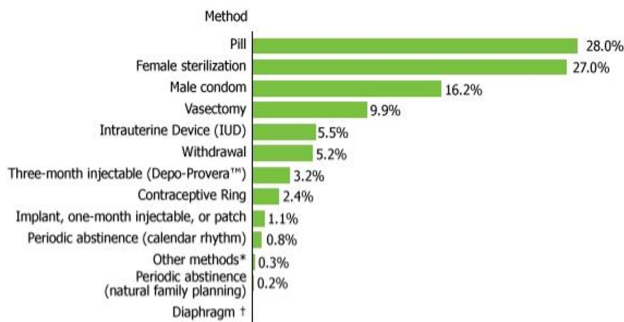


Fig. 2: Graph indicating the highest percentile covered by OCP among other birth control methods

An ideal contraceptive is considered when it is user-friendly, effective and reversible with less or zero side effects and lesser adverse complications and more importantly one which is easily available. There are wide range of contraception or birth control methods currently available which includes traditional methods, barriers, oral contraceptives pills (OCP), implants, intra Uterine Devices (IUDs) and Surgical methods along with injectable. The United States Center for Disease Control and Prevention jointly with World Health Organization has provided with guidelines on the safety of contraception for women with specific medical condition.³ According to another report documented by World Health organization, which stated

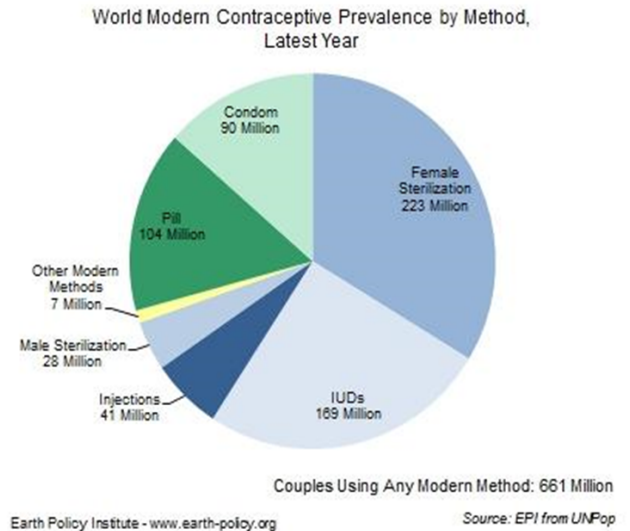


Fig. 3: Source: <http://www.earth-policy.org/mobile/releases/highlights26>

that most effective and safest methods of contraception is sterilization by means of vasectomy in males and in cases of females by means of tubal ligation, intra uterine devices and implantable birth control.⁴ This data of safest birth control method also includes vaginal rings, oral pills, patches and injections. World Health Organization Department of Reproductive Health and Research has also stated that less effective methods includes physical barriers & spermicide and the least effective methods of contraception is traditional or natural method.

4.2. What are the various methods of contraception?

There are a wide range of contraceptive methods which are presently available and this range could be further categorized in traditional or natural method, implants, oral contraceptives, intra uterine devices, physical barriers and surgical method.

4.2.1. Traditional method

Natural or traditional method is such a method of contraception to prevent pregnancy without the application of medication or any surgical or physical methods. It works on the main principle of avoiding the chances of sperm and ovum meeting from each other by natural means.

Periodic abstinence is one such traditional method in which couples abstain from coitus from day 10 to 17 of the menstrual cycle when the chances of ovulation are very high because chances of fertilization are pretty high during this period as it is termed as the most fertile period.

Another traditional method is Withdrawal method also known as Pullout method is a form of birth control in which male partner takes their penis out of female vagina

just before they ejaculate so that fewer sperms gets inside to avoid insemination. According to one study conducted by Web MD, Withdrawal method is very less reliable to prevent pregnancy as it works 78% of the time, which further implicates that over a year using pullout method 22 out of 100 women (1 in 5) would get pregnant.⁵

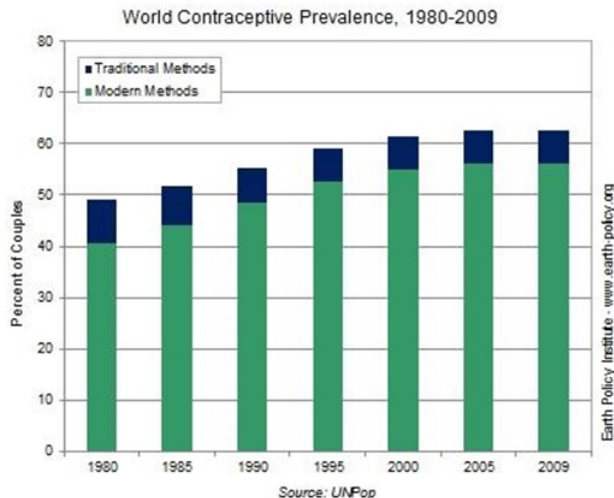


Fig. 4: Source: <http://www.earth-policy.org/mobile/releases/highlights26>

4.2.2. Barrier method

Barrier method is that form of contraception which acts as a barrier in which ovum and men's sperm are prevented from physical meeting. It also have very vital role to protect an individual against sexually transmitted infections (STI). Barrier method mostly includes the diaphragm, male and female condom, cervical cap and vaults. The most common advantage of barrier method is that it does not affect woman's or men's future fertility, they are also very less expensive than other hormonal methods of birth control. Some barrier methods are also over the counter available which does not require any prescription or experts assistance to insert. Barrier method doesn't affect other health conditions such as high blood pressure or diabetes. The disadvantage associated with barrier methods mostly include developing allergies while its application.⁶

Condoms acts as a physical barrier method which prevents sperm from entering the uterus and reaching the egg to avoid insemination. There are two types of condom for both male and female. Male condoms are made of thin rubber latex sheet which are used to cover the penis just before the intercourse so that the ejaculated semen would not enter into the female reproductive tract. It has also been reported that latex and polyethelene condoms has provided the best protection against many sexually transmitted diseases including HIV too. Female condom is a thin plastic pouch which is held in place by a closer inner

ring at cervix and outer ring at the opening of vagina. Both male and female condoms are user-friendly, disposable and can be self inserted thereby enhancing the self privacy . In our modern times the use of condom has increased due to its additional benefits as protection against STI's and AIDS. Diaphragm is a small dome shape device mostly compose of latex which covers the cervix after fitting in vagina. Unlike condoms, diaphragms does not provide protection to it's user against any sexually transmitted diseases. Cervical cap are those barriers which are small plastic dome like structure which fits tightly over the cervix and stays on site with application of suction. It has similarities with diaphragm as both could not protect user against sexually transmitted infections. Spermicidal creams, jellies and foams are used along with these barriers to increase the efficiency of contraceptive method.

4.2.3. Surgical methods

Surgical method of contraception also known as Sterilization is a permanent method of birth control to prevent any more pregnancies. In certain cases we observed that sterilization could be reversed, but 100% success of such cases is not guaranteed. Surgical intervention acts on the principle of blockage of gametes transport and thereby preventing conception. In cases of males, sterilization or surgical intervention is known as Vasectomy. A vasectomy is usually performed by a general surgeon or urologist under local anesthesia in which a small part of vas difference is removed or even tied up through making a small incision on the scrotum. In cases of females, Sterilization procedure is known as Tubectomy, where small part of fallopian tube is removed or could be tied through a small incision in vagina or abdomen in certain cases. This techniques of contraception are known to be highly effective. The major disadvantage associated with procedures, reversibility is very poor in cases of sterilization.

4.2.4. Intra uterine devices (IUDs)

Another very popular method of contraception is application of intrauterine devices IUDs. These are mostly small T shaped contraceptive devices inserted by only doctors are trained nurses in uterus through vagina to prevent pregnancy. According to Winner B, he stated that intrauterine devices are one form of long acting reversible birth control (IARC).⁷ IUDs are found to be very safe and effective among its users.⁸ IUDs are presently available in three forms which includes copper releasing IUD, non medicated IUD and hormone releasing IUD. IUD's are known to be ideal contraceptive for those female who wanted to delay pregnancy. In India, IUD is the most widely accepted method of birth control according to some survey. However according to some experts the major setback for IUD's often include that it does not provide any protection or immunity against sexually transmitted

infections and AIDS. Menorrhagia is the most frequent complaint observed after the use of IUD's which are the major reason for its discontinuation in some of its users.

4.2.5. Oral contraceptives

Oral administration of small doses of either progesterone or combination of progesterone- estrogen is another very effective means of birth control method to avoid unwanted pregnancy. The most commonly prescribed pill is the combined progesterone and estrogen hormonal pill. Oral contraceptive pill have found to provide 99% effectiveness in terms of preventing pregnancy. The most common disadvantage observed was increasing blood pressure in its users, not protecting or providing immunity against sexually transmitted infections, blood clots or even breast cancer in certain cases.⁹

We hereby end our discussion by stating the fact that people must be aware of all the available contraceptive methods and choices. In cases of rape or casual unprotected intercourse, administration of oral contraceptive or intrauterine devices within 72 hours of intercourse has been found to be very effective and reliable thus it is considered as an Emergency contraceptive.

5. Conclusion

We hereby conclude our longitudinal cross-sectional study by indicating the fact that prevalence of awareness of contraception is higher in urban and educated classes of our society. We thereby wanted to spread one message through our study so that special initiative on birth control method should be mandated by Government in various medical colleges and hospitals in India to create awareness in rural sections and interior villages, social awareness of safe sexual practice could be spread each and every section of our country because contraception does not only prevent pregnancy it also protects the mankind and save one's life from HIV and other sexually transmitted infections. As is always quoted correctly that "Prevention is better than cure".

6. Source of Funding

None.

7. Conflict of Interest

None.

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