Section: Obstetrics and Gynecology

Original Research Article

# STUDY OF ACCEPTANCE AND SIDE EFFECTS OF VARIOUS MODALITIES OF CONTRACEPTIVE METHODS AMONG WOMEN ATTENDING TERTIARY CARE HOSPITAL

**K Shirisha[1], Jeruha Kadium[2], M.Soumya[3]**

[1]Assistant Professor, Department of Obstetrics and Gynecology, Government Medical College, Wanaparthy, India.
[2]Associate Professor, Department of Obstetrics and Gynecology, Government Medical College, Wanaparthy, India.
[3]Associate Professor, Department of Obstetrics and Gynecology, Government Medical College, Nagarkurnool, India

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Corresponding Author:
**Dr. M. Soumya,**
Email: drsowmya234m@gmail.com

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## ABSTRACT

**Background: Aims:** To the awareness and acceptance of various contraceptive methods and various modalities of contraceptive methods accepted by primipara and multipara. **Materials and Materials:** This is a cross sectional study done to know about the awareness, acceptance and side effects associated with the use of contraceptive methods among reproductive age women by framing questionnaire to the women and by follow up the same women for six weeks to know the side effects. **Result:** The study assessed contraceptive awareness and acceptance among 100 women aged 20–35 years, with 98% aware of at least one method, mainly condoms and female sterilization. Healthcare providers were the primary source of information. Post-counseling, 78% showed a positive attitude toward contraception, with DMPA preferred by primiparous and tubectomy by multiparous women. Common side effects included spotting with DMPA and menstrual issues with IUCDs. No post-tubectomy complications were observed. **Conclusion:** Counseling significantly improved acceptance, particularly among primiparous women. Method choice varied by parity, with DMPA favored by primiparous and tubectomy by multiparous women.

## INTRODUCTION

Contraception is one of the proximate determinants of fertility and most important predictor of fertility transition. Family planning indicates effort done by couple to limit or space the number of children by usage of contraception methods. It deals with reproductive health of women, acquiring adequate birth spacing, avoiding unwanted pregnancies and abortions, improving the quality of life of both mother and foetus as well as family.[1] Some contraceptives also help in preventing STD (Sexually Transmitted Diseases). Contraception helps to avoid pregnancy by interrupting either by zygote formation or by preventing implantation. Contraception refers to prevention of pregnancy, contraceptive methods refers to the methods that help the mother to avoid getting pregnant.

India is the second most populated country in the world. Uncontrolled population is the important factor that has negative impact on national development. Though India was the first country to implement a national population control programme in 1952, is unable to achieve the significant fall in estimated birth rate.[2] The programme has targeted eligible couple to control population.

Population control refers to the practice used to limit the growth in number of population. Various measures under practice to control population explosion are

Economic measures include rapid industrial development, agricultural development, more employment opportunities, improving standards of living, urbanisation, where as social measures include minimum age of marriage should be increased, raising the status of women, spread of education, adoption, change in social outlook etc.

Contraceptive advice in postpartum period is a component of good preventive health care of mother. It is necessary to stabilize the population and to conserve the natural resources for future generations. An ideal contraceptive method should be fitting to individuals' personnel, social and medical factors. Education status of both husband and wife, socio economic status plays an important role in accepting contraception methods.[3] So, understanding the women's and also family attitude and knowledge of contraception is necessary. A lack of knowledge of


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contraceptive methods, source of supply, cost or poor accessibility are some of the factors that impact the usage of contraceptive methods in developing countries.[4]

Health care providers represent important bridge between general population to impact knowledge of contraception as most of the women visit hospital during antenatal and postnatal period. This study is done to know the knowledge and acceptance of various contraceptive methods in our locality.

## MATERIALS AND METHODS

This was a cross-sectional study of study of acceptance and side effects of various modalities of contraceptive methods among women attending tertiary care hospital with a sample size of 100, conducted in the Department of Obstetrics and Gynaecology at Mamata General Hospital, Khammam done from October 2020-september 2022. Approval for the study protocol and clearance were obtained from Ethical Review Committee of Mamata Medical College, Khammam. All the women who fulfilled the inclusion criteria were recruited in the study after taking informed and written consent.

**Inclusion Criteria:** Women aged 18 years and above who delivered in our hospital.

**Exclusion Criteria:** Unexplained vaginal bleeding, Any pelvic infection, Any medical disorder

Relevant history was noted from all the women who have fulfilled the inclusion criteria. General and gynaecological examination was done, basic and relevant investigations like complete blood picture, blood grouping and typing, viral markers, renal functional test, liver function test, urine pregnancy test, ultrasonography, routine urine examination were sent. The women were initially assessed about the knowledge of various contraceptive methods through questionnaire and later they were counselled regarding the need for contraception and different types of contraceptive methods along with associated side effects related to them in verbal form, pictures and also in the form of videos. Women included in the study were divided in to two groups, primipara and multipara. Contraceptive methods accepted by them and side effects of the associated method chosen were compared between them. At the end of study period results obtained were analysed.

## RESULTS

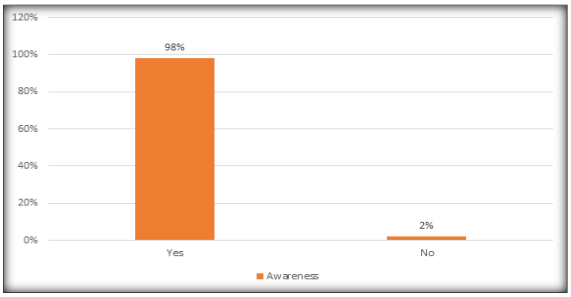


**Figure 1: Awareness regarding one or more contraceptive methods(n=100)**

98% of women knew about at least one type of contraceptive method and 2% of women not aware about any contraceptive method.

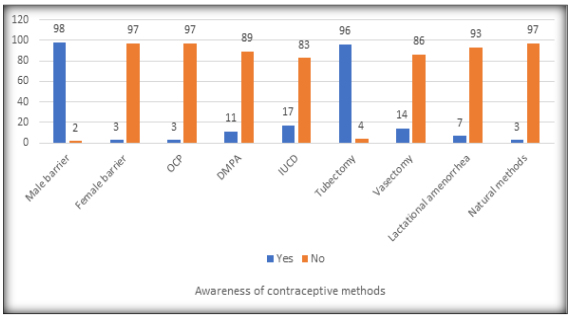


**Figure 2: Awareness about various contraceptive methods**

The majority study population knew about barrier contraception (98) method followed by sterilization (96) methods. The IUCD and DMPA known by 17 and 11 people respectively. 14 people know about male sterilisation and only 3 people knew about OCPs, female barrier and natural method of contraception. But 97 people doesn't know about the female barrier methods, followed by natural methods (97), lactational amenorrhea (93), DMPA (89), vasectomy (86), and IUCD (83) methods.

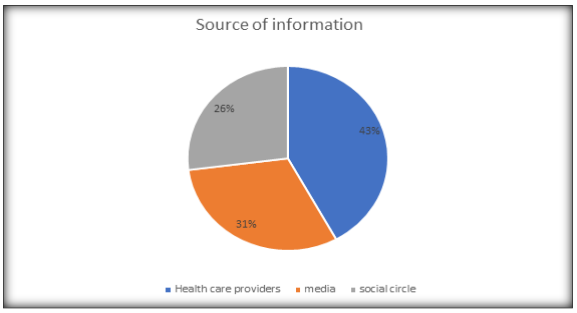


**Figure 3: Source of knowledge about family planning methods(n=100)**

Table 8 and graph 8 shows the study population acquired knowledge about family planning and contraception mainly from the health care workers (43%), followed by media (31%) and social circle (26%) respectively.


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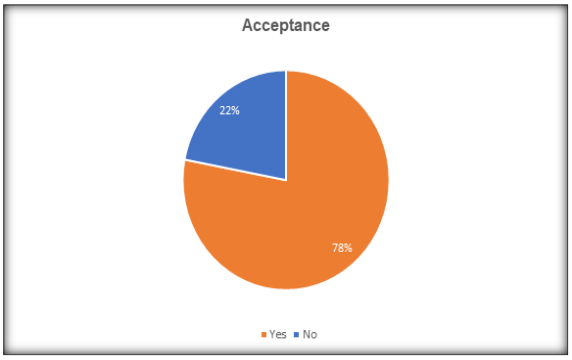


**Figure 4: Distribution of study population based on their attitude towards acceptance of contraception post counselling (n=100)**

Majority of the study population accepted contraception post counselling (78%) and remaining study population (22%) not accepted. [Figure 4]

Primiparous women the most accepted method DMPA (36%) followed by barrier (23%), IUCD (8%), OCPs (3%) and tubectomy (3%) least used method of contraception. 3% of primipara opted for tubectomy because of second marriage. Among multiparous women most accepted method is tubectomy (20%) followed by DMPA (18%), barrier method (8%), IUCDs (5%). Least accepted method of contraception is OCPs (3%). [Figure 5]

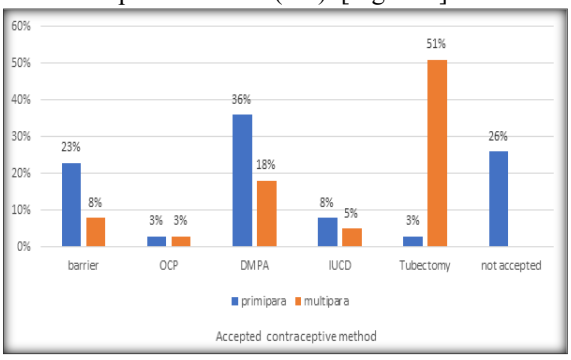


**Figure 5: Comparison of various contraceptive methods accepted among primipara and multipara**

**Table 1: Distribution of study population (n=100)**

| Age (years) | Number of women(n=100) | % |
|---|---|---|
| <20 | 15 | 15% |
| 21-25 | 49 | 49% |
| 26-30 | 29 | 29% |
| 31-35 | 7 | 7% |
| >35 | 0 | 0 |
| Total | 100 | 100% |
| **Level of education** | | |
| Uneducated | 14 | 14% |
| Primary | 7 | 7% |
| Secondary | 19 | 19% |
| Intermediate | 34 | 34% |
| Degree and above | 26 | 26% |
| **Area** | | |
| Rural | 57 | 57% |
| Urban | 43 | 43% |
| **Socioeconomic status** | | |
| Upper | 0 | 0 |
| Upper middle | 13 | 13% |
| Lower middle | 42 | 42% |
| Upper lower | 14 | 14% |
| Lower | 31 | 31% |
| **Parity** | | |
| Primiparous | 61 | 61% |
| Multiparous | 39 | 39% |

Most of the women are in the age group of 21-25 years (49%),29% of women are in the age group of 26-30 years,15% of women below 20yrs and 7% of women are in 31-35yrs of age group. 34% of women had intermediate education level followed by degree and above in 26%, around 19% of women had secondary level of education,14% women are uneducated and only 7% women had primary education level. 57% of study population resides in rural area and rest of the 43% of study population resides in urban area. 42% of study population belong to lower middle class and 31% belong to lower class 14% and 13% belongs to upper lower and upper middle class respectively. 61% of women are primiparous and remaining 39% of women are multiparous.

**Table 2: Reasons for non-acceptance to contraceptive use (n=22)**

| Type of reason | Number of women(n=22) | % |
|---|---|---|
| Fear of side effects | 5 | 23% |
| Husband/family opposition | 5 | 23% |
| Apprehensive regarding future fertility | 2 | 9% |
| Don't require contraception | 8 | 36% |
| Need for child | 2 | 9% |
| Total | 22 | 100% |


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36% of study population not accepted any birth spacing method, women felt that they don't require contraception now ,23% of study population not accepted as they face opposition either from husband or family,23% of population rejected due to fear of side effects and 9% of the study population didn't accept any contraceptive method as they desired to have a child and 9% women are apprehensive regarding the future fertility.

**Table 3: Contraceptive methods accepted post counselling (n=78)**

| Type of contraceptive method | Number of women (n=78) | % |
|---|---|---|
| Barrier | 17 | 22% |
| OCP | 3 | 4% |
| DMPA | 29 | 37% |
| IUCD | 7 | 9% |
| Tubectomy | 22 | 28% |
| Total | 78 | 100% |

Most widely accepted contraceptive method is DMPA with 37% Whereas 28% undergone tubectomy and 22% of study population willing to use barrier method as contraception and 9% of study population opted for IUCD, least accepted method was OCP with 4% post counselling.

**Table 4: Comparison of various contraceptive methods accepted among primipara and multipara**

| Type of contraceptive method | Primipara(n=61) | Multipara (n=39) |
|---|---|---|
| Barrier | 14(23%) | 3(8%) |
| OCP | 2(3%) | 1(3%) |
| DMPA | 22(36%) | 7(18%) |
| IUCD | 5(8%) | 2(5%) |
| Tubectomy | 2(3%) | 20(51%) |
| Not accepted | 16(26%) | 6(15%) |

**Table 5: Side effects of use of barrier methods(n=17)**

| Side effects of barrier methods(n=17) | Primipara(n=14) | Multipara(n=3) |
|---|---|---|
| Discomfort | 5(36%) | 0 |
| Allergy to latex | 1(7%) | 0 |
| Breakage | 0 | 1(33%) |
| No complaints | 8(57%) | 2(67%) |
| Total | 14(100%) | 3(100%) |
| **Side effects use of DMPA(n=29)** | | |
| Headache | 2(9%) | 1(14%) |
| Weight gain | 0 | 0 |
| Dizziness | 0 | 0 |
| Spotting | 8(36%) | 2(29%) |
| Amenorrhea | 3(14%) | 0 |
| Depression | 0 | 0 |
| Bloating | 4(18%) | 1(14%) |
| Reduced libido | 0 | 0 |
| No complaints | 5(23%) | 3(43%) |
| Total | 22(100%) | 7(100%) |
| **Side effects use of OCP (n=3** | | |
| Nausea | 0 | 0 |
| Mastalgia | 0 | 0 |
| Headache | 1(50%) | 0 |
| Hypomenorrhea | 0 | 0 |
| Break through bleeding | 0 | 1(100%) |
| Menorrhagia | 0 | 0 |
| Muscle cramps | 0 | 0 |
| No complaints | 1(50%) | 0 |
| Total | 2(100%) | 1(100%) |
| **Side effects of use of IUCD(n=7)** | | |
| Collapse | 0 | 0 |
| Perforation | 0 | 0 |
| Pain | 1(20%) | 0 |
| Abnormal menstrual bleeding | 3(60%) | 0 |
| Missed thread | 0 | 1(50%) |
| Expulsion | 0 | 0 |
| Pregnancy | 0 | 0 |
| No complaints | 1(20%) | 1(50%) |
| Total | 5(100%) | 2(100%) |


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Underscores that side effects are method- and parity-specific, with injectables and IUCDs showing higher rates of discomfort, particularly in primiparous women.

no complications were observed following tubectomy procedures in both primiparous and multiparous groups.

**Table 6: Comparison of side effects of contraceptive methods among primipara and multipara**

| S.no | Contraceptive methods | Side effects | Primipara | Multipara |
|---|---|---|---|---|
| 1 | Barrier | | (14) | (3) |
| | | Discomfort | 5 | 0 |
| | | Breakage | 0 | 1 |
| | | Allergy to latex | 1 | 0 |
| 2 | OCP | | (2) | (1) |
| | | Headache | 1 | 0 |
| | | Break through bleeding | 0 | 1 |
| 3 | DMPA | | (22) | (7) |
| | | Spotting | 8 | 2 |
| | | Amenorrhea | 3 | 0 |
| | | Bloating | 4 | 1 |
| | | Headache | 2 | 1 |
| 4 | IUCD | | (5) | (2) |
| | | Pain | 1 | 0 |
| | | Abnormal menstrual bleeding | 3 | 0 |
| | | Missed thread | 0 | 1 |

DMPA was the most preferred method among primiparous women, while multiparous women largely chose tubectomy. Side effects were generally mild, with spotting common in DMPA users and menstrual issues in IUCD users.

## DISCUSSION

Contraceptive information and services are fundamental to the health and human rights of all individuals. The prevention of unintended pregnancies helps to lower maternal ill-health and the number of pregnancy-related deaths. Delaying pregnancies in young girls who are at increased risk of health problems from early childbearing, and preventing pregnancies among older women who also face increased risks, are important health benefits of family planning.

By reducing rates of unwanted pregnancies, contraception reduces the need for unsafe abortion and also reduces HIV transmissions from mothers to babies. This can also benefit the education of girls and create opportunities for women to participate more fully in society, including paid employment. The adoption of family planning methods plays an important role in social and economic development of a country. Strategies to improve contraceptive use must include improving delivery of correct and adequate information about availability of various contraceptive methods. Education of women is considered most important factor in decision making. Awareness and knowledge about contraceptive methods helps the couple to choose required contraceptive method without any fear.

The present study was conducted to know the awareness and attitude of women towards contraceptive methods in our locality.

In the present study among 100 women included for the study, majority of them are in the age group of 21 -25 years (49%) and least are in the age group of 31-35 years (7%). The mean age in our study is – 24.76. In the study conducted by Murugesan A et al,[6] with 200 antenatal women majority of women were in the age group of 20-25 years (47%). In the study conducted by Nabhi VR Murty et al,[7] with sample size 502 puerperal women, majority of women were in the age group of 21-30 years (55.4%) and least number of women were in the age group of 31-40 years (1.2%) In the study done by Patel A et al,[8] among 2250 mothers interviewed majority of the women were in the age group of 22-25 years (45%) and 2% of women were in the age group above 35 years. In the study done by Sunita Ghike, Sulbha Joshi, A Bhalerao, A Kawthalkar,[9] among participants majority of them are in the age group of 22-30 years (64.5%). In the study done by Gaikwad NB, Poornima M, Lipare A,[10] on 300 women, majority of women are in the age group of 21-25 years (58.7%) and least number of women are in the age group of more than 30 years (3.3%).

All the above studies show increased usage of contraception in age group around 21-30 years very similar to our present study. This might be because the younger generation today has better access to social media increasing their knowledge, awareness and benefits using contraception. While the older age group are stuck to social taboos and traditional limitations to accept contraceptive methods.

Educational status is a key to success of practicing contraception. Educational level is necessary to understand the which birth control method best suitable for that particular couple. In the present study among 100 women, majority of women were found to have education up to intermediate level (34%) and least number of women had primary level education (7%) intermediate level. The study done by Jaiswal J, Naik S, Rangari R, Sinha A,[11] showing majority of women had education up to intermediate (41.59%), 10.9% of women had education up to degree and above, and 11.36 % of them had primary level


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education and illiterate. In the study done by Upadhye JJ, Upadhye JV,[12] among 400 women, majority of women were educated up to high school and 12th (70%) and women who were educated up to graduate or more was 30%. Both these studies have similarity with our present study showing maximum group of women belonging to high school and intermediate level of education. In the present study most of the women come from nearby villages and towns. Various primary education schemes by government over the last few years has increased the educational status of the girls at least till plus two level. Higher secondary education is still not perceived by many because of the economic burden, social constraints and non-accessibility.

In the study done by Agarwal M, Samanta S, Bhusan D, Anant M,[13] majority of women were found to have education up to primary schooling (43%) and 35.33% were found to be illiterate and only 8.33% had completed degree and above. This is contrasting to our study, most of them belonged to low education level in their study when compared to our present study majority belonged up to intermediate education, this might be because of social barriers and constraints of place in the study done by Agarwal et al.[13] The study suggested that awareness about different types of contraceptive methods were in association with various level of education status.

Urban area is more accessible for health care services including contraception so urban population practices more contraception than rural population. In the present study majority of study population are from rural areas (57%) remaining 43% population from the urban area. In the study done by Garg p,[14] with 100 participants majority of them are from rural areas with 54%. Study conducted by Agarwal M, Samanta S et al,[13] shows majority of study population belong to rural areas (73%). In the study done by Jaiswal J, Naik S et al,[11] majority of women belong to rural areas with 54%. On contrary retrospective study on 267 women conducted by Gadre S, Gadre A,[14] shows majority of women were from urban areas (80.52%).

Our present study was done at a tertiary care centre, in a town, Khammam which had more surrounding villages from where most women come. The above studies done by Garg et al,[14] and Agarwal et al,[13] showed similarity with maximum study group belonging to rural area. The study done by Gadre et al,[14] shows majority of women belonged to urban population contrasting to our present study, this is because their study was done in heavily populated city.

The socioeconomic status is the key factor in birth spacing. The socioeconomic status can be classified by kuppuswamy into upper, upper middle, lower middle, upper lower and lower. In the present study majority of study population that is 42% were belonging to lower middle class and least number of women were in upper middle class (13%). In the study conducted by Thakur N, Khan NZ, Rai N,[16] majority of study belong to lower middle class (44%) and least number of women belong to lower class (1%). In the study conducted by Gaikwad RA, Gadappa SN, Deshpande SS,[17] majority of study population belong to lower middle (47.4%) and very few members belong to lower class (9%). Both the studies done by Thakur et al and Gaikwad RA et al,[17] showed similarity with the present study where majority of population belonged to lower middle class which included farmers and daily labourers from nearby villages.

Study done by Bangal VB, Thitame S, Somasundaram KV,[18] shows majority of women belong to upper middle class (42%). This study is contrasting to our present study. This might be because their employment level is higher when compared to our study. Practicing contraception not only limited to upper- and middle-income groups it should widely spread to lower income groups. The intervening government plans at PHC level is increasing awareness in contraception usage even in lower income groups.

In the present study majority of the women are primiparous (61%) and 39% are multiparous. In the study conducted by Sharma J, Dorairajan G, Chinnakali P,[19] majority of study population were primiparous (74%). The study conducted by Nabhi VR Murthy et al,[7] majority of study population were primiparous (48.6%).

Both the above studies done by Nabhi VR Murthy et al,[7] has similarity with our study in which majority of women were primiparous, as majority of study group belong to age group of 21-30 years. As the present study was conducted in tertiary care hospital, primigravida women who are at risk of developing any obstetric complications were referred to our hospital as it is higher centre in our locality. In the study conducted by Gaikwad RA, Gadappa SN, Deshpande SS,[17] majority of study population were multiparous (59.1%). In the study done by Rokade JV et al majority of the women were multipara (55.3%). Both the above studies done by Gaikwad RA et al and Rokade JV,[19] is contrasting our study in which majority of study population are multiparous where study was conducted on large group of population and much populated developed cities.

In the present study, majority of women were aware of at least one of the contraceptive methods (98%) and only 2% of study population didn't get to know about contraceptive methods. In the study conducted by Murugesan A, Sundaram R, Muthusamy M,[6] with study population of 200 antenatal women, majority of them were aware of one of the methods (97%) and only 3% of women were not aware of contraceptive methods. A cross sectional study done by Nabhi VR Murthy, Madhuri M et al,[7] showed majority of study population were aware of contraceptive methods (88.85%). A study done by Garg P at Uttar Pradesh with 100 participants majority of women were aware of contraceptive methods (89%) and 11% women not aware any methods. A study done by Agarwal M, Samanta S, Bhusan D, Anant M,[13] revealed majority of study


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population were aware of at least one of the various contraceptive methods (96.67%). A study done by Rokade JV, Hanji VR,[19] among study population 97% of women were aware of at least one or other contraceptive method. All the above studies had similar findings as in our present study. Almost every woman knew about at least one or other contraceptive methods because of availability of family planning schemes provided by government from the primary health care level and increasing antenatal visits by most of the women to hospitals where birth spacing counselling is a part of antenatal care.

In the present study among women who were aware of at least one contraceptive method, majority of them have knowledge about male barrier (condom) (98%), followed by female sterilisation (96%) and only few were aware of oral contraceptive pills, female barriers, natural methods (3%). In the study conducted by Garg P,[14] majority of study population were aware of condoms (100%) followed by female sterilisation (91%). A study done by Aseri G, Agrawal S,[20] showed majority of women were aware of condoms (78.4%) followed by female sterilisation (70%). In the study done by Patel A et al,[8] majority of study population were aware of tubal ligation (100%) and condom (92%) and only few of them were aware of oral pills (20%). In the study conducted by Rokade JV, Hanji VR,[19] most of the study population were aware of female sterilisation (91.40%) and condom (85.20%) and only few of them were aware of natural methods of birth spacing (5%). All the above studies have similarity with our present study, showing majority of study population knew about condom and female sterilization because of the mass media, easy availability of condoms at government centres and even at retail stores. female sterilization is known in majority as government has encouraged to practice small family norms to stabilize the economic control and growth. Female sterilization is a also a national program where government is providing it at free of cost.

A study was conducted by Praveena Daya A., Prem Priya G., Karthikeyan G,[21] on 100 participants at Tamilnadu to assess the knowledge about contraception in that locality, among study participants majority of them know about IUCD (56%).

The above study done by Praveena Daya A., Prema Priya G., Karthikeyan G,[21] is contrary to our present study in which IUCD was the most common known method because of higher literacity rate when compared to ours and higher acceptance of newer methods. In either of the studies OC pills were less used because of the prolonged schedule and cumbersome knowledge required for its usage even though provided free by government.

## CONCLUSION

This study was done to know awareness, acceptance and side effects among women in reproductive age. In the present study majority of women are in the age group of 21-30 years, this age group being most fertile reproductive period, it is necessary to educate these women regarding contraception and associated benefits from pre conceptional period and during antenatal period itself. Practicing contraception in early and young ages will improve the quality of life of women by utilising spacing between the pregnancies and improving their overall health by avoiding unwanted pregnancies and their risks. Age, educational status, socioeconomic status and locality is associated with the knowledge and acceptance of contraception. As the study is conducted in tertiary care hospital which is surrounded by number of villages majority of women in study population were from rural areas where health care providers are only the main source of information as contraceptive methods are available from PHC level. Majority of them are aware of condom because of its easy to use and availability and social media. Female sterilization is also known to most of study population as it is encouraged by government through campaign. Though awareness regarding DMPA was less, most of the primiparous women were willing to use because it is convenient to use and effective after proper counselling, whereas most of multiparous women were willing for tubectomy as they completed family, safe, effective and incentives provided by government is also one of the reasons though alternate contraceptive methods are available. Menstrual problems were the common side effects noted with different contraceptive methods. Women who undergone tubectomy had no complaints. Though awareness was seen in good percentage but acceptance was not as good as expected which can be improved by minimizing the fear of side effects, improving their knowledge and benefits with contraception.

Health care providers are encouraging various forms of contraceptive methods in rural regions, proving them with proper knowledge and awareness. Our responsibility is to educated and strengthen these concepts and add more knowledge regarding their benefits and side effects and give them proper guidance regarding the choice of best method of contraception for them. As professionals we should direct the women to use contraception in high proportions with least side effects. Compared with earlier studies of women's reasons of not using contraception larger population have awareness of various contraceptive methods but should only be encouraged with proper counselling to increase the usage of contraception. Contraception not only increase the wellbeing of women also aids in economic development of the family.

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