

**DETERMINANTS AND PATTERN OF BIRTH CONTROL METHODS IN AMBALA.**Saima Nazir MD<sup>1</sup>, Arshad Rashid\* MS, FNB (MAS), FIAGES<sup>2</sup> and Anshu Mittal MD<sup>3</sup>

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**ABSTRACT**

**Background:** Understanding the pattern and determinants of contraceptive usage can help planners strengthen the population control programs. The present study was carried out to assess the pattern of birth control methods and their determinant factors among married women of reproductive age group. **Methods:** The present study was carried out in the urban and rural areas of district Ambala, Haryana. A total of 2000 participants were included in this study, divided equally into rural and urban areas. Data was collected using a pre-tested questionnaire, which was administered as a face-to-face interview during house-to-house visits by the first author. **Results:** Tubectomy was the most common method of contraception being employed by the respondents in both rural (34.8%) and urban areas (26.2%) whereas the least common modality employed was vasectomy (1.8% in rural and 2% in urban areas), which was statistically significant [ $P$  - value < 0.0001]. The most commonly cited reason for not using birth control methods in rural areas was family inhibition (19%) where as the same was unhappiness with health services (18.4) in urban respondents [ $P$  – value < 0.0001]. Less perceived risk of pregnancy, cost-factor, infertility scare and lack of knowledge about the availability of contraceptives were some other factors associated with not using birth control methods. **Conclusion:** In the present study, the level of usage of birth control methods was comparable to the National Statistics. The present study identifies the gap between knowledge, attitude and practice of women folk regarding family planning.

**KEYWORDS:** Contraception; Birth Control; Family Planning; Determinant.

**INTRODUCTION**

Every year the global population adds 78 million people to its kitty. Moreover, as large families were common in most of the world until recently, many countries have very large numbers of young people. This population structure means that rapid growth is sure to continue for decades to come, almost all of it in developing countries, where family planning services may be deficient or nonexistent.<sup>[1]</sup> The increase in population is one of the biggest problems being faced by our country also, with its inevitable consequences on all the aspects of development especially employment, education, food, housing, health care, sanitation and access to other basic amenities.<sup>[2]</sup> The primary reason for increase in global population is a welcome decline in infant and child mortality brought about by the spread of public health measures such as vaccination. However, unfortunately, this progress has not been accompanied by a parallel spread of modern contraception. Generally speaking, contraceptive use rises and women's fertility (average number of children) declines as countries develop.

An estimated 120 million couples in developing countries do not want another child soon but have no access to family planning methods or have insufficient information on the topic.<sup>[1]</sup> During the past 30 years, many countries have greatly improved their provision of family-planning services. Contraceptive use in the developing world has risen from one in 10 couples to more than half of all couples. A 15% increase in the use of contraceptives means, on average, about one less birth per woman.<sup>[3]</sup> It has been estimated that meeting women's need for modern contraceptives would prevent about one quarter to one-third of all maternal deaths, saving 140,000 to 150,000 lives in a year.<sup>[4]</sup> It also prevents similar proportion of injuries, infections, and long-term disabilities that result from unwanted and mistimed pregnancies and abortions, that affect an estimated 15 million women annually. A recent analysis concluded that family planning is among a handful of feasible, cost-effective interventions that can make an immediate impact on maternal mortality in low-resource settings.<sup>[5]</sup>

Understanding the pattern and determinants of contraceptive usage can help planners strengthen the population control programs. Survey data on these determinants provide overall direction by helping to pinpoint the obstacles in society, region specific issues and weaknesses in services that need to be overcome. Program managers also need to look at desired family size and contraceptive prevalence to gauge whether they need to raise awareness of the benefits of small, well-spaced families. Hence to address these views, the present study was carried out to assess the pattern of birth control methods and their determinant factors among married women of reproductive age group in urban and rural areas of Ambala district.

## MATERIALS AND METHODS

The present observational community based, cross-sectional study was carried out in the urban (Ambala) and the three rural (Barara, Mullana & Nahoni) areas of district Ambala, Haryana. This study targeted all the married women in the reproductive age group 15 - 45 years living with their husbands. Exclusion criteria of the study included pregnant females, divorcees or living separately from their husbands for at least 1 year. The unmet need of contraception as reported previously by the authors<sup>[6]</sup> in the same area was 7.5%. Thus the calculated sample size came out to be 1930, which was rounded off to 2000. The sample was calculated by the formula  $n = Z^2 * P * (1-P) / e^2$ , where,  $Z$  = Level of confidence at 95 % (1.96);  $P$  = Prevalence and  $e$  = Margin of error taken (absolute error of 1.5%). The required sample size was divided into two equal groups. One thousand participants (50%) were selected from urban area and other 50% (1000) participants were selected from the rural areas. Multistage sampling did the selection of participants in the rural areas. For the urban area, systematic random sampling was done to achieve the required number.

A semi-structured pre-tested proforma, which included socio-demographic profile of the participants and questions based on knowledge, attitude and practices regarding various family planning methods, was used. Data was collected using this pre-tested questionnaire, which was administered as a face-to-face interview during house-to-house visits by the first author. Information was collected regarding her age, education, occupation; income and also about her marital history like her age at marriage, the duration of her married life, her present parity status and whether she was pregnant or not. The knowledge regarding contraceptives and also the reasons for non-use or use of contraceptives was meticulously enquired after taking the woman into complete confidence. Before the study was formally conducted, this questionnaire was translated into local language and was tested on 50 females in Barara village for reliability and consistency as part of a pilot project. The questionnaire was asked in the local language understood to them. If any of the selected female was not

found during first visit, a second visit was given at some other time.

The data thus collected was compiled and analyzed using SPSS version 21 for Mac (IBM Corporation, 2012). Qualitative variables were expressed as proportions in percentages. For quantitative data, mean and standard deviation was calculated. The association between variables was calculated for 95% confidence intervals by using "Chi square test" and "One-way ANOVA". "Unpaired t - test" was used to compare the means. A  $P$ -value  $< 0.05$  was taken as significant. All procedures performed in this study were in accordance with the ethical standards of the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The Institutional Ethical Committee approved this study. All the subjects were fully informed about the purpose and nature of the study. A written and informed consent was obtained in the language they understood, and assurance regarding confidentiality was given. The study posed no financial burden on the participants.

## RESULTS

The mean age of respondents in the rural population was  $30.55 \pm 5.772$  years where as that in urban population was  $31.80 \pm 6.274$  years, which was found to be statistically significant [ $t = 4.663$ ,  $df = 5$ ,  $P$  - value  $< 0.0001$ ]. In the rural area, the majority of respondents were in the age group of 30 - 34 years (40.7%) and that in the urban areas were in the age group of 25 - 29 years (34.3%). The mean age of marriage of respondents in the rural population was  $19.23 \pm 2.235$  years where as in urban population it was  $21.06 \pm 2.850$  years, which was found to be statistically significant [ $t = 15.99$ ,  $df = 1998$ ;  $P$  - value  $< 0.0001$ ].

In the rural areas, 609 (60.9%) of the respondents had a desire of using contraceptives, as compared to 661 (66.1%) in urban respondents, which was found to be statistically significant [ $\chi^2 = 5.833$ ,  $df = 1$ ,  $P$  - value = **0.0157**]. Similarly, five-hundred-and-fifty seven i.e. 55.7% of the respondents in the rural areas were currently using some contraceptives as compared to 643 (64.3%) urban respondents ( $P$  - value  $< 0.0001$ ). The most commonly known method of contraception was sterilization and it was seen in 636 (63.6%) rural and 811 (81.1%) in urban respondents [ $\chi^2 = 9.614$ ,  $df = 4$ ,  $P$  - value = **0.0475**]. Table 1 shows that tubectomy was the most common method of contraception being employed by the respondents in both rural (34.8%) and urban areas (26.2%) whereas the least common modality employed was vasectomy (1.8% in rural and 2% in urban areas), which was statistically significant [ $\chi^2 = 70.42$ ,  $df = 5$ ,  $P$  - value  $< 0.0001$ ].

**Table 1: Various birth control methods employed by the respondents (n=2000)**

Method of Birth Control	Rural (n)	Urban (n)
Condom	92 (9.2%)	201 (20.1%)
Intra Uterine Device	41 (4.1%)	60 (6%)
Oral Contraceptive	19 (1.9%)	58 (5.8%)
Safe Period	39 (3.9%)	42 (4.2%)
Tubectomy	348 (34.8%)	262 (26.2%)
Vasectomy	18 (1.8%)	20 (2%)
Not Using Any Method	443 (44.3%)	357 (35.7%)
<b>TOTAL</b>	<b>1000 (100%)</b>	<b>1000 (100%)</b>

In the rural areas, the most commonly cited reason for not using birth control methods was family inhibition (19% of total population and 63.6% of those not using) where as the same was unhappiness with health services (18.4% of total population and 81.1% of those not using) in urban respondents [ $\chi^2 = 132.2$ ,  $df = 5$ ,  $P - \text{value} < 0.0001$ ]. Less perceived risk of pregnancy, cost-factor, infertility scare and lack of knowledge about the availability of contraceptives were some other factors associated with not using birth control methods. In the rural areas, the highest usage (65.4%) of contraceptives was seen in the age group of 15 – 19 years and the lowest (35.1%) in 35 – 39 years age group, which was found to be statistically significant [ $\chi^2 = 17.048$ ,  $df = 5$ ,  $P - \text{value} = 0.004$ ]. Similarly in the urban areas, the highest usage (74.1%) of contraceptives was seen in the age group of 15 – 19 years and the lowest (52%) in 35 – 39 years age group, which was found to be statistically significant [ $\chi^2 = 13.732$ ,  $df = 5$ ,  $P - \text{value} = 0.017$ ].

## DISCUSSION

Unlike plagues of the dark ages or contemporary diseases that we do not understand, the modern plague of over-population is soluble by means that we have discovered and with resources that we possess. What is lacking is not sufficient knowledge of the solution but universal consciousness of the gravity of the problem and education of the billions who are its victims. Population, when unchecked, increases in a geometrical ratio and subsistence increases only in an arithmetical ratio. Since time immemorial, thinkers and philosophers have stressed upon the fact that over-population is the root cause of most of the problems that the world is facing and that desperate measures need to be put in order to check it. The oldest recorded document of birth control is the Kahun Papyrus (1550 BC). The Ancient Egyptians believed that crocodile dung mixed with honey and milk had contraceptive properties. Egyptian women were also told to mix together dates, acacia bark and honey into a sugary paste and place it in the vulva.<sup>[7,8]</sup>

Most of the respondents in the present study (84.4% rural and 74.5% urban) were in the age group of 20 – 34 years i.e. in the most active reproductive period. In a study of 520 women from Gwalior, Srivastava et al reported that

62.67% urban and 65% rural respondents were in this age group that was almost similar to the present study.<sup>[9]</sup> In a study from a resettlement area of Delhi, Khokhar et al reported the mean age at marriage as 17.2 years<sup>[10]</sup>, which was also seen in our study. It was evident that women did not adhere to the small family norm in this part of the country. The mean family size of respondents in the rural population was  $4.674 \pm 1.098$  where as in urban population it was  $4.401 \pm 1.018$ . In rural area, the majority of the respondents had a total of three or more living children (53.6%), whereas in urban areas they were having two living children (42.8%). In a study of 1216 women in Karnantaka, Halemani reported that 42.19% of their respondents had three or more children.<sup>[11]</sup> In the present study, almost three-quarters of the women had at least one living son. Devi et al in a study from Uttar Pradesh reported that 80% of their respondents had at least one son.<sup>[12]</sup>

The knowledge of contraception was very high (83.4% in rural and 86% in urban area) in the present study. In a study from Gorakhpur of 281 women, Srivastava et al reported the awareness rate as 82.2%.<sup>[13]</sup> In the present study, it was found that 55.7% of the respondents in the rural areas were currently using some contraceptive as compared to 64.3% urban respondents. In a study based on 930 observations in 194 countries, Alkema et al<sup>[14]</sup> have reported that globally, contraceptive prevalence has risen from 54.8% (95% uncertainty interval 52.3–57.1) in 1990 to 63.3% (60.4–66.0) in 2010.

Tubectomy was the most common method of contraception being employed by the respondents in both rural (34.8%) and urban areas (26.2%) in the present study. There was an increasing trend for temporary methods in urban area (36.1%) as against 19.1% in rural area. In a study from Dharwad in 200 women, Sunita et al reported female sterilization as the preferred method of family planning in 70.8% of the respondents.<sup>[15]</sup> Family inhibition, cost of contraception, concern about infertility and the unhappiness with healthcare services were significantly associated with unmet need in the present study. In a study from Bihar, Kumar et al reported inhibition by family in 28.5% of their respondents.<sup>[16]</sup> An important finding in the present study is the unhappiness of the urban population with the health services that can be addressed to improve the contraceptive usage and decrease the unmet need further. Both Government and Private hospitals should provide appropriate information, clear doubts about the misconceptions and worries about side effects and should highlight the benefits of the various contraceptive methods at every visit to the hospital.

The present study reported that of all women with unmet need, three-quarters belonged to the reproductively most active age group i.e. 20 – 34 years in the rural area, as against 62.7% in the urban area. The tapering off of unmet need after age 40 is probably mainly due to women's perceptions that they are no longer capable of

having children. Contraceptive usage followed these trends conversely. However, an interesting trend noted in the present study was the high contraceptive usage and low unmet need in the 15 – 19 year age group reflecting the fact that younger couples are showing awareness and motivation about family planning and that the family planning programs are moving in the right direction.

The strengths of this study were that the subjects were selected using random sampling technique, which helped to avoid selection bias. Both urban and rural women were included for the purpose of comparisons and to identify differences in pattern of usage of birth control methods in the two settings. Our study may be criticized on the plea that these results cannot be extrapolated to the national or global scenario, as the sample was not a nationally representative one.

### CONCLUSIONS

In the present study, the level of usage of birth control methods was comparable to the National Statistics. The present study identifies the gap between knowledge, attitude and practice of women folk regarding family planning. Among those respondents who were not using any method of contraception, family inhibition, cost of contraception, concern about infertility and unhappiness with healthcare services were significantly associated with not employing any birth control method.

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