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Original Research Article

## Menarche, menstruation and reproductive life of women

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### ABSTRACT

**Background:** Reproductive process involves the sexual maturity of male and female. Female bears larger responsibility in a reproduction process with minimum say in India. Therefore, this study was planned in a rural area to investigate the menarche age, menstruation, reproductive life, use of contraceptives and their say in reproductive life in rural areas of Bharatpur district of Rajasthan, India.

**Methods:** Well defined questionnaire pertaining to the: menarche, age of regular menstrual cycle, age of marriage, fertility, age of first pregnancy, number of children with gap, abortion, and contraceptive methods used was prepared on reproductive matters of women.

**Results:** Results of study reveals that menarche age of women was 13-15 years, 37% women of study experienced normal menstruation, early marriage, cases of infertility, early age of getting pregnant, 61% had three and more than three children and 42% female did not use birth control methods.

**Conclusions:** In conclusion women need basic scientific understanding, awareness and say in reproductive and sexual life. Male partner should have basic knowledge of reproductive and sexual health. He should have supportive, caring and sharing attitude toward his spouse.

**Keywords:** Menarche, Menstruation, Reproductive life

### INTRODUCTION

A female's reproductive life generally spans from menarche to menopause. Menarche refers to the onset of menstruation, which marks the beginning of a woman's reproductive years. Menopause marks the end of a woman's reproductive years, and occurs when the ovaries stop producing eggs and the body produces lower levels of estrogen and progesterone.

The average age for menarche is around 12 years old, but it can occur anytime between the ages of 8 and 15. During the reproductive years, which typically last until menopause, a woman's menstrual cycle occurs approximately every 28 days, although cycles can range from 21 to 35 days. During each cycle, an egg is released

from one of the ovaries and travels through the fallopian tube towards the uterus, where it may be fertilized by sperm.

If the egg is fertilized, it may implant in the lining of the uterus and develop into a fetus. If it is not fertilized, the lining of the uterus is shed through menstruation, and the cycle starts over again. Menopause typically occurs between the ages of 45 and 55, but can occur earlier or later.<sup>2</sup> It is characterized by the cessation of menstrual periods and the decline in hormone production, which can cause a variety of physical and emotional symptoms.<sup>3</sup> Once menopause is complete (usually after 12 months without a menstrual period), a woman can no longer conceive a child naturally.

Throughout these stages, it's essential for women to prioritize their reproductive health by maintaining regular gynecological check-ups, practicing safe sex if sexually active, and being aware of any changes or abnormalities in their menstrual cycle or reproductive system.

This research study was planned and done in rural areas of Bharatpur district of Rajasthan, India, to investigate knowledge of menarche, age of regular menstrual cycle, age of marriage, fertility, age of first pregnancy, number of children with gap, abortion, contraceptive methods used with special emphasis on women's say in these matters.

## METHODS

### Study type

Descriptive design was used in this study.

### Study place

Rural areas (villages Panchayat) of Bharatpur district Rajasthan, India was selected for this research investigation.

### Study period

The study period was from October 2018 to September 2019.

### Selection criteria

As we wanted to investigate the reproductive life of women in rural areas. Therefore, semiliterate or illiterate women were included in this research study with their consent.

### Volunteering women

The 400 woman of 20 to 40 years of age were included in this study. Aims and objectives were clearly explained to them and their consent was taken and their name kept secret.

### Parameters of study

Well defined questionnaire pertaining menarche, age of regular menstrual cycle, age of marriage, fertility, age of first pregnancy, number of children with gap, abortion, contraceptive methods used was prepared on reproductive matters of women.

Detailed personal interview was taken when the questionnaire and questionnaire got okayed by them.

### Statistical analysis

Statistical analysis was done using standard error and standard deviation formulae of obtained data-Std error

$$SE = \sigma/\sqrt{n}$$

Where SE standard error of the sample;  $\sigma$ =sample standard deviation;  $n$ = number of samples.

Standard deviation

$$\sigma = \sqrt{\mathcal{E}(xi - \mu)/N}$$

Where  $\sigma$ = population standard deviation;  $N$ = size of the population;  $xi$ =each value from the population;  $\mu$ =the population mean.

Data being presented in tabulation and pie diagram form.

## RESULTS

The 400 women volunteered to participate in our study and they got any scientific platform to discuss their plight and condition for the first time in their life.

To understand the whole reproductive life starting from menarche to age of 45, we have included 400 women with wide range of age groups including 21-45 year of female. Studying the reproductive life of women involves examining various biological factors. Here are 8 parameters considered in this study. These are: Menarche, age of regular menstrual cycle, age of marriage, fertility, age of first pregnancy, number of children with gap, abortion and contraceptive methods used.

### Menarche

The age at which a girl has her first menstrual period, indicating the onset of reproductive capability. Mean age of menarche of our studied group ranged 13 to 15 years.

But in some ladies' onset of menarche was 9 to 11 and late as 18 (Figure 1).

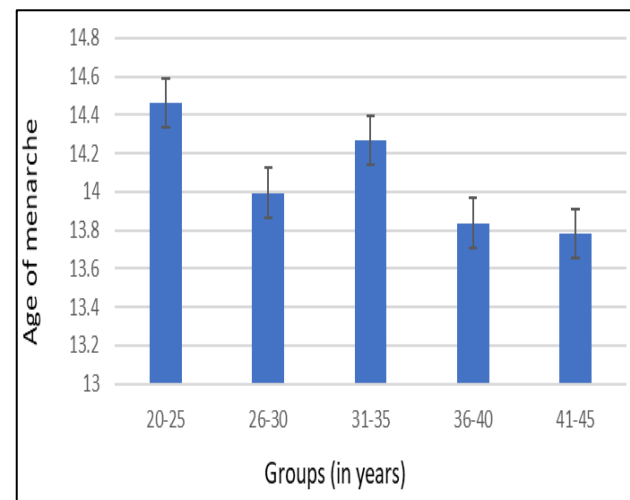
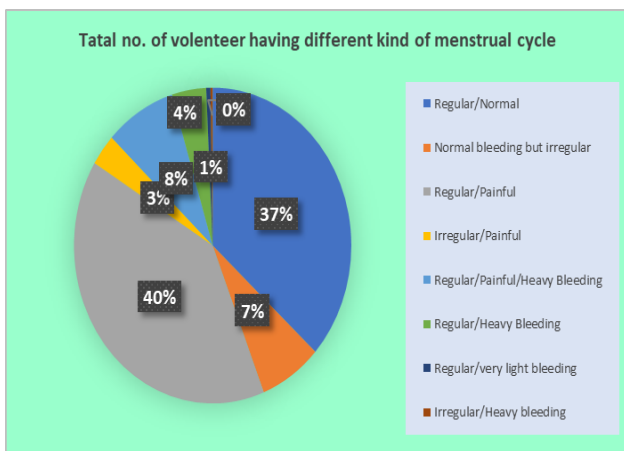


Figure 1: Mean age of menarche in studied women.

**Menstrual cycle**

Monitoring the regularity, duration, and characteristics of menstrual cycles throughout a woman's reproductive years.

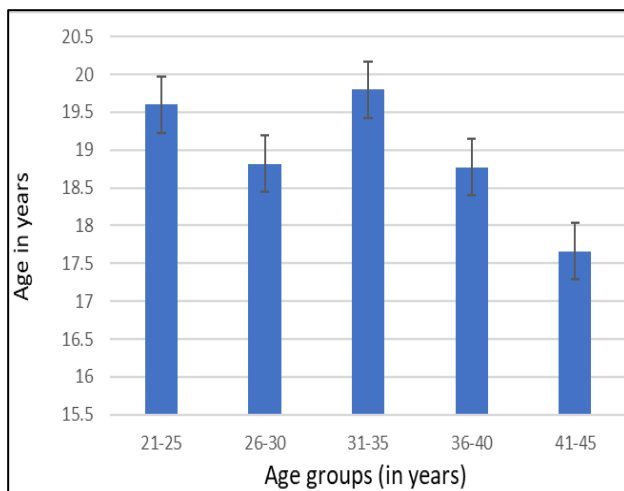
Our study shows that different kind of menstrual experiences of women. 37% women have normal and regular menstrual cycle while 63% women had no-normal experience of menstruation like: normal bleeding but irregular (7%), regular painful (40%), irregular painful (3%), regular painful with heavy bleeding (8%), regular with heavy bleeding (4%), regular with very light bleeding (two women only), and irregular with heavy bleeding (one women). In other words, we can say only 63% women had not experienced ideal menstruation.



**Figure 2: Menstruating experience of studied groups.**

**Age of marriage**

Our study shows that majority of women got married between 15-19 of age but in some case it was as early 6 and as late as 31 (Figure 3).

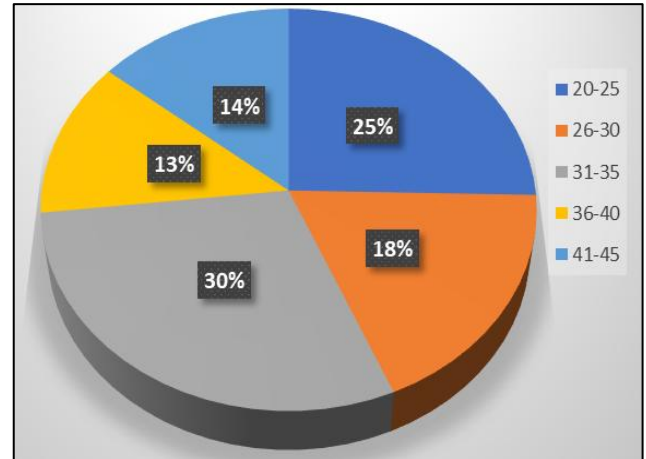


**Figure 3: Age of marriage.**

**Problem related to fertility (Infertility)**

Infertility or subfertility is major problem among the couples. It was as follows: In group 21-25 infertility was 25%, 26-30=18%, 31-35=30%, 36-40=13%, 41-45=14%,

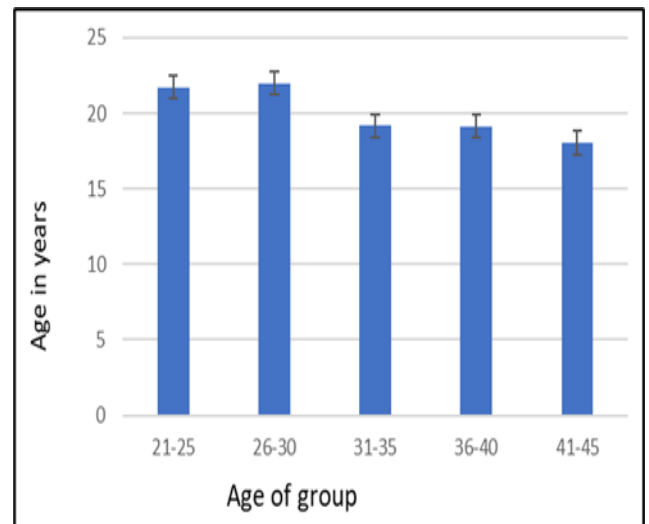
Of course, male factor was not studied in our research investigation (Figure 4).



**Figure 4: Infertility status of studied women.**

**Age of first pregnancy**

Age of first pregnancy of these women occurred before attaining the age of 20 in almost all ladies and second pregnancy was developed between the age of 20 to 25 (Figure 5).



**Figure 5: Age of first pregnancy.**

**Family size**

Family size of our group (21-45) was as follows: No child-4%, one child-6%, two child-29% three child- 34% and more than three child-27%.

Our study reveals that 60% women had three or more than three kids in their family. It is generally expected that couples complete their family size up to 35-36 years. While ladies of age group of 20-30 were not sure of their family size (Figure 6).

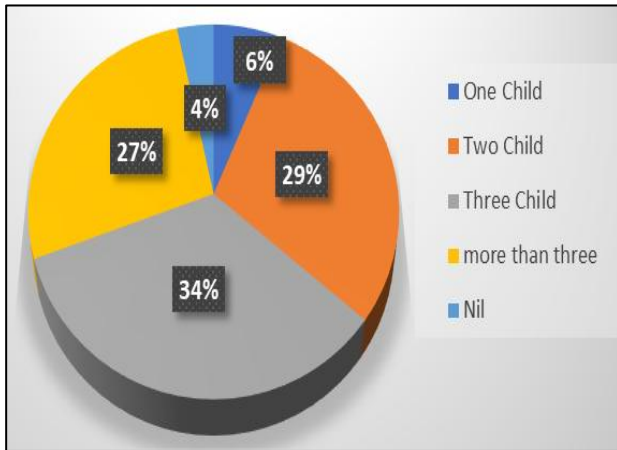


Figure 6: Number of children in studied groups.

**Number of abortions**

It is very interesting to note that 23% women didn't have any abortion of the investigated groups (Figure 7).

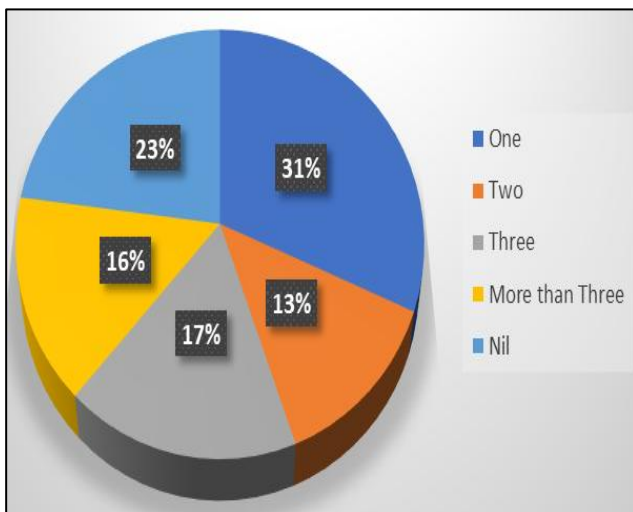


Figure 7: Number of abortions.

**Contraceptives methods used**

Use of contraceptive use is understanding patterns of contraception adoption, preferences, and efficacy in preventing unintended pregnancies. Current study shows that significant percentage (42%) of couples didn't use any birth control method during their married (reproductive age) life and condom, tubectomy, copper-T and pills were most preferred choices among the contraceptive users (Figure 8).

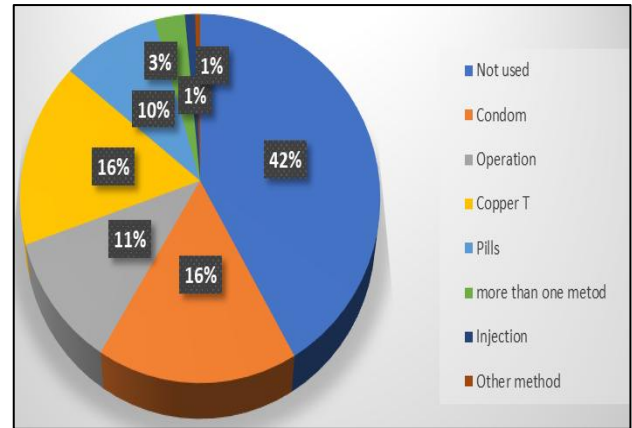


Figure 8: Contraceptive method used.

**DISCUSSION**

Our study/research reveals that mean age of menarche was 13-15 but, in some cases, (women) menarche began as early as 9 years and as late as 18 years but there were only few cases in our studied groups. In other Indian studies also observed the same mean of menarche age.<sup>4</sup> The menarche age of different countries are as follows: The mean age of menarche in Nepal is 16.2, 15.8 in Bangladesh, 14.3 in India, Sweden 13.1, Indonesia 13, Switzerland 13, Ireland 13.5, Turkey 13.3, Japan 12.5, 13.5 in Sri-Lanka, 13.3 in Great Britain, 13.5 in France and 12.8 in US and 13.8 in Europe, South Korea 13.9, Argentina 12.6, Philippines 13.6, Australia 13, Portugal 12.5, Canada (12.7, United Kingdom in 12.9, Russia 13, Chile 13, South Africa 12.5, Columbia 12.8, Germany 12.8, Spain 12.3 USA 12.5, Netherlands 13.2, Uganda 13.4, Nicaragua 14, Nigeria 13.7 and Vietnam 12.<sup>5,6</sup> It may be due to climatic condition genetic history and others.<sup>7</sup> Very early cases of menarche had also been reported in other parts the world.<sup>8</sup> These reasons may be for early and late onset of menarche like food habits, sleeping more, less physical activities, good socio-economic status, race, environmental conditions, geographical location, blindness, body mass index, psychological factors, child sexual abuse, physical stress, consumption of tea and coffee, passive smoking, high animal protein index, family stressor, weight.<sup>9,10</sup> But women of our study showed the international age of menarche of at large. Age of menarche has decreased from 16 to 14 years over the past few decades.<sup>11</sup> The reason may the advancement in human life in all sphere.

Mean age of regular menstruation 12-15 but in some cases, it was as early as 9 as late as 18. Our study shows 37% had normal and regular menstrual cycle, 63% women had non-normal experience of menstruation like normal bleeding but irregular (7%), regular and painful, irregular painful, regular painful with heavy bleeding, regular with very light bleeding. In other words, we can say only 37% women had ideal menstruation. Studies done by other researchers also show the various kind of menstrual experiences.<sup>12</sup>



Mean age of marriage of women ranged 15-19 years. This was quite early as compared to international standard.<sup>13</sup> In developed and other developing countries average age was 18 for girls.<sup>14,15</sup> Some cases of child marriage were also recorded despite having minimum age of marriage low.<sup>15,16</sup> It is not enforced strictly or in these cases regular menstruation was observed after marriage.<sup>17,18</sup> In many developing countries, women have limited rights and family decisions, are often subject to patriarchal norms and practices.<sup>19,20</sup> Early and forced marriages are common in some regions, and women may face significant social and economic barriers if they seek to leave an unhappy or abusive marriage.<sup>19</sup>

Infertility is defined as any couple living together for one year (specially sexual contact is needed during unsafe period of woman) and women is unable to pregnant, it is requires medical consultation and examination by qualified doctor.<sup>21</sup> Generally percentage of female infertility is higher compare to male as development of baby is taken place in female reproductive system.<sup>22</sup> Sometimes difficulty in conceiving is seen even after birth of one or two issues.<sup>23,24</sup> In our studied groups (5 group) we also found some percentage of infertility. Of course we did not study the male factor of infertility. Detail study pertaining to the various reasons of infertility was not done in this research investigation.

These women and their husband were not having the basic knowledge of birth control methods which results in early pregnancy, (majority of ladies got pregnant before attaining the age 20 or during their teenage). Occurrence of pregnancy in teenage girl is really very risky and harmful for reproductive health.<sup>25</sup> Various studies have shown that teenage pregnancy may result in death of mother and improper development of baby as the body of female is not ready or mature enough for pregnancy.<sup>26,27</sup>

Our study reveals 60% had 3 or more than three kids in their family. It generally expected that couple complete their family size up to 33-35 years while couples of age group of 20-30 were not sure of their family size. It reflects that a significant percentage of women had bigger family size despite govt, of India's emphasis on small family size.<sup>28,29</sup> Bigger family size means women is getting pregnant frequently which may affect the general or reproductive health of women.<sup>30,31</sup> The 23% women didn't have any abortion of the investigated groups.

Our study shows that 80% of couple didn't use any contraceptive methods which resulted in their bigger family size. Our study also revealed that 80% women didn't have basic knowledge of the contraceptives and 85% male were also not having ideas about birth control methods which resulted in unplanned pregnancy (68%). Unplanned conceiving leads termination of pregnancy many times which may affects health/reproductive health of a woman.<sup>32,33</sup> Of course these findings were from rural areas. This pattern may differ in urban and educated areas.

Family size also increases due to preference for male child.<sup>29,34</sup> The psychology (male/female) for use of contraceptives by couples depend on many issues: couples should be educated, should have consensus for family planning and desire for small family size, couples should have knowledge, easy availability of various types of contraceptives.<sup>35</sup> Generally some contraceptives interferes with sexual pleasure of the couples.<sup>36</sup> Our study reflects low use of contraceptives despite government efforts.

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