

Knowledge and Awareness of Menstruation among Adolescent Girls with Special Reference to the Garhwal Region of India: A Cross-Sectional Study

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ABSTRACT

Background: Adolescence age is a period of the sign of complete development that concludes childhood. It is a transitional phase to grow up to maturity. Menstruation is a unique and universal phenomenon in the female body that starts during puberty as menarche. **Objectives:** To assess the knowledge and awareness of menstruation among adolescent girls of Pauri Garhwal district and to study the beliefs, perceptions and sources of information related to menstruation among them. **Methods:** A descriptive cross-sectional survey performed among 120 adolescent girls between the ages of 11 to 17 years of the North Himalayan region of India. Research data obtained using a self-devised questionnaire from the study sample chosen by probability random sampling technique in July to August 2019 to the Pauri district of Uttarakhand state and analyzed in Microsoft Excel. **Results:** An educational gap was found in girls' parents, which promotes an indifferent and neglectful attitude toward menstruation in society. In this respect, the mother was the key source of first menstrual knowledge among 49.17% (58) of girls, whereas only 1.67% (2) of girls got this information from their fathers or brothers. Due to poor knowledge, 95% of adolescent girls had no understanding of menarche. Also, 40.83% and 48.33% of participants had incorrect or no knowledge about menopause. **Conclusion:** It was observed that school girls did not know about the market availability of menstrual blood absorbent products excluding sanitary pads, which affect their menstrual practices. There is a need to run menstrual educational programs in schools for better understanding and management of menstruation.

Key Words : Menstruation, Menstrual Knowledge, Puberty, Menstrual Blood, Menstrual Absorbent Material

INTRODUCTION

Menstruation is a biological, physiological, and essential process of women that is compulsory for balancing human health, but due to the variety of social norms, myths, and taboos, menstruation is always viewed as a private matter of females. Most of the studies showed that the mother was the prime source of menstrual information among girls, according to Sharma (78%)¹ in respect of Uttarakhand, further in other areas of the country, Deshpande (84%)² and Madhavi (77.6%)³ observed the same. This indicates gender bias and discrimination and promotes an inferiority complex and sick mentality towards periods in society.

Menstruation is an ignored topic in society from the beginning. Even in the present time (21st century), menstruation is rarely discussed in homes and schools. Therefore, our adolescent girls face menstrual hygiene management problems and obstacles, especially during their first periods. Generally, girls start their period cycle in the age group of 11 to 14 years at puberty when they are cross childhood. Adolescent girls must be mentally prepared to manage menstruation at pre-adolescent age, but in study of Dehradun (Mandal),⁴ only 34.67% of girls were aware of periods before reaching menstruation. They (52%) did not know the biological reasons behind menstruation, 28.67% believed it was a curse of God,

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and only 12% knew the role of the uterus in menstruation. Menstrual blood comes from the uterus and exits from the body through the vagina. Along with pregnancy, various physical, mental, and psychological conditions also cause the menstrual cycle to be paused. In pregnancy, the uterus and reproductive system are engaged in the developing process of a fetus with the help of menstrual blood, and because of this, the menstrual cycle is paused during this time. Adolescent girls should know that if you are bleeding, you are not pregnant, but if you are not bleeding or your period cycle is stopped, it doesn't necessarily mean you are pregnant.

This research is conducted in light of previous studies to verify the menstrual knowledge status in adolescent girls of the Pauri district compared to other areas. Many researchers found un-satisfactory menstrual knowledge among school-going girls in their studies, such as 76% (Deshpande), 64.72% (Singh), 51.5% (Madhavi), and 41.5% (Kanchan) adolescent girls had no menstrual awareness before they reached menarche.^{5,6} And about the knowledge of the blood source, the majority of girls had no significant understanding, as observed by Dasgupta (97.5%), Kanchan (85.9%), Deshpande (84%), and Juyal (70.9%).^{7,8} There was a shocking point that menstrual knowledge gaps are seen in the same way among rural and urban adolescent girls, even in school-going girls. Due to this gap in menstrual education, every menstruated female faced with abnormalities and discomfort, such as pre-menstrual syndrome (PMS), heavy menstrual bleeding (HMB), irregular period cycle, painful bleeding, urinary tract infection (UTI), vaginal fungus infection, etc. this affects their life's quality. Because they are not taught about menstruation anywhere, neither at their homes nor schools. In the present study, the researcher found the gap in menstrual knowledge among hilly adolescent girls through the survey data and tried to bridge

that gap.

Aims and Objectives:

- To assess the knowledge and awareness regarding menstruation in adolescent girls of the Pauri Garhwal district.
- To assess the beliefs, perceptions, and sources of information about menstruation in adolescent girls of the Pauri Garhwal district.

Limitations:

Adolescent girls of selected schools from the Pauri district of Uttarakhand state who had reached menarche and were present at school on the days of sampling and collecting the data were taken in the sample.

METHODOLOGY

This cross-sectional survey was undertaken among adolescent girls from July to August 2019 in the government schools in Pauri, Uttarakhand. The study objectives are based on the menstrual knowledge of school girls selected from four blocks- Pauri, Khirsu, Kot, and Pabo, out of fifteen blocks. Only eight higher secondary schools out of these four blocks were selected for the study, and only 120 adolescent girls were chosen finally by simple random sampling method. Data collection was done with the help of a pre-designed, self-structured, closed questionnaire through a face-to-face interview. The questionnaire included questions regarding menstrual knowledge and awareness of adolescent girls.

During the survey, menstruation-related education was also provided to the girls, and tried to satisfy their queries through lecture and discussions. And in the last, received data was analyzed in MS Excel Office 10 (Table 1).

| Sr. No. | Block | GGIC/GIC (Schools) | Sample Selection (Respondents) | N=120 |
|---------|--------|--------------------|--------------------------------|-------|
| 1. | PAURI | GGIC Pauri | 15 | 30 |
| | | GIC Ojali | 15 | |
| 2. | KHIRSU | GGIC Srinagar | 15 | 30 |
| | | GIC Khandah | 15 | |
| 3. | KOT | GIC Kot | 15 | 30 |
| | | GIC Jamlakhal | 15 | |
| 4. | PABO | GIC Gwalkunda | 15 | 30 |
| | | GIC Cholosend | 15 | |
| Total | | | 120 | 120 |

RESULTS AND DISCUSSION

This study result is based on 120 adolescent girls of the Pauri district, where socio-economic status of them is depicted in below Table 2. In the study, 48.33% girls were included from 11 to 14, and 51.67% were from 15 to 17 years old. They were studying in 9th (55.83%) and 11th (44.17%) standards by following the Art stream (66.67%), Science stream (23.33%), and Commerce stream (10%). The Majority (77.5%) of girls were studying in rural institutions, and only 22.5% were going to urban schools. Most of the participants were Hindu, which is divided into three social categories there are general (63.33%), OBCs (12.5%), and SC/STs (24.17%). According to the data, 56 (46.67%) belonged to the Low-income group, 54 (45%) were the Medium-income group, and only 10 (8.33%) adolescent girls belonged to the High-income group. Further analysis

| Table 2 : Socio-economic Status of Participants (N=120) | |
|---|-----------------|
| Socioeconomic Aspect | No (Percentage) |
| Age (Years) | |
| 11 to 14teen | 58 (48.33%) |
| 15 to 17teen | 62 (51.67%) |
| Standard | |
| 9 th to 10 th | 67 (55.83%) |
| 11 th to 12 th | 53 (44.17%) |
| Education Stream | |
| Art | 80 (66.67%) |
| Science | 28 (23.33%) |
| Commerce | 12 (10%) |
| Institution Place | |
| Rural | 93 (77.5%) |
| Urban | 27 (22.5%) |
| Family income | |
| LIG | 56 (46.67%) |
| MIG | 54 (45%) |
| HIG | 10 (8.33%) |
| Social Category | |
| General | 76 (63.33%) |
| OBC | 15 (12.5%) |
| SC-ST | 29 (24.17%) |
| Toilet Status | |
| Inside the House | 30 (25%) |
| Outside the House | 90 (75%) |
| Lack of Water | |
| Yes | 90 (25%) |
| No | 30 (75%) |

Source- Primary Data, 2019; Uttarakhand (Socioeconomic status of the Adolescent Girls)

showed that 90 (75%) of participants had water inadequacy and a lack of toilet privacy at their homes because 75% of toilets were situated outside the homes, and only 25% of toilets were inside the house, which had proper water facilities.

According to the survey, 19.17% (23) of mothers of adolescent girls had no formal education compared to 7.5% (9) of fathers. It was found that 21.67% (26) of mothers and 16.67% (20) of fathers were formally educated only up to the primary level, and 26.66% (32) and 22.5% (27) were only up to secondary school. Further, 26.66% (30) of mothers compared to 44.17% (53) of fathers were educated till higher secondary education, and only 7.5% (9) of mothers and 9.17% (11) of fathers were highly educated (Fig.1).

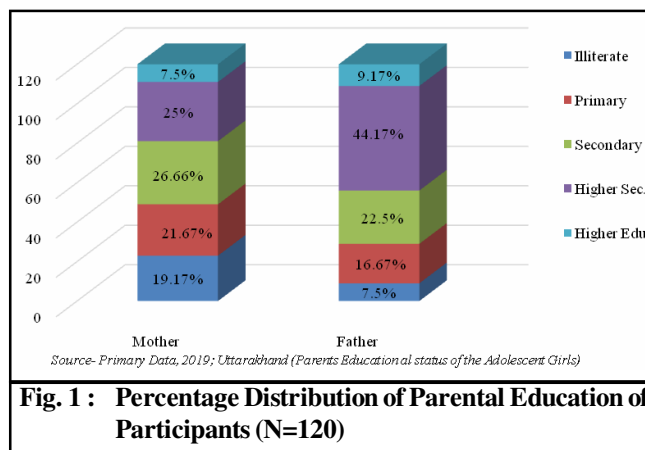
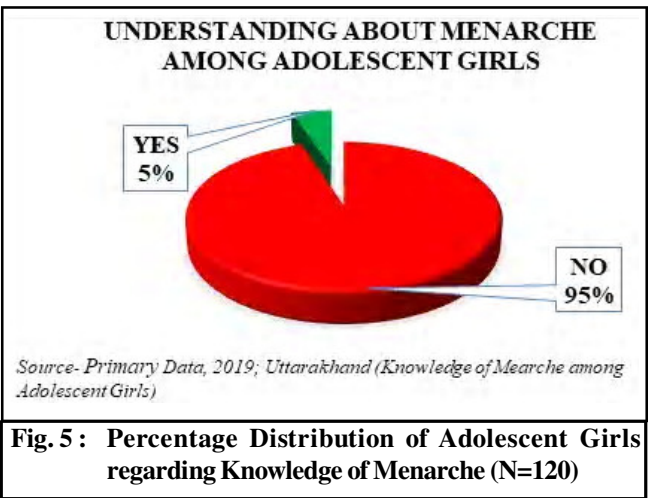
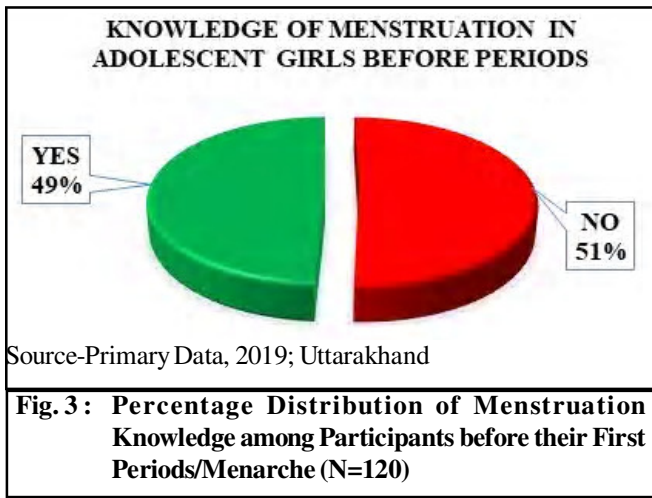
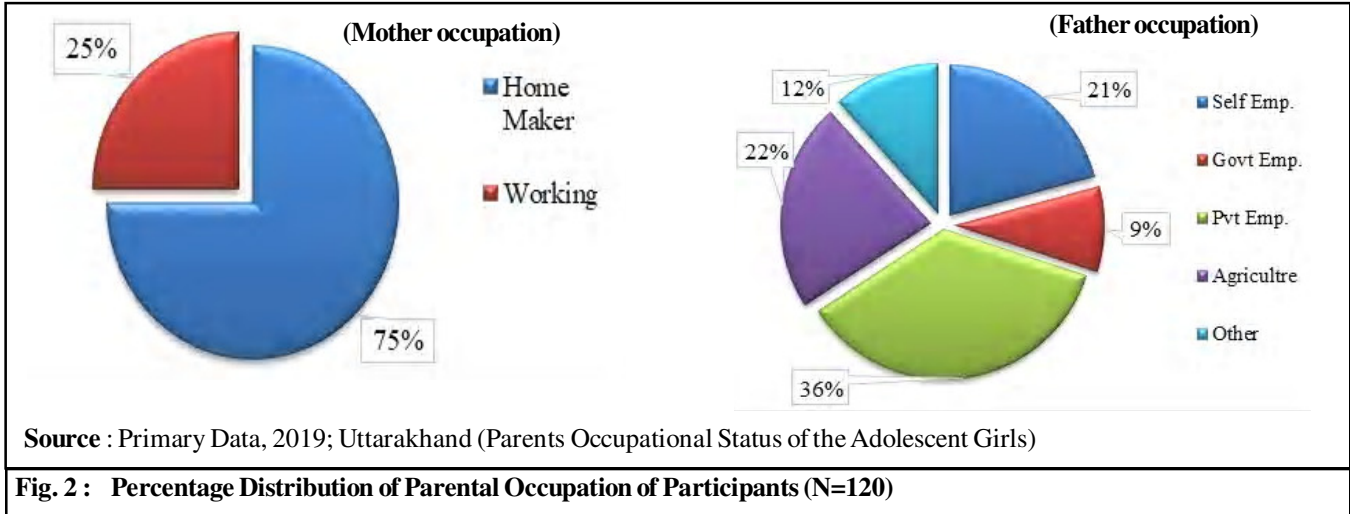


Fig. 1 : Percentage Distribution of Parental Education of Participants (N=120)

The participants belonged to low to middle-income families, and differences were observed between their parents' occupations. Maximum, 75% (90) of the respondents' mothers were playing the role of homemakers along with farming, and 25% (30) were also working outside their homes. On the other hand, about 23% (27) of fathers were farmers, and 12% (14) were engaged in another field. Further, 21% (25) of fathers had their self-business, and only 9% (11) and a maximum of 36% (43) were employees in the government and privet sectors (Fig. 2).

Fig. 3 presented the menstruation knowledge status of respondents about the time of their first periods. Around half (49%, 59) of adolescent girls did not know about menstruation when they got their first periods. Mother was the primary source of menstrual information among maximum (48.33%) girls. Along this, 26.67% (32) and 15% (18) of adolescent girls learned about it from their friends and T.V. or the internet. On the other hand, only



1.67% (2) girls had a discussion with their fathers or brothers about their periods (Fig. 4).

According to Fig. 5, only 5% (6) of hilly adolescent girls knew about menarche, which is known as first menstruation, and the majority (95%) did not know the

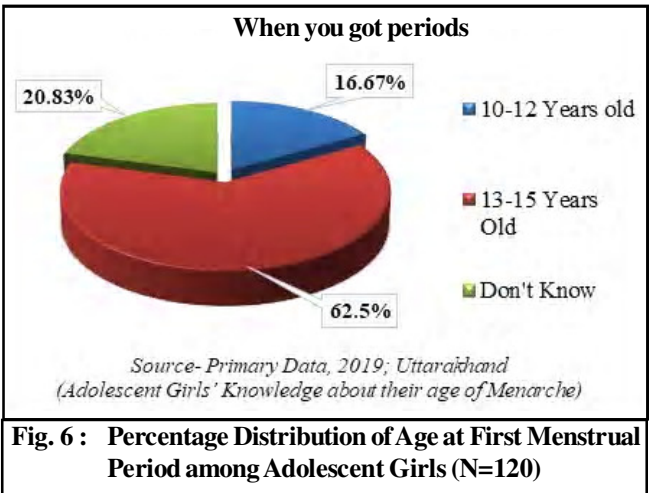
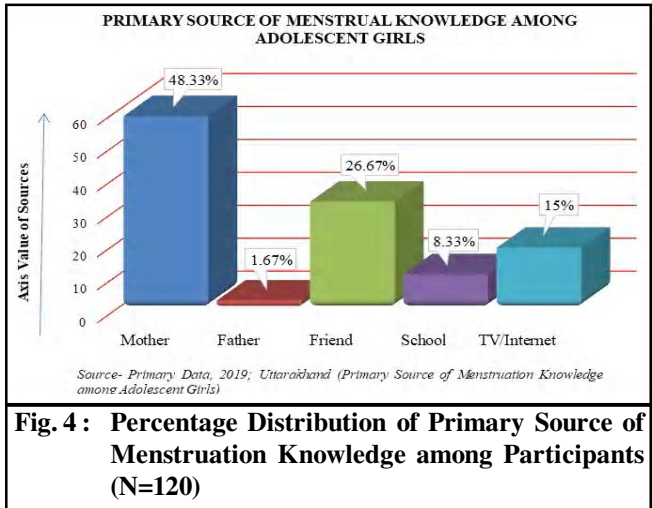


Table 3 : Percentage Distribution of Menstruation Knowledge among Participants (N=120)

| Menstrual Knowledge Aspect | No and Percentage (Adolescent Girls) | | | | | |
|---|--------------------------------------|-------|-----|-------|------------|-------|
| | Yes | | No | | Don't Know | |
| | No. | % | No. | % | No. | % |
| Age of Menarche (Years) | | | | | | |
| 10-12 | 30 * | 25 | 65 | 54.17 | 25 | 20.83 |
| 13-14 | 75 } 42 | 62.5 | 12 | 10 | 33 | 27.5 |
| 15-17 | 57 } | 47.5 | 24 | 20 | 39 | 32.5 |
| Who have Periods (Menstruate) | | | | | | |
| Pregnant Women | 34 | 28.33 | 52 | 43.33 | 34 | 28.33 |
| Old Ladies | 13 | 10.83 | 49 | 40.83 | 58 | 48.33 |
| Cause of Menstruation | | | | | | |
| It's a decease | 24 | 20 | 66 | 55 | } 30 | 25 |
| Biological Causes | 35 | 29.17 | 55 | 45.83 | | |
| Curse of God | 31 | 25.83 | 59 | 49.17 | | |
| Menstrual Blood Comes From | | | | | | |
| Uterus | 24 | 20 | 77 | 64.17 | } 19 | 15.83 |
| Stomach | 22 | 18.33 | 79 | 65.83 | | |
| Urinary Bladder | 55 | 45.83 | 46 | 38.33 | | |
| Menstruation is (Periods) Known as | | | | | | |
| Menstrual Cycle | 40 | 33.33 | 43 | 35.83 | 37 | 30.83 |
| Rajodarshan/Rajovritti | 42 | 35 | 48 | 40 | 30 | 27.5 |

Source- Primary Data, 2019; Uttarakhand (Menstruation Knowledge among Adolescent Girls)

*Only 42 (35%) of adolescent girls knew that menstruation starts in girls aged 10-17 years.

same. As shown in Fig. 6, 62.5% (75) of respondents started bleeding between the age of thirteen to fifteen years old, and 16.67% (20) started menstruation in early adolescence (ten to twelve years), whereas 20.83% (25) could not recall it.

Table 3 depicts the menstruation knowledge among adolescent girls. Overall 42 (35%) of girls agreed that menarche is the first period of a girl that starts at the age of 10 to 17 years. Whereas 30 (25%), 75 (62.5), and 57 (47.5%) girls believed that the first period comes at the age of 10 to 12 years, 13 to 14 years, and 15 to 17 years old. Participants could not reply satisfactorily whether doctor consultation is required or not for a girl who had not reached menarche till the age of seventeen.

Apart from this, 52 (43.33%) participants knew that menstruation is paused during pregnancy, and more than half, combinedly 68 (56.67%) did not know about the period status in pregnancy. Where, 34 (28.33%) girls agreed that pregnant women also bled, and 34 (28.33%) had no knowledge about this. Similarly, around half of the participants (58) did not aware that old women are menstruated or not. 13 (10.83%) agreed that they bled, but 49 (40.83%) girls knew that periods end in old age called menopause (Table 3).

In addition, table 3 also depicts adolescent girls'

knowledge regarding the cause of menstruation. In this regard, 30 (25%) of girls were entirely unaware of the cause of menstruation. However, 35 (29.17%) of girls knew the biological reason for the blood, but 24 (20%) and 31 (25.83%) of girls believed that menstruation is a female disease and a curse of God, respectively. Moreover, poor knowledge was found regarding the source of menstrual blood, where only 24 (20%) of the adolescent girls knew that menstrual blood comes from the uterus, and combinedly 96 (80%) did not know the same. Where 19 (15.83%) were unaware about it, and 22 (18.33%) and 55 (45.83%) girls believed that menstrual blood flowed from the stomach and urinary bladder, respectively, during menstruation. Similarly, only 40 (33.33%) and 42 (35%) of girls knew that menstruation is called menstrual cycle and Rajodarshan or Rajovritti, respectively.

Fig. 7 shows the knowledge regarding the new menstrual absorbents based on market availability. In this regard, a majority, 103 (85.83%) of adolescent girls were aware of sanitary napkins, and the other 17 (14.17%) knew it by the casual name 'Pad.' But on the other hand, only 5 (4.17%) girls were aware of the other products. The majority of the 117 (97.5%) girls did not know about the menstrual cup and menstrual panties, and 115

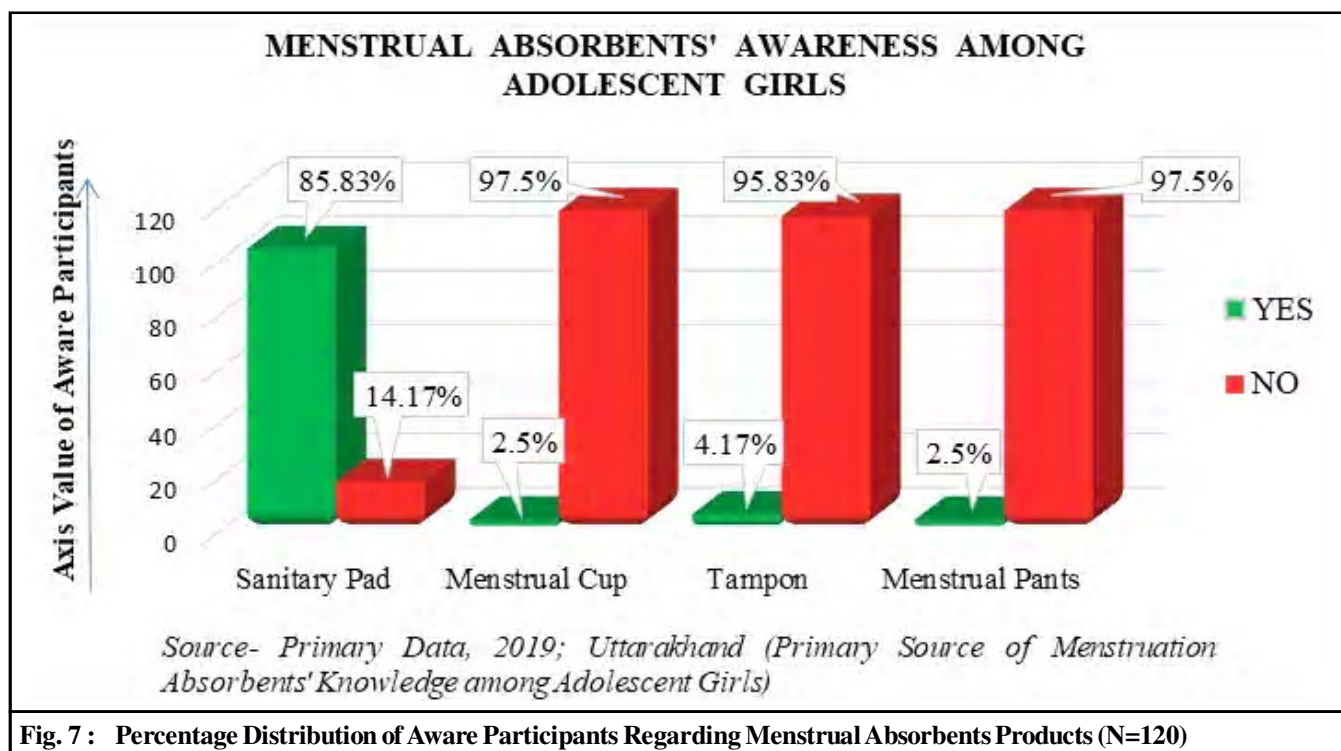


Fig. 7 : Percentage Distribution of Aware Participants Regarding Menstrual Absorbents Products (N=120)

(95.83%) were unaware of the tampons.

Conclusion and Recommendations:

According to the survey, around 21% of respondents did not remember their age when they started menstruation. Menstruation is a topic that is rarely discussed in Indian families and educational institutes. According to the Dasra Report 2014, 71% of adolescent girls remain unaware of menstruation till their menarche.⁹ However, both menarche and menopause phases are equally important for development, but very low Menstrual Knowledge is found among respondents. In this respect, the study revealed that 95% of school-going adolescent girls did not know about the term menarche, and around 60% of girls were unaware of the phase of menopause when females get old. Also, 25% of girls were unaware of the causes of the menstrual cycle and 15.83% of the source of menstrual blood flow. This type of unawareness stunts the development of adolescent girls. However, there is a need to find the tangible status of Menstrual Knowledge in school-going girls, where researchers play a significant role. But schools and teachers also should be included in the menstrual education agenda.

The Menstrual Attitude and Practices depend entirely on Menstrual Knowledge, and if Menstrual

Knowledge is improved, then negative attitudes and poor menstrual practices can be improved, and a healthy atmosphere can be created because the Menstrual Health and Hygiene Management (MHHM) process is based on the KAP model (Knowledge, Attitude, and Practice).

According to the conclusion, about 50% of adolescent girls were aware of menstruation before they started bleeding, but on the other hand, only 5% of the respondents were aware of menarche, and approximately 95% were unaware of the different menstrual absorbents except sanitary pads which are available in the markets such as menstrual cup/disc/tampons/panties, etc. Due to this, their menstrual hygiene management practices are adversely affected, and they are unable to use eco-friendly, skin-friendly, and economical products during their periods. For the prevalent poor attitudes and unhealthy menstrual practices, menstrual knowledge should be improved.

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