

## Original Research Article

# Menstrual awareness, hygiene, practices and perceptions among the adolescent girls of Nahan, Himachal Pradesh, India

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## ABSTRACT

**Background:** Onset of first menstrual cycle also termed as “menarche” signifies the initiation of sexual maturation of girls. The present study aims to represent an amalgam of menstrual awareness, perceptions and hygiene in light of the associated menstrual practices prevalent in the adolescence girls of Nahan.

**Methods:** A cross-sectional data of 189 girls aged between 10 to 16 years were collected from Nahan, district Sirmaur in Himachal Pradesh. Data regarding perceptions, awareness and hygienic conditions during menstruation were also gathered through an interview based schedule.

**Results:** Menarche was known to be a normal physiological process by only 53.43% girls, while the rest of the participants didn't know the reason for its occurrence. For 81.2% girls the informant was their mother and a very little role was played by sisters (5.36%), books (0.67%), friends (6.04%) and relatives (5.36%). Most of the girls (95.28%) used sanitary napkin as absorbent for menstrual flow, but the use of single sanitary napkin for 7 to 8 hours by 48% participants was of alarming concern. Stomachache was the most common problem associated with menarche, whereas breast heaviness (16.98%), body ache (16.03%) and backache (26.41%) were witnessed in considerable proportion of girls. A significant number of girls (78.3%) were prohibited from entering in the holy places/temples during this period.

**Conclusions:** Although menarcheal health is acquiring greater significance across the globe, but the age old social restrictive practices associated with menstruation are still common and prevalent in this societies.

**Keywords:** Adolescence, Menarche, Menstrual hygiene, Reproductive health

## INTRODUCTION

Adolescence represents a crucial phase in girl's life and is associated with a complex web of physical, physiological as well as psychological changes particularly marked by onset of first menstrual period. Menstruation is a biological process involving cyclical shedding of the uterine lining due to the interactions of the hormones secreted by the hypothalamus, pituitary gland, and ovaries among women in their reproductive age.<sup>1</sup> It is associated with various signs and symptoms that vary in its intensity and frequency in each girl, the symptoms experienced by

one girl may not be accomplished by another girl. The menstrual cycle with all its complexities can be influenced by environmental factors such as stress, extreme exercise, eating disorders, and obesity as well as genetic factors.<sup>2-4</sup>

In most of the developing and underdeveloped countries menstruation is generally an unspoken topic, with many myths and taboo surrounding it, thereby making this monthly process even more challenging for girls. Chawla explored the mythic origins of menstrual taboo in Rig Veda and illustrated a significant gap exists between Indian cultural construction and contemporary bio-medical models.<sup>5</sup>

In mid-western and far western Nepal, a custom among the Hindus called “chaupadi pratha” hinders the menstruating girls and women from living in their own household and performing daily chores because they are considered as impure. Women in their reproductive span i.e. from menarche to menopause are the direct sufferers of this inhumane practice, where menstruating girls are forced to stay in the dreadful living conditions of the menstrual hut called “chhaupadi goth”.<sup>6</sup> Although this practice was declared to be illegal by Nepal’s apex court in 2005, but it is still prevalent and practiced in many parts of Nepal.<sup>7</sup> A study performed by WaterAid highlighted that out of the total participants in his study area only 11 percent respondents do not face any restriction during this phase.<sup>8</sup> In Tanzania, it is believed that if a menstrual cloth is seen by anybody other than the girl, she may be cursed.<sup>9</sup> Some Hindu Indo-Fijians do not allow menstruating women to take a bath or leave the home after 6pm and before, by this time their reusable cloths which are hung outside must be brought in because it is considered that otherwise the evil spirits will make them sick.<sup>10</sup> In Bangladesh, it is reported that women bury their absorbents to prevent them being used by evil spirits and are restricted from touching food or cooking.<sup>11</sup>

Religions around the world have restrictions and inhibitions on women during their period because of the belief of impurity associated with menstruating women. As per Islamic traditions menstruating women should be abstained from worship, fast or having sex. She is not permitted to touch the Koran unless it is a translated version. Similarly, under Jewish tradition a woman is regarded as ritually impure during her periods.<sup>12</sup> Although cultural environment is supportive to discuss menstrual health and hygiene in most of the developed countries, but in developing countries particularly in rural areas due to the gender bias, social stigma, taboos and myths, it is difficult to even engage young girls as well as women into discussions regarding menstruation. A study carried out by earlier workers also noticed that limiting open discussions on menstrual hygiene in the long run could lead to serious health tribulations such as behavioral disorders, mood swings, RTIs (reproductive tract infection).<sup>13,14</sup> A great range of variability has been observed with respect to age at menarche within as well as between populations and a continuous as well as complex interaction of various genetic and non-genetic determinants is responsible for the timing of occurrence of menarche. There have been innumerable studies that imply a declining trend in the age at menarche across the world.<sup>15-17</sup> It was also observed by previous studies that a positive correlation exists between early age at menarche and occurrence of breast cancer, psychological stress, depression etc.<sup>18,19</sup>

According to a UNICEF report, it is estimated that there are 1.2 billion adolescents aged 10-19 years in the world, forming 18% of world population and the percentage of adolescents in India as per the same report is 243 million, which constitute about 21% of the total population of the country.<sup>20</sup> Due to the lack of exposure among young girls

regarding menstruation, the practices to maintain personal hygiene and care are in jeopardy. The perception of a young girl on the subject of menstruation is largely dependent upon how much information she gets prior to its occurrence. Chopra and Sharma in their study discussed that before the initiation of menstrual periods very little was known to adolescent girls about the reason of its occurrence.<sup>21</sup> Most of the respondents were unaware of the characteristics and problems related to menarche, prior to its onset. Many girls came to know about menstruation when they first started menstruating and found it unusual or abnormal. Hence issues related to perceptions, awareness and hygiene in light of the associated menstrual practices prevalent in adolescent girls need to be addressed urgently. So, the present study was carried out to elucidate less known corners of menstrual practices, perceptions, and awareness prevalent in adolescent girls of Nahan, Himachal Pradesh (India).

## METHODS

The present cross-sectional study was conducted on a sample of 189 girls, ranging in age from 10 to 16 years, from Nahan, District Sirmour, Himachal Pradesh. Sirmour is located in outer Himalayas which are commonly known as Shivalik range. This district is bound by district Shimla in North, Uttar Pradesh in East, Haryana in South and district Solan in North-West. Nahan is a small town in district Sirmour and is known for its pleasant surroundings and beautiful views of the Himalayan Mountains.

The field work was conducted in Government Girls Senior Secondary School, Nahan from 26<sup>th</sup> September to 3<sup>rd</sup> October 2016. Age of each subject was verified from the school records and then converted into decimal age using Tanner et al.<sup>22</sup> Participants were selected on the basis of their availability and willingness to participate in the study. The purpose of the present research was explained to the subjects prior to initiation of the data collection. They were allowed to leave the study at any point of time, if they were not comfortable with the questions. An interview based schedule was employed to gather data from the subjects regarding their age, religion, caste, family structure, parity, family income etc.

To ascertain general practices and perception about menstruation questions such as source of information, absorbent used, duration using single absorbent, problems and discomfort during menstruation, restriction during menstruation, prevalence of any myth etc. were asked. Median age at menarche was calculated by the status quo method. The data thus gathered were entered into the SPSS (version 20.0) and qualitative data were expressed as percentage.

## RESULTS

The median age at menarche as ascertained by status quo method was found to be 12.33±0.71 years among adolescent girls of Nahan. Table 1 documented menstrual

hygiene practices, knowledge and beliefs as well as discomfort faced during menstruation among adolescent girls of present study. A significant proportion of the girls (46.56%) didn't know the reasons for the occurrence of the menstrual cycle, while only 53.43% girls could identify it as a normal physiological process. However, no girl in the present study perceived it as an abnormality

or a disease or a curse. The source of information and discomfort faced during menstrual cycle among adolescent girls of Nahan as summarized in Table 1 presented that source of information for 81.2% girls was the mother, while a little role was played by friends (6.04%), sister (5.36%), relatives (5.36%) as well as books and literature (0.67%).

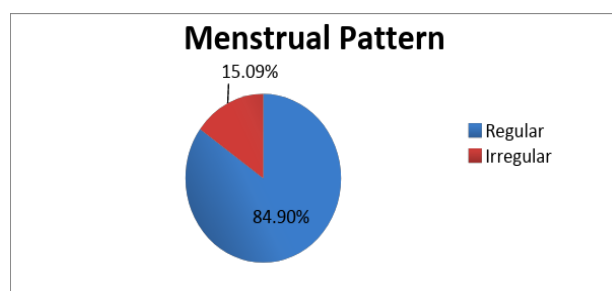
**Table 1: Menstrual hygiene practices, knowledge and beliefs and discomfort faced during menstruation among adolescent girls of Nahan.**

Menstrual hygiene practices, knowledge and discomfort		Number of girls (N)	Percentage of girls (%)
<b>Knowledge of the cause of menstruation (n=189)</b>	Is it a physiological process?	101	53.43
	Is it a disease?	0	0
	Is it a curse?	0	0
	Do not Know	88	46.56
<b>Absorbent used during menstruation (n=106)</b>	Sanitary pad	101	95.28
	Cotton	0	0
	Cloth	5	4.71
<b>Methods of disposal (n=106)</b>	Cloth reused	0	0
	Throw away the cloth/Sanitary pad after use	106	100
	Burn it	0	0
<b>Duration for usage of a sanitary pad (n=106)</b>	7-8 hours	51	48
	5-7 hours	34	32
	3-5 hours	20	19
	Less than 3 hours	1	1
<b>Knowledge about the process prior menarche (n=189)</b>	Yes	149	78.83
	No	40	21.16
<b>Source of information (n=149)</b>	Mother	121	81.2
	Sister	8	5.36
	Relative	8	5.36
	Friends	9	6.04
	Social media	0	0
	School/ Teacher	2	1.34
	Books/ Magazines	1	0.67
<b>Discomforts faced during menstruation</b>	None	9	8.49
	Stomach ache	72	67.92
	Breast heaviness	18	16.98
	Full body ache	17	16.03
	Pain in legs	6	5.66
	Weakness	6	5.66
	Back ache	28	26.41
	Vomiting	2	1.88

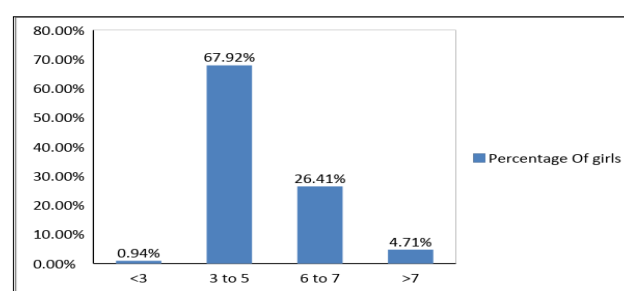
Interestingly in the present study, media played no role in disseminating awareness about menstrual process. As far as discomfort during the menarche is concerned, only 8.49% of the total girls didn't endure any distress, whereas stomach ache (67.92%) was the most common among menarchal girls followed by backpain (26.41%), breast heaviness (16.98%), body ache (16.03%), weakness (5.66%), pain in their legs (5.66%) and only 1.88% participants had vomiting. Menstrual pattern in

most of the respondents (84.9%) was regular, while 15.09% girls were having irregular menstrual periods as depicted in Figure 1.

Duration of menstrual flow was 3 to 5 days in most of the girls (67.92%), whereas 26.41% had menstrual flow for 6 to 7 days followed by more than 7 days in 4.71% girls. Menstrual flow for less than three days was noted in negligible percentage (0.94%) of participants (Figure 2).



**Figure 1: Menstrual pattern among adolescent girls of Nahan.**



**Figure 2: Duration of menstrual cycle among adolescent girls of Nahan.**

**Table 2: Distribution of girls according to the restrictions imposed upon them during their monthly period.**

Restrictions	Total number of girls (n)	Percentage of girls (%)
<b>Visiting temple or any holy place and performing prayers</b>	83	78.3
<b>Household chores</b>	2	1.88
<b>Entering kitchen, cooking and serving</b>	19	17.92
<b>Watching television</b>	2	1.88
<b>Physical exercise</b>	1	0.94
<b>Using mirror</b>	1	0.94
<b>Food habit restrictions</b>		
Non-vegetarian	2	1.88
Sour food	1	0.94
Rice	1	0.94
Restricted from meeting with the males in the family	1	0.94
None	10	9.43

Maintenance of personal hygiene especially during periods is very essential to prevent oneself from various infections. In the present study about 95.28% subjects used sanitary napkins as absorbent and only 4.71% used cloth, but none of the participant re-used or burnt the cloth. But most of the respondents (48%) used single sanitary pad for longer duration i.e., 7 to 8 hours, while 32% used for 5 to 7 hours, 19% for 3 to 5 hours and only negligible proportion (1%) of participants used one napkin for less than three hours.

Distribution of girls according to the restrictions imposed upon them during their period is tabulated in Table 2. About 78.3% girls were restricted from visiting temple and performing prayers, while approximately 18% girls were not allowed to enter in kitchen, cooking and serving. Few participants were not permitted to perform household chores (1.88%), watching television (1.88%), physical exercise (0.94%), using mirror (0.94%), restricted food habits (3.76%) as well as restricted from meeting with the males in the family (0.94%) and a very small percentage of participants (9.43%) did not face any restrictions during this period.

## DISCUSSION

Adolescence is recognized as a special period in female's lifecycle, which marks the initiation of reproductive

functions. In the participants of present study age at menarche was found to be  $12.33 \pm 0.71$  years using status quo method. The perceptions regarding menstruation are largely shaped by the understanding and awareness of the process among the young girls. In the developing and underdeveloped countries, girls grow up with little information and tiny social support about the issue mostly due to the reticence of their mothers, who do not feel comfortable discussing reproduction with their own daughters. Women from rural centre particularly from lower socio-economic strata are not informed and acquainted with proper information to pass upon to their daughters, thus a significant number of adolescent girls still suffer during their periods and are restrained from performing daily activities and chores. It could be due to the lack of proper information, understanding as well as awareness about this monthly process and the ways to tackle the associated problems coupled with age old social restrictions.

In the present study it was also seen that a significant proportion of girls (46.56%) didn't know the reasons for the occurrence of the monthly cycle, while only 53.43% girls could identify it as a normal, physiological process. However, it was encouraging to find out that no girl perceived it as an abnormality or a disease or a curse. In a study by Tiwari et al. it was also noticed that 37.2% were not aware about menarche before its onset and 48.2%



girls felt they were not mentally prepared for this phase.<sup>23</sup> In divergence to the present study many researchers noticed that menstruation was viewed as a curse of God or sin or a disease by sufficient proportion of their participants.<sup>14,24,25</sup> Although many steps have been taken by the governmental and non-governmental agencies to educate adolescence girls about this inevitable phase of life, but the social restrictions still limit their efforts. The ignorance regarding menstruation and negligent behavior to not talk about it openly and many socio-cultural factors prevent and restrict women from communicating their requirements and this could seriously risk their health as the implications could be life threatening too at times.

In the respondents of present study 84.9% were having regular menstrual cycle, while 15.09% girls were having irregular menstrual periods. Likewise Walia et al recorded that 19.8% adolescent girls in Chandigarh and rural areas of Himachal Pradesh were having irregular periods.<sup>26</sup> It was illustrated by Jahanfar that regularity of the menstrual cycles is a potential external indicator of smooth function of hypothalamus pituitary ovarian axis.<sup>27</sup> About 67.92% participants of Nahan had menstrual flow from 3 to 5 days, whereas duration of menstrual flow in 26.41% girls was for 6 to 7 days and more than 7 days in 4.71% girls. In the 5-country study of the ovulation method, World Health Organization noted that the mean length of menstruation was 5 days, but it ranged from 4.3 days for women in Manila to 5.9 days for women in Dublin.<sup>28</sup> Findings of Jahanfar observed that average menstrual duration was found to be 7 days, and it ranged from 3-10 days.<sup>27</sup>

To maintain proper hygiene, menstrual products and their knowledge are of utmost importance, in the present study it was empowering to find out that 95.28% girls used sanitary napkins and only 4.71% used cloth as an absorbent. While studying menstrual patterns among school going adolescent girls in Chandigarh and rural areas of Himachal Pradesh, Walia et al noticed 80.2% girls used branded napkin.<sup>26</sup> Satisfactory hygiene practices were also found in a study carried out in Kolkata, where 82% respondents used sanitary napkins, while 15.7% used cloth. But this is not always the case as found in a recent study by Kansal et al on rural girls from Varanasi, where it was seen that only 1/3<sup>rd</sup> of the total studied respondents used sanitary napkins and majority (69%) of them preferred to use cloth.<sup>29,30</sup> This is may be attributed to the difference in the availability and awareness of the menstrual products and differential approach towards restrictive practices in the rural and urban centers.

Maintenance of personal hygiene especially during periods is essential to prevent oneself from various infections and life harming conditions. In this study sample most of the participants (48%) used sanitary pad for longer duration i.e. 7 to 8 hours, while 32% use for 5 to 7 hours, 19% for 3 to 5 hours and only 1% participants used one napkin for less than three hours. Using a single sanitary napkin for longer during heavy menstrual flow can lead bacteria to harbor in the pad and could make the

individual vulnerable to reproductive tract infections (RTI). Women with knowledge about menstrual hygiene are less exposed to RTI and thus are less likely to suffer the adverse consequences, girls with poor menstrual hygiene are more prone to RTIs.<sup>14,30</sup> The usage of dirty absorbents may cause infection and serious health tribulations as above studies have also mentioned.<sup>14,30</sup>

The informant's part is very influential because false information and notions regarding menstrual cycle could lead to adverse beliefs and practices among adolescent girls from an early age and in the current cross-sectional study for a significant proportion of girls (81.2%) informant was the mother or an elder sister (5.36%) followed by friends (6.04%), whereas teachers and school (1.34%) played a insignificant role. Influence from reading books or magazines was indiscernible (0.67%), this could be due to the restricted environment and limited educational resources in government schools. Findings of the study conducted by Shanbhag et al recorded that in majority of cases knowledge about menstruation was imparted by mother (55.1%), followed by friends (17.4%) and sister (14.2%) among high school going adolescent girls around Bangalore city, Karnataka.<sup>31</sup> This results are in convergence with other reports that suggest mother is the primary source of information in young girls from urban areas.<sup>25,32</sup> The increasing technological advancement has led to effective exchange of information on most of the issues, although the girls from present study were aware about the use of sanitary pads during this period, but no contribution of media was noted in creating awareness about the menstrual health and hygiene. This may be attributed to restricted environment of the study area because even today in many areas there is hesitation among the elders to discuss these issues with adolescent girls and they generally change the television channel when something related to reproductive health is being telecasted or would deliberately move out of the area to avoid discussion on the same.

The period hence could be stressful and exhausting in more than one way for young girls, a variety of symptoms were observed during this time in young girls, similar findings were noted in the present study. Most girls experienced different kind of problems during their monthly period and a considerable proportion of participants had multiple symptoms/ problems. Only 8.49% girls from study area were noted with a smooth period without any physical discomfort. Stomach ache (67.92%) was the most common problem faced by the girls followed by back pain in the present study. Chopra and Sharma demonstrated that the most frequent reported signs/ symptoms that were related to menstruation were stomach ache, backache, pain in legs and thighs, decreased physical activity levels, lack of sleep, changes in appetite, irritability or mood swings.<sup>21</sup>

Although urbanization could play a positive role in awareness and breaking the shyness regarding menstruation, but many restrictions associated with monthly cycles would not allow the circle of discomfort

to break easily. In the present study, a substantial number of girls (78.3%) were prohibited from entering the holy places and temples during this period. Mahon and Fernandes, observed many taboos in their study where girls were only instructed regarding how to use clothes, follow the rituals, cultural practices and precautionary measures in front of opposite sex.<sup>33</sup> They further viewed limited knowledge and many misconceptions about menstruation were the main factors contributing to undue fear, anxiety, and undesirable practices during this period.

Various other studies have made similar observations in terms of a range of restrictions imposed during the period.<sup>14,34-36</sup> These restrictions could be the coactions of various misconceptions, beliefs, cultural factors that have been followed for many years and have placed their stronghold in the minds of the women, who further pass them to the next generation. The most common misconception is the woman seen as in impure state while she menstruates and hence kept away from religious activities. Report of Thakre et al also perceived that menstruating women were generally viewed as unclean and from Indian context they further explained that isolation and restrictions associated with this period has stiffened the negative attitude towards this inevitable period of life.<sup>25</sup>

Studies done across the globe also have highlighted similar negative view about menstruating women like excluding them from religious activities and ceremonies is prevalent in certain sects of Judaism, Christianity and Islam.<sup>12,33</sup> Despite of being a natural biological process, menstruation is associated with numerous misconceptions and taboos as are narrated by participants in the present study too.

**Case study:** In the present study a girl named Simar (name changed) described that she was not permitted to visit the Gurudwara, the Sikh holy temple, while she was menstruating. She always has to sit at the back and not anywhere near the holy place of worship.

Another Sikh girl Preet (name changed) who happens to be a 14 years old and has been menstruating only since a year has a number of unusual restrictions imposed upon her during her monthly cycle. Apart from constraint on visiting the religious place (Gurudwara), she described how she was not allowed to watch television during this time, the reasons of which she didn't know. She was further not allowed to use mirror during her periods because it is believed to be bad omen.

Anita (name changed) was a 16 year old girl, she was born and brought up in Nahan itself. Her Father was a farmer and mother a housewife, she had 2 siblings and she was the eldest of them. She explained that she isn't allowed to touch anyone's hair during her period days, as her mother told her it could cause hair fall to that person. Apart from this, she was also refrained from working in kitchen and entry to the temple was restricted while she menstruates.

Himani (name changed) was 16 years old, whose father was a government servant and so was her mother and she also followed the imperative of not being allowed to touch anyone's hair during this time and she explained the same reason for her doing so.

Mapping the knowledge and understanding of menarche, menstrual hygiene and menstrual health among adolescent girls, Chandra-Mouli and Patel also observed that unlike other biological events, menarche is impacted by religious and cultural factors, thereby influencing the perceptions of young girls about the process.<sup>37</sup>

## CONCLUSION

This study sheds light upon how the restrictions and taboos and old age myths that are associated with menarche are still prevalent in the society and there is an urgent need for women and girls to be educated regarding the process of menstruation which would be the first step towards better individual as well as community health. Awareness on healthy menstrual practices is very important and for this purpose it is essentially necessary for the women to be informed. It is not only the responsibility of Government to raise awareness, but also on the part of the people in the society to facilitate exposure to these emerging adults of this society about reproductive health. Hence raising awareness from childhood will be helpful in promoting hygienic menstrual practices resulting in lessened degree of health consequences and infections among girls.

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