STUDY ON MENSTRUAL HYGIENE PRACTICES AMONG RURAL ADOLESCENT GIRLS

BY

JYOTI
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CERTIFICATE – I

This is to certify that this thesis entitled, **Study on Menstrual Hygiene Practices among Rural Adolescent Girls in Hisar district** submitted for the degree of **Master of Science**, in the subject of **'Extension Education and Communication Management'** to the CCS Haryana Agricultural University, is a bonafide research work carried out by **Ms Jyoti**, Admn. No. **2017HS08M**, under my guidance and supervision and that no part of this dissertation has been submitted for any other degree.

The assistance and help received during the course of investigation have been fully acknowledged.

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CERTIFICATE–II

This is to certify that this thesis entitled, **Study on Menstrual Hygiene Practices among Rural Adolescent Girls in Hisar district** submitted by **Ms. Jyoti**, Admn. No. **2017HS08M,** to the CCS Haryana Agricultural University in partial fulfillment of the requirements for the degree of **Master of Science**, in the subject of **'Extension Education and Communication Management'** has been approved by the Student's Advisory Committee after an oral examination on the same in collaboration with External Examiner.

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CHAPTER-I

INTRODUCTION

Adolescence is a significant period in the life of a woman (Lawan *et al.,* 2010). It is the age when human body goes through transition. WHO defines adolescence as age from 10-19 years. This is the time where they develop their physical and psychological maturity. Physiologically, the hypothalamus produces growth hormone and gonadotropins initiates' pubertal changes. The term adolescence comes from a Latin word means "to grow to maturity. Adolescents are a large and growing segment of the world's population. More than half of the world's population is below the age of 25 years, and one in every two young people in the world is adolescent. In India, adolescents account for 20 per cent of country's population. In Haryana, adolescents constitute 21 per cent of the total population (Census 2011). By year 2025, the population of adolescents in developed and developing countries would be around 19 per cent and 27 per cent respectively (Anonymous, 2016)**.** More than 50 per cent population in India belongs to young age (less than 25) in which almost half are females. The most important change during adolescence in the girls is the onset of menstruation.

Menstruation is a natural phenomenon among adolescent females who experience shedding of blood for 1 week every month from the age of maturity until menopause. The first menstruation (menarche) occurs between 11 and 15 years with a mean of 13 years commonly called a period of menstruation flow which consists of blood, mucus, endometrial fragments and vaginal epithelia's. Menstrual hygiene comprises care of genital area, use of sanitary napkins and personal hygiene and "sympathetic emotional and hygienic care given during menstruation (Isha Thakur Dharni,2018). Health problems in adolescents are interrelated and may be due to poverty, unemployment, gender and ethic discrimination and impact of social changes on family and communities. As menstruation is very important in human reproduction, but with various disorders it can seriously affect quality of life of young adults and reproductive cycle. Seventy five percent of girls experience some problems associated with menstruation. There are a number of physical, psychological and emotional symptoms that occur during premenstrual and during menstruation.

The onset of menstruation is a physiological process which changes a young woman's life. It is a natural and beneficial monthly occurrence in healthy adolescent girl and pre-menopausal in adult women. It is an important development period associated with the adolescent years which signifies transition from girlhood to womanhood. Menstruation is a natural phenomenon which is unique to the females. In total a woman spend around six to seven years of her lives menstruating. Among all the developments associated with the

adolescent years, menarche may be the most important. Menstruation is still regarded as something unclean or dirty in India and the reaction to menstruation depends upon the awareness and the knowledge about it. Being an important issue concerned with morbidity and mortality of female population, Hygiene-related practices during menstruation have considerable impact on reproductive health, and poor practices increase vulnerability to reproductive tract infections (Kumar, 2016). But cultural taboos and socio-cultural restrictions imposed on girls results in adolescent girls remaining ignorant of the scientific facts and hygienic health practices, which sometimes result into adverse health outcomes (Maji, 2016).

In rural areas, women have less knowledge about menstrual hygiene condition. In India, national programme named total sanitation campaign (TCS- 26th August, 2014) was started by the government to ensure access to improved sanitation. TCS has recognised the need for the programme to incorporate hygiene promotion, provide women's sanitary complexes (community facilities with latrines and bathing facilities) and construct girl's toilets at schools. However, as yet it gives no attention to providing menstrual hygiene services. Also, many schools do not support adolescent girls or female teachers in managing menstrual hygiene with dignity. Inadequate water and poor sanitation facilities make managing menstruation very difficult, sanitary protection materials can result in blood stained cloth causing stress and embarrassment. Even at household level, they generally have no access to a private latrine or money for sanitary materials. 80 per cent of rural women are unaware about menstruation health.

The perception and appropriate hygiene practices of girls towards menstruation is closely related with their level of knowledge and beliefs. Although, menstruation is a natural process and it is associated with many misconceptions and practices which sometimes results in adverse health effects. Many young girls often face serious health problems due to strong parental bondage with traditional beliefs about menstruation and suffer many gynecological problems including infections of the reproductive organs as a result of poor personal hygiene and unsafe sanitary conditions (Bhatia *et al.*, 1995). As menstruation is generally considered as unclean, a condition in those days leading to isolation of the menstruating girls and restrictions imposed on them by the family and the society also put restrictions on them, in daily activities such as, not allowed to take bath, comb hair, jump or play, enter in kitchen and holy places. Apart from these, dietary restrictions taboo on consumption of food like rice, curd, milk, lassi etc during the menstrual period are also imposed (Mehra *et al.*, 1995). Most of the adolescent girls have incomplete and inaccurate information about the menstrual physiology and hygiene. They take information from their mothers, television, friends, teachers and relatives (Mundey *et al.*, 2010). But in case of rural areas, girls don't feel free to discuss even with mothers and relatives. The taboos and rituals surrounding menstruation exclude women and girls from aspects of social and cultural life (Joshi and Fawcett, 2001).

They are ritually considered impure during menstruation and anyone or anything she touches become impure as well (Water Aid In Nepal, 2009a, 2010).

In India, majority of woman in rural areas use reusable cloths to absorb menstrual blood. Lack of facilities, including safe water and clean private toilets coupled with taboos and embarrassment associated with menstruation mean that many women and girls do not have nowhere to change their cloths and are not always able to wash themselves regularly. Many are unable to wash their cloths adequately and effectively and have nowhere to dry them hygienically, instead they find secret, dark places to hide their cloths (Ahmed and Yesmin, 2008; Dasgupta and Sarkar, 2008; Dhingra *et al*., 2009). To kill harmful bacteria which can cause infections cloths should be washed with soap and dried in sunlight. But in rural areas cleaning of cloth is often done without soap and dirty water and drying may be done indoors rather than in sunlight or open air due to social restrictions and taboos (Singh, 2006). Good menstrual hygienic practices such as use of sanitary pads and adequate washing of the genital area are essential for protection of health. Fifty two percent of the female population is of reproductive age and most of them are menstruating every month. The majority of them have no access to clean and safe sanitary products (Sustainable sanitation and water management, 2010).

Having a good menstrual hygienic practices will enhance the confidence of females in many aspects. On the other hand, poor menstrual hygienic practices will increase susceptibility to reproductive health related problems (Prajapati *et al.,* 2015). Menstrual hygiene and management is an issue that is insufficiently acknowledged and has not received adequate attention. Recently (20^{th} feb. 2018) union minister for women and child development Shrimati Maneka Gandhi launched a menstrual hygiene campaign at New Delhi"#Yes I Bleed" with the objective to create a holistic approach to the issue of menstruation, which is an experience that transcends culture, class and caste. This (mindset change) is happening, but much more needs to be done. Menstrual hygiene day (MHD, MH Day) is an annual awareness day on May 28 to highlight the importance of good menstrual hygiene management (MHM). It was initiated by the german-based NGO WASH United in 2014 and aims to benefit women and girls worldwide. The 28^{th} was selected to acknowledge that 28 days is the average length of the menstrual cycle. The day offers an opportunity to actively advocate for the integration of menstrual hygiene management (MHM) into global, national and local policies and programmes (Wikipedia).Similar effort have been made in film written by R. Balki 'PADMAN' which was recently released with an objective to change the mindset of people about menstruation. Menstruation is much more than just about losing blood and unused eggs, Equally important is the safe disposal of used sanitary pads, which actually are an environmental disaster. In villages, the used pads and cloths often end up in village ponds, exposing every human being and animal to the risk of infection.

According to NFHS (2015-16) survey only fifty eight percent of women are using safe and clean ways during menstruation. Pad vending machines/pad ATMs have been installed in some government schools. A pack of 3 pads will come out after inserting 10 rupees. Disposal machines have also been installed to burn the pad. But these machines are not working properly due to lack of knowledge of operating them. Today, 6 out of 10 women had access to disposable sanitary napkins. Due to the advertisements made by various companies the business of sanitary napkins has been increased. Now a days, eco- friendly bio-degradable sanitary napkins are also available in market but they are costly.

Lack of appropriate and sufficient information/awareness regarding menstrual hygiene among adolescent girls may result in incorrect and unhealthy behaviour during their menstrual period. Many mothers lack correct information and skills to communicate about menstrual hygiene to pass on to their children, leading to false attitudes, beliefs and practices among their children. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon. Assessing the menstrual hygiene practice level of females and addressing the gap is essential to reinforce safe and hygienic practices during menstruation. Keeping all this in mind, the following study has been undertaken with the following objectives:

1. To explore misconception and experience about menstruation among adolescent girls
2. To assess menstrual hygiene practices
3. To identify the factors associated with menstrual hygiene practices

Scope of the study

The present study is an attempt to focus on study of menstrual hygiene practice among rural adolescent girls. The study attempts to explore misconception and experience about menstruation, assess menstrual hygiene practices among adolescent girls and delineate the factors associated with menstrual hygiene practices. The findings of the study will be of great use for policy makers engaged in the promotion of various menstrual hygiene practices, changing the mindset of people and for student scholars and all those interested in saving their health.

Limitations of the study

The present study is limited only to two villages in Hisar district of Haryana. The tools used for the study have their own limitations. No single research study can include everything which is covered by a framework. Further the findings of research study are based on the personal views of the respondent. However considerable care has been exercised in selecting variables, systematic steps and procedures were followed to carry out the study systematically so that all the objectives of the study could be fulfilled satisfactorily.

CHAPTER-II

REVIEW OF LITERATURE

In this chapter, a brief resume of past researches relevant to the objectives of the present study along with its parameter have been incorporated under the following sub-heads:

2.1 Awareness, misconception and experience about menstruation

2.2 Menstrual hygiene practices among adolescent girls

2.3 Factors associated with menstrual hygiene practices

2.1 Awareness and experience about menstruation

Varina *et al.* (2007) identified that 86.0 per cent girls believed that the menstruation is a physiological process. While, 14.0 per cent girls believed it as a curse of God, 7.0 per cent girls believed it as a sin and most of the girls (54.6%) did not know about the organ of menstrual bleeding.

Thakre *et al.* (2011) said that menstrual hygiene promotion needs to be included in school curriculum and the social workers should be involved in school health programmes to break the cultural silence on menstrual issues and impart scientist knowledge on menstrual hygiene to help the adolescent girls to cope with menstruation related problems as well as reproductive health problems. For this, they have to be given requisite skills usually through training or workshops and much more efforts were needed to curb the misbeliefs and taboos among the adolescent school girls.

Jogdand *et al.* (2011) studied that the age of attainment of menarche ranged from eleven to sixteen years. It was found that nearly fourty per cent girls (36.1%) were aware regarding menstruation prior to the attainment of menarche. More than half of girls (61.2%) said that mother was the first source of information regarding menstruation. Whereas, 34.6 per cent girls reported that they use old cloth for protection during menstruation and 78.9 per cent girls were restricted to attend religious occasions during menstruation.

Oche *et al*. (2011) reported that about one-third of the girls had low level of knowledge on menstruation and teachers lack in providing information on menstruation and menstrual hygiene. Further, about the general absence of physiology of menstruation and menstrual hygiene as topics in the text books were used for all levels of the selected schools irrespective of ownership.

Kamaljit *et al.* (2012) reported that majority of girls (81.0%) had some sort of restriction (Religious occasion, Marriage, School, Playing, Holy place visit, Household work, other) during menstruation. Whereas studies conducted in West Bengal showed 85.0 per cent and 80.3 per cent girls had a similar restriction during menstruation. In a similar study conducted in Nagpur, it was found that 73.6 per cent girls practiced various restrictions. Out

of the total population, 86.0 per cent girls practiced restrictions to eating compared to 50.0 per cent in a study conducted in West Bengal. This further, reflected that the old practices in different cultures and taboos in the society regarding menstruation need to be reformed in order to empower the girl child and thus, provided freedom to her from restriction and encouraged for active participation in daily activities.

Dube and Sharma (2012) reported that majority of urban participants (88.5%) expressed negative reactions towards menstruation. Further, highlighted the fact that girls with no previous knowledge about menstruation felt more scared at menarche. These negative feelings associated with menstruation could be because of participants not being psychologically prepared for attaining menarche which is an important milestone in their life. This could also be a reflection of the culture and taboos in the society regarding menstruation.

Salve *et. al* (2012) identified various taboos and misconceptions which might be a reason for various restrictions practiced during menstruation. It was found that hygiene during menstruation was not satisfactory so there was a need to educate the adolescent girls about healthy and hygienic practices during menstruation and to prevent the reproductive tract infections. For this, teachers and parents should educate the girls prior to attaining menarche and proper hygienic practices should be followed.

Senthil *et al.* (2013) reported that 75 percent of girls experienced some problem associated with menstruation and there were a number of physical, psychological and emotional symptoms that occur during premenstrual and menstruation.

Sapkota *et al.* (2013) analyzed that 36.1 per cent of girls correctly reported about menstruation, whereas most common informant was mother (39.3%). Further, it was reported that dysmenorrhoea was the commonest problem faced during menstruation (78.7%). While, more than half of respondents (54.1%) used sanitary pads and 50.8 per cent of girls had frequency of changing pads twice a day. Nearly fourty per cent of girls (36.1%) gave initial reaction of fear/apprehension at menarche, whereas 44.3 per cent perceived it as an expectant process. Further, girls still faced different types of restrictions like not being allowed to visit holy places, not being allowed to cook and touch male family member, etc.

Amirtha *et al.* (2013) analysed that nearly 3/4th of girls (71.%) had complete information about menstruation with a variation in true formation of 54 per cent and 88 per cents in government and private schools, respectively and 29 per cent had incomplete information. Majority of girls (89.0%) responded that menstruation is a normal process. While, more than half of girls (60.0%) correctly responded with uterus as the source of blood during menstruation and 40 per cent girls had incorrect views regarding the source of blood during menstruation. Majority of girls (93%) held the view that sanitary pads were to be used as absorbent during menstruation, whereas only 2 per cent believed that a cloth piece was enough.

Ziade *et al.* (2013) observed that more than fourty per cent of girls (42.8%) believed that menstruation as a physical process and 34.8 per cent of girls believed it as a natural process. More than 3/4th of girls (76.4%) were not aware of the source of the menstrual bleeding while 23.6 per cent girls were aware that the source of the menstrual bleeding was the uterus. Also, 59.0 per cent of girls believed that menstrual blood is impure.

Prajapati *et al.* (2015) showed that out of 88 respondents, half of the respondents (50.0%) attained menarche at the age between 12-14 years. Maximum number of girls (65.9%) had blood flow for 2-5 days, while 18.2 per cent had excessive blood flow. Out of total, nearly fourty per cent of girls (39.8%) knew about menstruation before menarche and 48.9 per cent of girls reported mother as a source of information regarding menstruation. Only, 17.0 per cent of girls had correct knowledge regarding organ from where bleeding occurs, while 33.1 per cent of girls knew that menstruation is a physiological process and 21.6 per cent of girls believed that there is a toxin in menstrual blood. Also, 26.1 per cent of girls used sanitary pads and 33.8 per cent faced the problem of washing and drying either due to shortage of water, lack of privacy or drying while using the cloth pieces.

Ramachandra *et al*. (2015) found that 34.0 per cent participants were aware about menstruation prior to menarche, and mothers were the main source of information among both groups. Overall, more than half of adolescent girls (69.0%) were using sanitary napkins as menstrual absorbent, while only 6.0 per cent of adolescent girls were using both cloth and sanitary napkins and almost half of the rural participants dried the absorbent inside their homes.

Rana *et al*. (2016) found out that the various restrictions surrounding menstruation, includes avoiding the girls from attending religious functions (52.0%), whereas others include not attending schools, not touching sacred books, and keeping them separated. Also, restriction in having certain types of food was also seen among few girls (1.7%).

Maji *et al.* (2016) reported that 45.0 per cent of respondents knew about menstrual cycle before their menarche. While in most cases, 60.0 per cent of the respondents said that their first informant was their peer group, followed by mothers. Most of the girls (68.0%) were not aware of the cause and the source of bleeding. However, majority of them had knowledge about the use of sanitary pads but still 34 per cent of them used old clothes but all of them practiced one or more cultural taboos and restrictions related to menstruation.

Udayar *et al.* (2016) reported that majority of the girls attained menarche at the age of 13 years, while 82.3 per cent had regular menstrual cycle, whereas 78.5 per cent were found using sanitary pads during menstruation and 58.0 per cent were throwing them into the dust bins. Nearly 3/4th of the girls (72.0%) got the information about menstruation before menarche by their mothers and restrictions like attending school, touching sacred books, playing or outing, and keeping them separated was seen during menstruation.

Agarwal *et al*. (2017) evident that 35.6 per cent participants were aware about menstruation before their menarche and 54.2 per cent girls got the information by their mothers. It was also found that 14.8 per cent respondents used only sanitary napkin during menstruation and majority of respondents (83.8%) changed absorbent 1 to 2 times a day.

Dillu *et al.* (2017) found that majority of the adolescents (81%) had fair knowledge, 11 per cent had poor knowledge and only 8 per cent had good knowledge regarding menstrual hygiene. The result further depicted that there was a significant association between knowledge score and age, religion, educational status, way of travelling to school and the term used for menstrual cycle.

Ghimire (2017) monitored the overall average knowledge of menstrual hygiene in adolescent girls. Formal as well as informal channels of communication needed to be emphasized for the delivery of information on menstrual hygiene through organized community efforts and institutions and organizations at community level should be strengthened for effective delivery of health and nutrition care services for overall better health of community beneficiaries. Majority of the subjects (70%) had average knowledge, 25 per cent of them had poor knowledge and only 5 per cent had good knowledge regarding menstrual hygiene and there was a significant association of knowledge on adolescent girls with demographic variables such as age at first menstruation.

Zeleke *et al*. (2017) reported that young women especially in developing countries often lack information about good menstrual hygiene practices. Majority of the respondents felt uncomfortable during school time while experiencing menstruation.

Priya *et al*. (2017) observed that more than half of the respondents (52%) girls had any information regarding menarche and menstruation before attainment of menarche, whereas (48.0%) didn‟t know that information. After menarche, 32.1 per cent girls reported their mothers to be the primary source of information, followed by sisters in 24.7 per cet and 23.9 per cent girls mentioned their friends and relatives. Interestingly, 15.3 per cent girls reported that they got information from ANM or AWW.

Agarwal *et al.* (2018) determined that among the adolescent girls, knowledge on menstruation is sub-optimal and the practices were unacceptable for proper hygiene. Menstrual hygiene was an important issue needs to be ensured and a variety of factors were known to affect menstrual behaviours. Further, awareness regarding the need for information on healthy menstrual practices was very important. Also, periodic gynecology check-ups should be recommended to all school going girls which was to be followed by appropriate remedial measures.

2.2 Menstrual hygiene practices among adolescent girls and use of sanitary pads

Khanna *et al*. (2005) emphasized that three-fourth of the girls used old cloth during their periods and only one-fifth reported using readymade sanitary pads. It was observed that the usual practice was to wash the cloth with soap after use and keep it at some secret place till the next menstrual period. And, to maintain privacy these are sometimes hidden in unhygienic places. Further, it was found that 26.1 per cent of girls used sanitary pad and remaining were using either old or new cloth pieces.

Goyal *et al*. (2010) analysed that onset of menstruation is one of the most important changes occurring during adolescence. As, it is important to encourage safe and hygienic practices among the adolescent girls, educating them about issues related to menstruation and bring them out of traditional beliefs, misconceptions and restrictions regarding menstruation, so that they can safeguard themselves against various infections and diseases.

Verma *et al*. (2011) reported that majority of girls (87.3%) used old plain cloth during menstruation and only 10.6 per cent used commercially available sanitary napkins. While the reason of not using sanitary pad was found lack of knowledge among girls (33.6%) and cost of the product (31.2%) for the girls.

Subhash *et al.* (2011) showed that the cleaning of external genitalia was unsatisfactory among 67.9 per cent of girls. Whereas majority of them used only water for cleaning external genitalia and lack of knowledge and privacy in rural set up could be a reason for unsatisfactory cleaning of external genitalia.

Thakre *et al*. (2011) commented that menstruation is generally considered as unclean in the Indian society and good hygienic practices such as the use of sanitary pads and adequate washing of the genital area are essential during menstruation. For this, a variety of factors were known to affect menstrual behaviors, especially the economic status and residential status (urban and rural).

Shanbhag *et al. (*2012) reported that hygiene-related practices of adolescents during menstruation had a health impact in terms of increased vulnerability to reproductive tract infections (RTI). And reproductive tract infections became a silent epidemic that devastated women's life which was closely interrelated with poor menstrual hygiene.

Juyal *et al*. (2012) stated that majority of the participants used old cloth as menstrual absorbent and the major reason cited for not using sanitary napkin was high cost, disposal problem and shyness. Also, out of all the participants who used old cloth as menstrual absorbent, majority of the participants dried them inside house and most of the participants were using single absorbent per day and reported that they were not comfortable in changing pads at school.

Gultie *et al.* (2014) found that majority of the participants (90.9%) practiced good menstrual hygiene and had high level of menstrual hygiene knowledge. It also revealed that good menstrual hygiene was practiced among those participants who had high level of knowledge about menstrual hygiene and different factors were found to be affecting the practice of menstrual hygiene such as source of information, access of water and knowledge about menstrual hygiene.

Tesfalidet *et al.* (2015) analysed that use of sanitary pads and washing the genital area were essential practices to keep the menstrual hygiene. Unhygienic menstrual practices affected the health of the girls and there was an increased vulnerability to reproductive tract infections and pelvic inflammatory diseases and other complications.

Bachloo *et al.* (2016) observed that the negative attitude about menstruation was found to be more among rural adolescents as compared to urban adolescents. Further, menstrual hygiene was found poor among rural adolescents, sanitary pads were used more by urban girls and significant association was seen between mother education and menstrual hygiene and SES and material used during menstruation.

Paria *et al.* (2017) examined that nearly fourty per cent of girls (37.5%) were aware about menstruation prior to attainment of menarche and the difference in the awareness regarding menstruation in urban and rural areas was highly significant. Further, it was found that 36.0 per cent of girls in the urban areas and 54.8 per cent of girls in the rural areas were using homemade sanitary pads and reused the same in the subsequent period. Also, satisfactory cleaning of external genitalia was practiced by urban girls (47.6%) and rural girls (37.9%). And, differences were also found in hygienic practices and adolescent girls in the urban and rural areas.

Dharni *et al.* (2018) reported that menstrual hygiene practice was more in urban adolescent girls as compared to rural girls. For, urban girls nearly fourty per cent (34.0%) had excellent menstrual hygiene practices and 88.0 per cent were using commercially available sanitary pads as compared to rural girls (62.0%). Also, majority of urban girls (62.0%) and rural girls (76.0%) had good menstrual hygiene practices, while the mean score of menstrual hygiene practices of urban adolescent girls was higher (28.24) than the mean score of menstrual hygiene practices of rural adolescent girls. Further, it was concluded that the efforts should be taken to improve the menstrual hygiene practices of rural and urban adolescent girls so that vulnerability to reproductive tract infections should be decreased and suffering of millions of women could be mitigated.

2.3 Factors associated with menstrual hygiene practices

Omidvar and Begum (2010) assessed the hygienic behaviour of unmarried females aged 15 to 22 years and factors affecting their behaviours. It was found that awareness regarding the need for information about healthy menstrual practices is on rise among young

women. For this, mechanism would be introduced to provide knowledge about menstrual health and self maintenance among women. Also, hygiene related practices of women during menstruation are of considerable importance as it affects health by increasing vulnerability to infection especially the infections of urinary tract and perineum.

Thakre *et al.* (2011) said that menstrual hygiene promotion needs to be included in school curriculum and the social workers should be involved in school health programmes to break the cultural silence on menstrual issues and impart scientist knowledge on menstrual hygiene to help the adolescent girls to cope with menstruation related problems as well as reproductive health problems. For this, they have to be given requisite skills usually through training or workshops and much more efforts were needed to curb the misbeliefs and taboos among the adolescent school girls.

Abed (2012) revealed that the mean age for onset of menstruation in girls was 14.25 ± 1.53 years. Majority of girls (83.3) reported that their friends were the main source of information about menstruation. Further, it was found that there was significant difference in their level of knowledge on menstruation ($p<<0.000$) and highly statistical significant difference ($p= <0.000$) detected between girls' practice in pre and post two months health education implementation. It was observed from the reactions given by the respondents on seeing the advertisement of sanitary pads on television that (39.0%) of girls said that they felt shy to see the advertisements in front of male members of the family.

Busari (2012) reported that 54 per cent of the participants had abdominal pain, 50 per cent had cramps, 25 per cent had backache, 18 per cent had pain the thighs while 15 per cent had nausea during premenstrual period. During menstrual period, 56 per cent of the participants had abdominal pain, 62 per cent had cramps, 30 per cent had backache, 23 per cent had pain while 28 per cent had nausea.

Bobhate *et al.* (2013) found that increase in age, socio-economic status, and mother's literacy status were significantly associated with the increase in use of sanitary pads among girls. Girls belonging to Muslim religion made least use of sanitary pads compared to other and Hindu religion.

Kamath *et a.l* (2013) reported that 95 per cent of adolescent's attained menarche at the time of interview; Mean age of menarche in the study subjects was 12.21±1.70 year. 51.2 per cent girls had negative reactions to menarche like scared, upset/guilt discomfort etc. Common problem reported by adolescents girls were abdominal pain 77.6 per cent, approx. 9.7 per cent adolescent girls did not practice any restriction during menstruation. Most common restriction were restricted from physical activities and visit religious place, mother was the main sources of knowledge regarding menstruation. Majority of girls had not heard about menstruation at the time of menarche (55.7%) while 65.3 per cent were afraid after first menstruation.

Sivakami *et al*. (2016) assessed the status of menstrual hygiene management (MHM) among adolescent girls in India to determine the unmet needs. Strengthening of MHM programmes is needed in India and education on awareness, access to hygienic absorbents and disposal of MHM items needed to be addressed. While, menstrual hygiene management (MHM) is a problem for adolescent girls in low and middle income countries (LMICs), particularly when attending school. And, poor water, sanitation and hygiene (WASH) facilities in schools, inadequate puberty education and lack of hygienic MHM items (absorbents) caused girls to experience menstruation as shameful and uncomfortable.

Dixit *et al*. (2016) observed that the education of girl child pertaining to the basic knowledge of menstruation and practices during menstruation should be more emphasised in government schools. Proper rapport between the mother and the girl child should be encouraged and if the gap exits could be bridged with education and mass mediamass media viz., its better information, education and communication (IEC) capabilities as well as acceptance.

Kumar *et al*. (2016) reported that the most common restriction followed was not attending religious function as practiced by 73.9 per cent and 66.7 per cent of rural and urban girls respectively. Study on the use of material during menses revealed that the use of sanitary pads was more common among urban adolescent girls (62.5%) compared to rural (35.1%). Most common reason cited for not using sanitary pad was high cost as reported by 42.6 per cent and 43.9 per cent osf rural and urban girls respectively. Overall menstrual practices were better in urban as compared to rural girls.

Mohapatra *et al*. (2016) found that significant association was found between good menstrual hygiene and participants who had adequate knowledge about menstrual hygiene, parents' level of education.

CHAPTER-III

MATERIALS AND METHODS

The chapter enumerates the detailed methodology adopted in conducting the spresent investigation. The study has been distinctly described under the following heads:

3.1 Locale of the study

3.2 Sampling procedure

3.3 Variables and their measurement

3.4 Tools and techniques of data collection

3.5 Data analysis

3.1 Locale of the study

The present study was conducted in Hisar district of Haryana state which was selected purposively.

3.2 Sampling procedure

Sampling procedure for the selection of rural respondents had been shown in Fig. 3.1 as under:

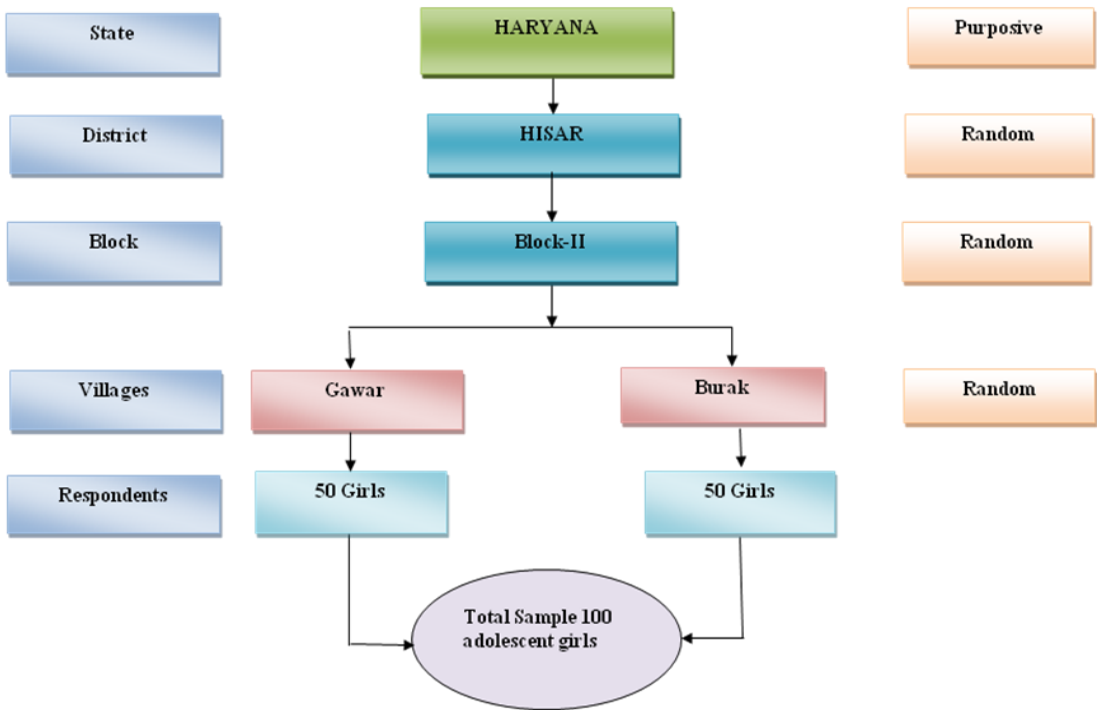


Fig 3.1 Selection Procedure

Selection of village

The study was conducted in Hisar district of Haryana state. From Hisar district Block II was selected randomly and from Block II two villages viz. Gawar and Burak were selected randomly.

Selection of respondents

From each selected village, 50 females from each village were selected randomly, thus, making a total of 100 respondents.

3.3 Variables and their measurements

On the basis of extensive reviews, relevant literature and consultation with experts, the relevant variables and measurements for the study were selected which are described as under:

1) Independent variables:

a) Age — Chronological age
b) Ordinal position — Chronological age
c) Caste — Schedule developed
d) Number of siblings — Schedule developed
e) Income (Annual) — Schedule developed
f) Education of respondent — Schedule developed
g) Education of mother — Schedule developed
h) House type — Schedule developed
i) Occupation of father — Schedule developed
j) Occupation of mother — Schedule developed
k) Size of family — Schedule developed
l) Siblings – age — Schedule developed
– sex — Schedule developed
m) Household amenities - Water connection — Schedule developed
- Garbage disposal — Schedule developed
- Toilet facilities — Schedule developed

2) Communication variables:

a) Information source — Schedule developed
I. Cosmopolite — Schedule developed
II. Localite — Schedule developed
b) Mass media exposure — Schedule developed

3) Dependent variables:

1. Misconceptions and experience about menstrual hygiene practices — Schedule developed
2. Menstrual hygiene practices — Schedule developed

3.3.1 Independent variables

3.3.1.1 Socio economic and personal variable

Age

It is one of the basic characteristics of an individual linked with maturity physical well-being, productivity level and work efficiency. In this study, age was operationalized as the number of full years completed at the time of interview and should be between 10-19

years. Actual age was recorded and categorized on the basis of maximum-minimum responses obtained, the age groups were categorized as under:

Category (in years)	Score
10-13	1
13-16	2
16-19	3

Ordinal position

Ordinal refers to the sequence in which something is in relation to others of its kind. Ordinal numbers can be contrasted to cardinal numbers. The position in order of birth of the child among his/ her siblings in the family.

Category	Score
First	1
Second	2
Third	3
Fourth	4
Above fourth	5

Caste

Caste refers to a class of hierarchy or distinct hereditary order in society. These categorization were assigned scores as follows:

Category	Score
SC/ST	1
BC/OBC	2
General	3

Income (annual)

It refers to the amount earned by all family members in a month from various sources viz. agriculture labour, independent profession/caste occupation/small scale industry, farming, service etc. This was operationally measured in terms of actual family income expressed in rupees. Following scoring was incorporated as under:

Category (in rupees)	Score
<3 to 3 lakh	1
4-5 lakh	2
>5 lakh	3

Education of respondent

It refers to the academic qualifications of the respondent acquired through formal schooling and training. The years of schooling of respondent was quantified by giving scores as under:

Category	Score
VI class	1
VII class	2
VIII class	3
IX class	4
X class	5
XI class	6

Education of mother:

Education of mothers of the respondents was operationalized as the number of years of formal education attained by them and categorized with respective scores as given below

Category	Score
Illiterate	1
Elementary	2
Secondary	3
Senior secondary	4

House type

It refers to the type of house possessed by the respondent at the time of investigation. *Kaccha* house refers to made of mud and thatch, Mixed refers to made of mud or cement, brick and thatch *Pucca* house refers to made of brick, cement and concrete and. The scores was assigned as:

Category	Score
Kaccha	1
Mixed	2
Pucca	3

Size of family

Size of family refers to the total number of members in the family consisting of husband, wife, children and other dependents. It was divided into three categories:

Category	Score
Large (6 and above)	1
Medium (5-6)	2
Small (up to 4)	3

Occupation of Father

Father's occupation was defined as the father's profession and his main source of income and scores for fathers occupation were given as below:

Father occupation	Score
Labourer	1
Farmer	2
Service	3
Business	4

Occupation of Mother

A person's usual or principal work or business, especially as a means of earning a living and was given scores as follows.

Category	Score
Labourer	1
Farmer	2
Home-maker	3

No. of siblings (male and females and their age)

This indicated the number of brothers and sisters of children including the respondent living together at the time of data collection coding pattern for number of siblings is given below:

Siblings	Score
Male	1
Female	2

Number of siblings and age (years)	Score
Up to 2 (17-19)	1
Three and above (19-21)	2

Household amenities

Household amenities basically include water connection, garbage disposal and toilet facilities the respondents had at their homes

I. Water connection

Water connection	Score
Yes	1
No	2

II. Garbage disposal

Garbage disposal	Score
Yes	1
No	2

III. Toilet facilities

Toilet facilities	Score
Yes	1
No	2

3.3.1.2 Communication Variables

Possession of Communication Means

It has been operationalized as the number of communication means such as mass media possessed by respondents' family at the time of interview to which a respondent was

exposed e.g. radio, television, newspapers, magazines, films and books etc. for obtaining information.

Information Source Utilization

It was operationalized in terms of communication contacts of respondents with different sources of information viz. mother, relatives, sister and peer group on three point continuum for localite sources. Scores 1 to 4 were assigned.

Localite sources

Category	Score
Mother	1
Relative	2
Sister	3
Peer group	4

Cosmopolite sources

This was measured in terms of the information gathered from different sources viz. health worker, medical personnal and teacher and were assigned scores as follows.

Category	Score
Health worker	1
Medical personel	2
Teacher	3

Mass media exposure

Print media

This was measured in terms of the information gathered from print media viz. books, magazines, newspapers and leaflets etc. were assigned scores as follows.

Category	Score
Books	1
Magazines	2
Newspaper	3
Leaflet	4s

Electronic media

This was measured in terms of the information gathered from electronic media viz. radio, television and internet etc. were assigned scores as follows.

Category	Score
Radio	1
Television	2
Internet	3

1.3.2 Dependent Variables

1.3.3 The schedule was developed for all the dependent variables selected for the study and they were defined and operationalized as follows:

Adolescent

The world health organisation (WHO) has defined adolescence as the group of 10-19 years. Adolescence (from Latin *adolescere*, meaning 'to grow up') is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood (age of majority). Adolescence is usually associated with the teenage years, but its physical, psychological or cultural expressions may begin earlier and end later (Wikipedia).

Menstruation

Menstruation, also known as a period or monthly, is the regular discharge of blood and mucosal tissue (known as menses) from the inner lining of the uterus through the vagina. The first period usually begins between twelve and fifteen years of age, a point in time known as menarche. However, periods may occasionally start as young as eight years old and still be considered normal. The average age of the first period is generally later in the developing world, and earlier in the developed world. The typical length of time between the first day of one period and the first day of the next is 21 to 45 days in young women, and 21 to 31 days in adults (an average of 28 days). Bleeding usually lasts around 2 to 7 days.

Misconception

Misconception is defined as wrong or inaccurate idea or a view or opinion that is incorrect because based on faulty thinking or understanding. For the present study misconception was operationalized as some sort of restrictions or faulty thinking followed by respondent during menstruation.

Experience

For the present study it has been operationalized as the feelings of the respondent in their reaction towards menstruation whether positive or negative .

Menstrual hygiene practices

Hygiene is a set of practices performed to preserve health. According to the World Health Organization (WHO), "Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases." Personal hygiene refers to maintaining the body's cleanliness. Menstrual hygiene depends upon the educational, socio-economic, and cultural statuses of family (Wikipedia). For the present study menstrual hygiene practices was operationalised as personal hygiene maintained by respondent during menstruation.

3.3.3 Tools and techniques of data collection

A well-structured interview schedule was used for data collection including all the independent and dependent variables of the study. Data were collected personally by the researcher. The interview schedule comprised of questions to assess misconception about menstrual hygiene practices, student experience and menstrual hygiene practices.

3.3.4 Data analysis

Keeping in view the requirement of the study; frequency, percentage, chi-square test and correlation were calculated for the purpose of analysis and interpretation of data.

Frequency: It is the total number of respondents against a particular class.

Percentage: Simple comparisons were made on the basis of percentage. It was obtained by dividing the frequency of a particular class by the total respondents.

Chi square test

e) Chi- square test: This test was used for determination of association between independent and dependent variables by using the following formula:

$$\chi^2 = \sum \frac{(o_i - e_i)^2}{e_i}$$

Where,

χ^2= Chi-square

o_i is the observed frequency

e_i is the estimated frequency

The chi square calculated value was compared with chi square tabulated at 5 % and 1 % level of significance, respectively at [(m-1) (n-1)] degree of freedom whereas m is the number of rows and n is the number of columns.

Coefficient of correlation (r): The Pearson coefficient of correlation was computed to find the relationship between two variables with the following formula

$$r_{xy} = \frac{\Sigma XY - (\Sigma X)(\Sigma Y)/n}{\sqrt{[\Sigma X^2 - (\Sigma X^2)/n]\,[\Sigma Y^2 - (\Sigma Y)^2/n]}}$$

Where,

X & Y : Two variables

n : No. of pairs of variables

ΣXY : Sum of products of X and Y

ΣX : Sum of all values of first variable

ΣY : Sum of all values of second variable

ΣX^2 : Sum of squares of all values of first variable

ΣY^2 : Sum of squares of all values of second variable

CHAPTER-IV

RESULTS

This chapter deals with the results of the present investigation in accordance with the objectives, inferred through the use of prescribed methodology and standard tools. The results have been presented under the following heads:

4.1 Background information of respondents

4.2 Misconceptions and experience about menstrual hygiene practices

4.3 Menstrual hygiene practices

4.4 Factors associated with menstruation hygiene

4.1 Background information of respondents

In this section, the distribution of the respondents according to their socio – personal, economic and communication profile have been incorporated.

4.1.1 Socio- personal profile of respondents

Age

The study revealed that 82.0 per cent of respondents belonged to the age group of 13-16 years followed by 10.0 per cent respondents in the age group of 10-13 years and 8 per cent of respondents belonged to 16-19 years of age in village Gawar (Table 1).

In village Burak, nearly half of the respondents (46.0%) were from age group 16-19 years followed by 38.0 per cent of respondents in the age group of 13-16 years and 16.0 per cent of respondents were in the age group of 10-13 years. In case of pooled sample, 60.0 per cent of respondents were from 13-16 years of age group followed by respondents (27.0%) in the age group of 16-19 years and 13.0 per cent of the respondents belonged to 10-13 years of age group.

Ordinal position

The study revealed that 42.0 per cent of respondents were second child in the family followed by 30.0 per cent of respondents at the third position, (12.0%) at the elder one, 10.0 per cent at the fourth position and only 6.0 percent belonged to above fourth position in their respective family in village Gawar (Table 1).

In Burak, 38.0 percent of the respondents belonged to the third position followed by 22.0 per cent at first position, second position (18.0%), above fourth (14.0%) and 8.0 per cent of the respondents belonged to the fourth position. In case of pooled mean, 34.0 per cent of the respondents belongd to the third position followed by 30.0 per cent from second position, first position (17.0%), fourth position (12.0%) and only 7.0 percent belonged to above fourth position.

Caste

In case of Gawar, nearly half of the respondents (46.0%) belonged to higher caste followed by lower caste (28.0%) and medium caste (26.0%). In Burak, more than forty per

cent of the respondents (44.0%) belonged to higher caste followed by lower caste and medium caste (28.0%) each respectively. Whereas in pooled sample, nearly half of the respondents (45.0%) were from higher caste followed by lower caste (28.0%) and medium caste (27.0%).

Education

Level of education of the respondents was measured in terms of number of years of formal schooling undergone by them. The data in Table 1 indicates that 38.0 per cent of the respondents of Gawar were in VIII class followed by IX class (18.0%), VII class (16.0%), X class (14.0%), XI class (12.0%) and VI class (2.0%). In case of Burak, 26.0 per cent of the respondent were in VI class followed by IX and X class (22.0%) each respectively, VIII class (12.0%), XI class (10%) and VII(8.0%). In case of pooled sample, 25.0 per cent of the respondents were in VIII class followed by IX class (20.0%), X class (18.0%), VI class (14.0%), VIIclass (12%) and XI class (11.0%).

Mother's education

Regarding mothers' education the table further revealed that 66.0 per cent mothers' of the respondents were illiterate followed by 26.0 per cent of the respondents mothers' were educated up to primary and only 8.0 per cent of the respondents mothes'r were educated up to secondary in village Gawar . In Burak, 54.0 per cent of the respondents mothers' were educated up to primary followed by 40.0 per cent of the respondents mothers' were illiterate and only 6.0 per cent of the respondents mothers' were educated up to secondary. In case of pooled sample, 53.0 per cent of the respondents mothers' were illiterate followed by 40.0 per cent of the respondents mothers' were educated up to primary and only 7.0 per cent of the respondents mothers' had secondary education.

Size of family

The data regarding family size from Table 1 revealed that more than half of the respondents (54.0%) of Gawar had small sized families followed by medium (40.0%) and large family size (6.0%). Whereas in Burak, more than half of the respondents (52.0%) had medium sized families followed by small (40.0%) and only (8.0%) large sized familiess. In case of pooled sample, similar trend was observed.

Siblings

The table showed that 62.0 per cent of the respondents had male as a sibling and 38.0 per cent as a female in village Gawar. While in Burak, 56.0 per cent of the respondents had male as a sibling and 44.0 per cent as a female. Aggregated data showed that 59.0 per cent of the respondents had male as a sibling and 41.0 per cent had female as a sibling.

Number of siblings (age in years)

The data regarding siblings revealed that 54.0 per cent of the respondents had up to two siblings in the age group of 17-19 years and 46.0 per cent of the respondents had three

and above siblings in the age group of 19-21 years in village Gawar, whereas in Burak, 60.0 per cent had three and above siblings in the age group of 19-21 years and 40.0 per cent of the respondents had up to two siblings in the age group of 17-19 years. In case of pooled sample, 53.0 per cent of the respondents had three and above siblings in the age group of 19-21 years and 47.0 per cent had up to two siblings in the age group of 17-19 years.

Elder sister as a sibling

The table showed that 22.0 per cent of the respondents with the siblings three and above had elder sister and 16.0 per cent respondents upto two siblings had sister as as an elder siblings in village of Gawar. In case of Burak, 26.0 per cent of the respondents having up to two siblings had elder sister and only 18.0 per cent respondents having siblings three and above had sister as an elder sibling. In case of pooled sample, similar trend was followed.

Household amenities

Household amenities basically includes water connection, garbage disposal and toilet facilities the respondent had at their homes as depicted in Table 1.

Water connection

The Table 1 shows that majority of the respondents (88.0%) had water connection facility and only 12.0 per cent of the respondents did not have water connection facility in village Gawar while in village Burak, majority of the respondents (94.0%) had water connection and only 6.0 per cent of the respondents did not have water connection facilities. Similar trend was observed in case of pooled sample.

Garbage disposal

Data in Table 1 revealed that in Gawar, nearly 3/4th of the respondents (74.0%) had garbage disposal facility and 26.0 per cent of the respondents did not have garbage disposal facilities. Whereas in Burak, majority of the respondents (84.0%) had garbage disposal facility and only 16.0 per cent of the respondents did not have garbage disposal facilities. In overall score, similar trend was followed.

Toilet facility

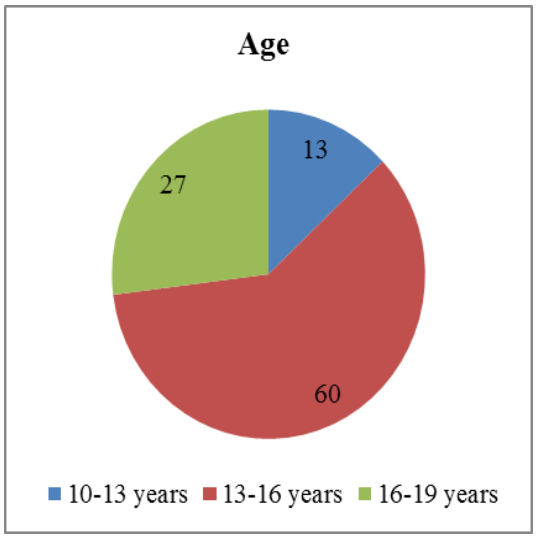
A perusal of Table 1 indicates that in Gawar and Burak, cent per cent of the respondents had toilet facilities.

Thus, it can be concluded that majority of respondents were in the age group of 13-16 years with third ordinal position in their respective family, belonged to general caste, from VIII class with illiterate mother had large sized family, had male as a sibling, had three and above siblings in the age group of 19-21 years, and having sister as an elder sibling of the respondents up to two siblings, with all the household amenities viz. water connection, garbage disposal and toilet facilities.

Table 1: Socio-personal profile of respondents

Socio-personal profile	Gawar (n=50) f (%)	Burak (n=50) f (%)	Total (n=100) (%)
Age (years)			
10-13	5(10.0)	8(16.0)	13
13-16	41(82.0)	19(38.0)	60
16-19	4(8.0)	23(46.0)	27
Ordinal position			
First	6(12.0)	11(22.0)	17
Second	21(42.0)	9(18.0)	30
Third	15(30.0)	19(38.0)	34
Fourth	5(10.0)	7(14.0)	12
Above four	3(6.0)	4(8.0)	7
Caste			
SC/ST	14(28.0)	14(28.0)	28
OBC	13(26.0)	14(28.0)	27
General	23(46.0)	22(44.0)	45
Level of education			
VI	1(2.0)	13(26.0)	14
VII	8(16.0)	4(8.0)	12
VIII	19(38.0)	6(12.0)	25
IX	9(18.0)	11(22.0)	20
X	7(14.0)	11(22.0)	18
XI	6(12.0)	5(10.0)	11
Mother's education			
Illiterate	33(66.0)	20(40.0)	53
Primary	13(26.0)	27(54.0)	40
Secondary	4(8.0)	3(6.0)	7
Size of family			
Large (6 and above)	3(6.0)	4(8.0)	7
Medium (5-6)	20(40.0)	26(52.0)	46
Small (up to 4)	27(54.0)	20(40.0)	47
Siblings			
Male	31(62.0)	28(56.0)	59
Female	19(38.0)	22(44.0)	41
Number of siblings (age in years)			
Up to 2 (17-19)	27(54.0)	20(40.0)	47
Three and above (19-21)	23(46.0)	30(60.0)	53
Elder sister as a sibling			
Up to two	8(16.0)	13(26.0)	21
Three and above	11(22.0)	9(18.0)	20
Household amenities			
Water connection			
Yes	44(88.0)	47(94.0)	91
No	6(12.0)	3(6.0)	9
Garbage disposal			
Yes	37(74.0)	42(84.0)	79
No	13(26.0)	8(16.0)	21
Toilet facilities			
Yes	50(100.0)	50(100.0)	100

Note : In total , frequency and percentages are same


Age
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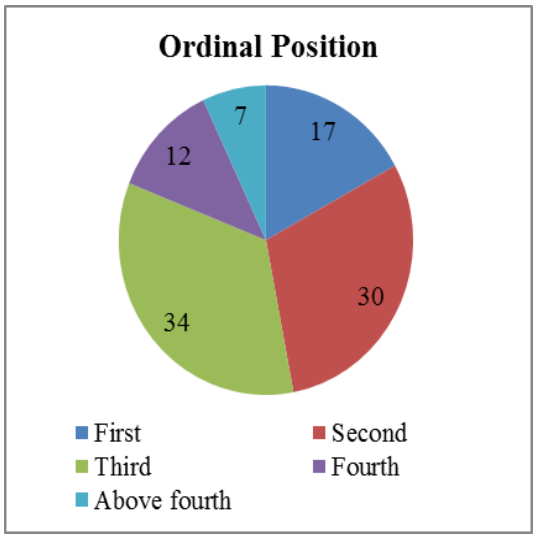
27
60
10-13 years
13-16 years
16-19 years


Ordinal Position
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First
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Third
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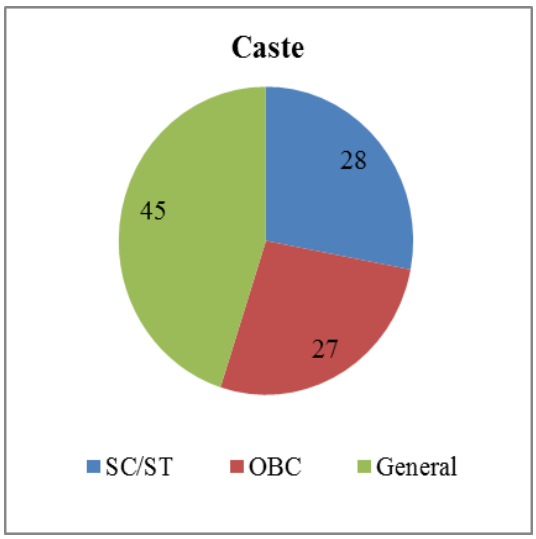
Above fourth


Caste
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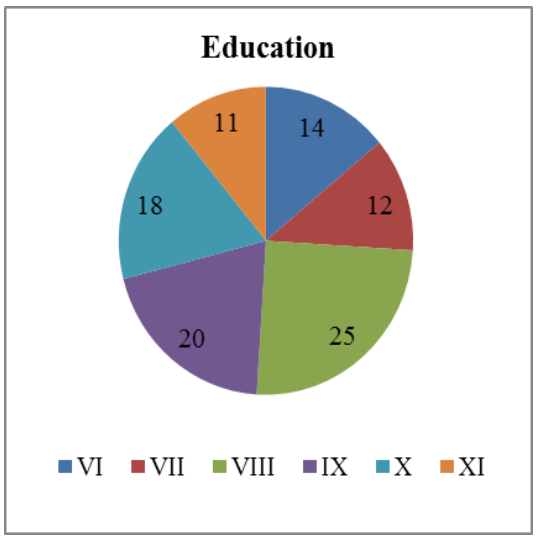
SC/ST
OBC
General


Education
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VI
VII
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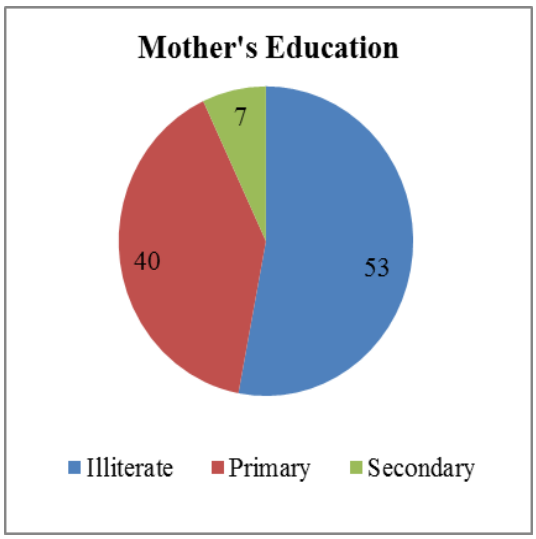
X
XI


Mother's Education
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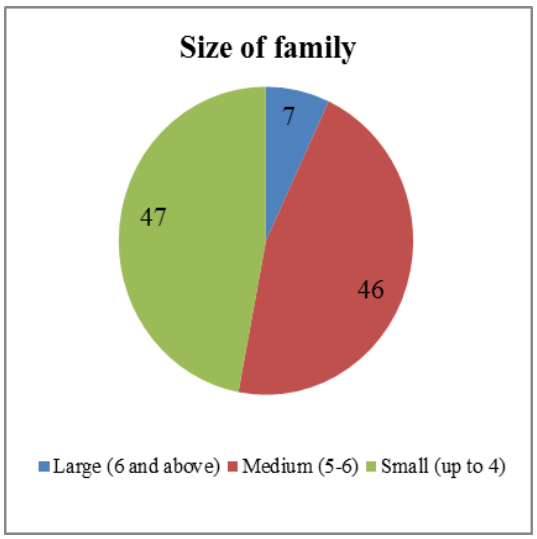
40
7
Illiterate
Primary
Secondary


Size of family
7
46
47
Large (6 and above)
Medium (5-6)
Small (up to 4)

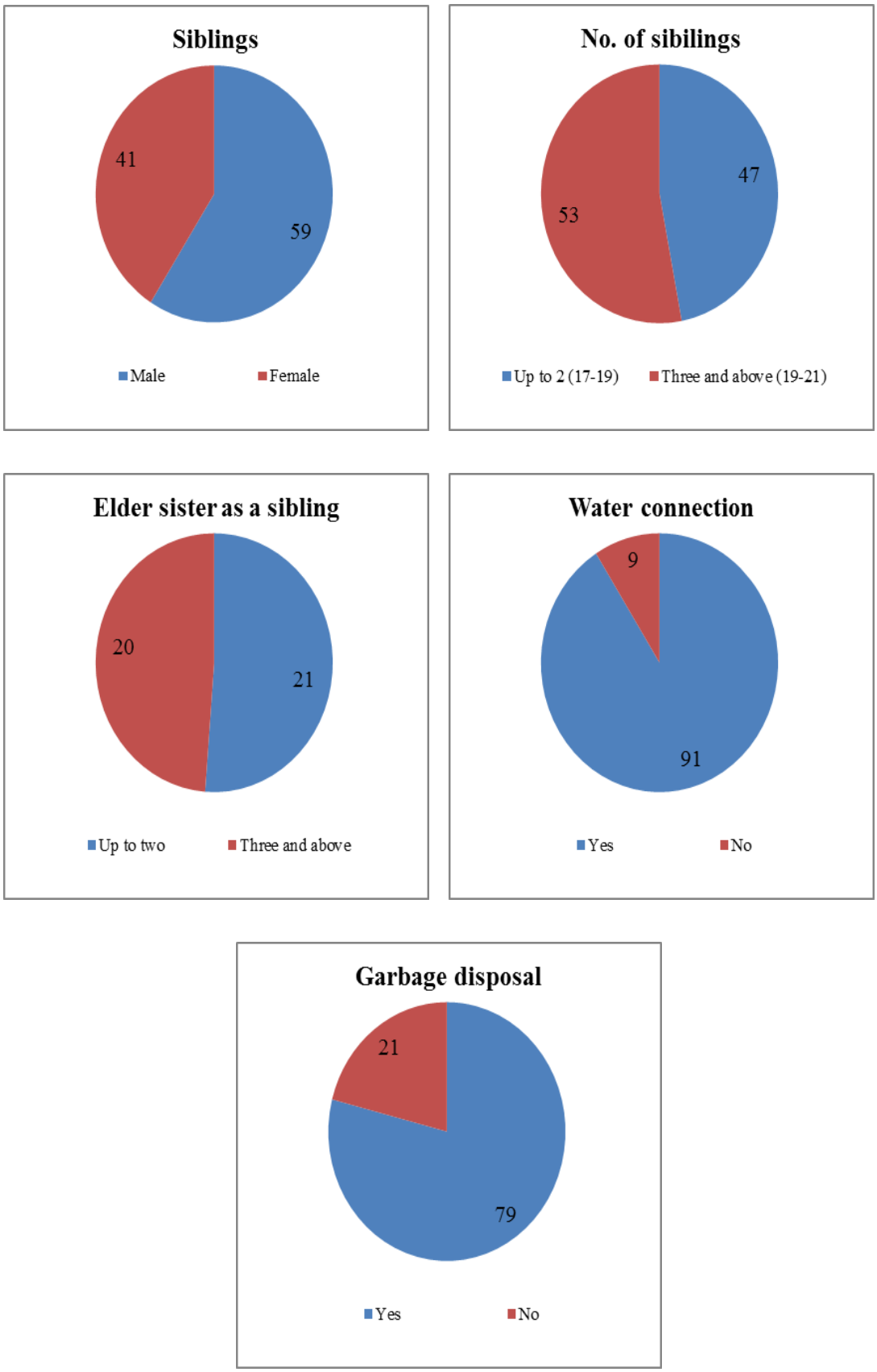


Fig. 4.1: Socio-personal profile of respondents

4.1.2 Economic profile of respondents

Distribution of the respondents according to their economic characteristics has been incorporated in Table 2, which is presented below.

Income

It is clear from Table 2 that 58.0 per cent of the respondents had income less than Rs. 3 lakh to 3 lakh per year followed by respondents (32.0%) who had income ranged between Rs. 4-5 lakh and 10.0 per cent of the respondents had income above Rs. 5 lakh per annum in village Gawar.

In Burak, 60.0 per cent of the respondents had income less than Rs. 3 lakh to 3 lakh per year followed by respondents (26.0%) whose income ranged between Rs.4-5 lakh and the income of 14.0 per cent respondents was above Rs. 5 lakh per year. In case of pooled sample, 59.0 per cent of the respondents were having income less than Rs. 3 lakh to 3 lakh per year followed by respondents (29.0%) whose income ranged between Rs. 4-5 lakh and 12.0 per cent of the respondents had income above Rs. 5 lakh per year.

Father's occupation

The table showed that 36.0 per cent of the respondents father's were farmers followed by labourer (26.0%), service (24.0%) and only 14.0 per cent had business in village Gawar. While in Burak, 44.0 per cent of the respondents fathers were farmer followed by labourer (22.0%), business (20.0%) and 14.0 per cent had service. In case of pooled sample, 40.0 per cent of the respondents fathers' were farmers followed by labourer (24.0%), service (19.0%) and 17.0 per cent had business.

Mother's occupation

The data further reveals that 86.0 per cent of the respondents had mother's as home-makers followed by 8.0 per cent of the respondents who had mother's as farmer and 6.0 per cent respondents mothers' were labourers in village Gawar. While In Burak, Majority of the respondents (92.0%) had mother's as home-makers followed by respondents (6.0%) who had mothers' as farmer and only 2.0 percent respondents mothers' were labourers. Whereas the pooled sample showed that majority of the respondents (89.0%) had mothers' as home-makers followed by (7.0%) respondents mothers' as farmer and (4.0) respondents had mothers' who were labourer.

House type

The data in Table 2 depicts that in Gawar, 60.0 per cent of the respondents had pucca house followed by mixed house (30.0%) and only 10.0 per cent had kaccha house. In case of Burak, again majority of the respondents (96.0%) had pucca house and (4.0%) had mixed house. In case of pooled sample, more than $3/4^{th}$ of the respondents (78.0%) had pucca house followed by mixed house (17.0%) and only (5.0%) respondents had kuccha house.

Thus, it can be concluded that majority of respondents had income less than Rs.3 lakh to Rs.3 lakh per annum, occupation of father as farmer and mothers as home-maker and were residing in pucca houses.

Table 2: Economic profile of the respondents

Economic profile	**Gawar (n=50) f(%)**	**Burak (n=50) f(%)**	**Total (n=100) (%)**
Income (Rs.)			
<3 to 3 lakh	29(58.0)	30(60.0)	59
4-5 lakh	16(32.0)	13(26.0)	29
>3 lakh	5(10.0)	7(14.0)	12
Occupation of father			
Labourer	13(26.0)	11(22.0)	24
Farmer	18(36.0)	22(44.0)	40
Service	12(24.0)	7(14.0)	19
Business	7(14.0)	10(20.0)	17
Mother's occupation			
Laborer Farmer	3(6.0) 4(8.0)	1(2.0) 3(6.0)	4 7
Home maker	43(86.0)	46(92.0)	89
House type			
Kaccha	5(10.0)	0(0.0)	5
Mixed	15(30.0)	2(4.0)	17
Pucca	30(60.0)	48(96.0)	78

Note : In total , frequency and percentages are same

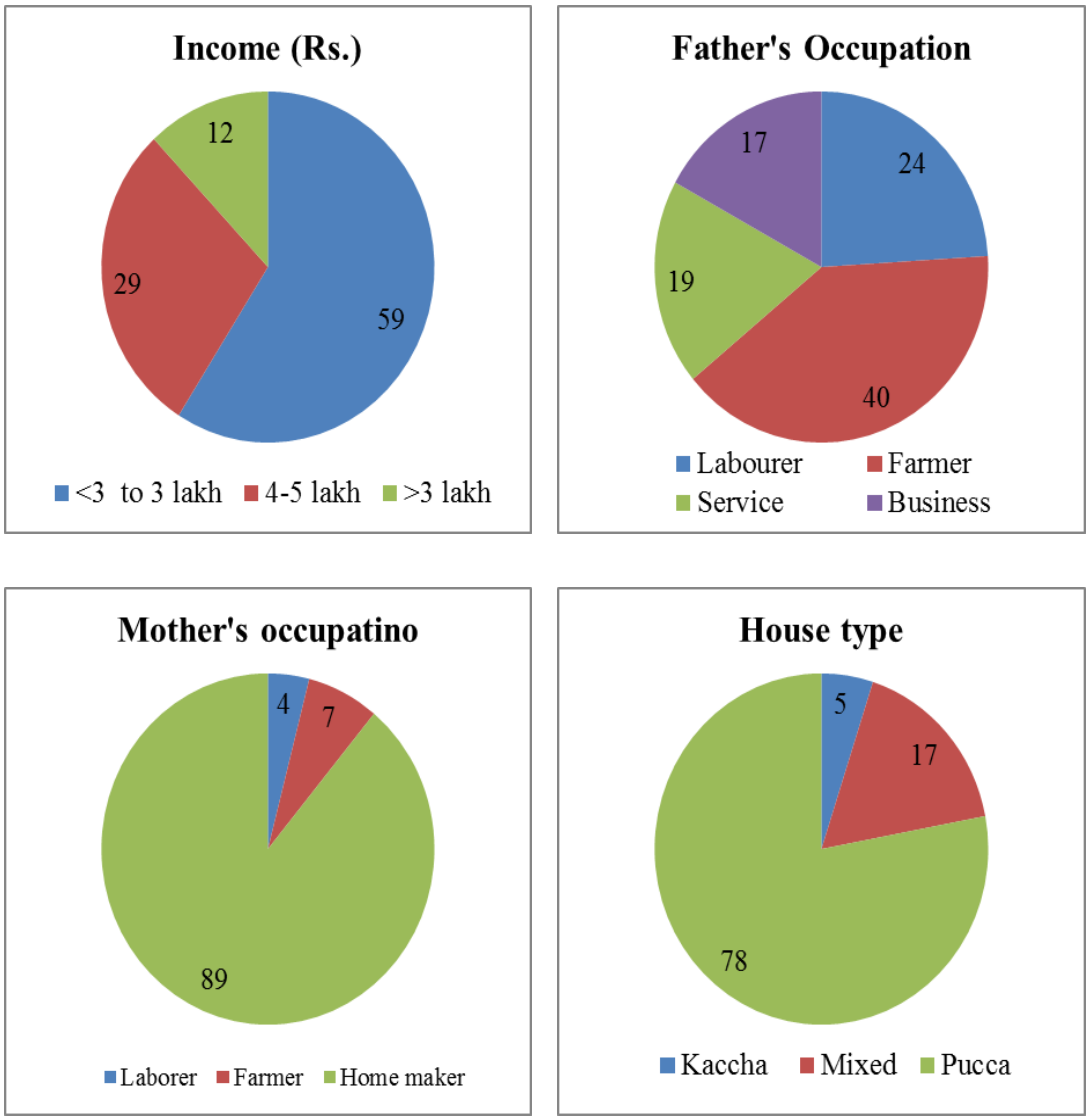


Fig. 4.2: Economic profile of the respondents

4.1.3 Communication profile of the respondents

The communication pattern of the respondents was analyzed through two parameters viz. mass media exposure and information source utilization.

Regarding information source utilization table 3 depicted that in localite sources 48.0 per cent of the respondents got information from mother followed by sister (36.0%), relatives (10.0%), and peer group (6.0%) in village Gawar. In village Burak, 44.0 per cent of the respondents got information from sister followed by mother (36.0%), relatives (14.0%) and peer group (6.0%). In case of pooled mean, 40.0 per cent of the respondents got information from mother and sister each followed by relatives (12.0%), and peer group (6.0%).

Table 3: Information source utilization by the respondents

Information source	Gawar (n=50 f(%)	Burak(n-50) f(%)	Total (n=100) (%)
Localite sources			
Mother	24(48.0)	18(36.0)	40
Relative	5(10.0)	7(14.0)	12
Sister	18(36.0)	22(44.0)	40
Peer group	3(6.0)	3(6.0)	6
Cosmopolite sources			
Health worker	16(32.0)	18(36.0)	34
Medical personnel	11(22.0)	5(10.0)	16
Teacher	23(46.0)	27(54.0)	50
Mass media exposure			
Print media			
Books	33(66.0)	38(76.0)	71
Magazines	7(14.0)	5(10.0)	12
Newspaper	8(16.0)	4(8.0)	14
Leaflet	2(4.0)	3(6.0)	5
Electronic media			
Radio	9(18.0)	11(22.0)	20
Television	33(66.0)	32(64.0)	65
Internet	8(16.0)	7(14.0)	15

Note : In total, frequency and percentages are same

In cosmopolite sources, 46.0 per cent of the respondents got information from teacher followed by health workers 32.0 per cent and medical personnel 22.0 per cent in village Gawar. While in Burak, 54.0 per cent of the respondents got information from teacher followed by health worker 36.0 per cent and medical personnel 10.0 per cent. In case of pooled sample, 50.0 per cent of the respondents took information from teacher followed by health worker 34.0 per cent and 16.0 per cent from medical personnel.

In print media sources, 66.0 per cent of the respondents got information from books followed by newspaper (16.0%), magazines (14.0%) and leaflet (4.0%) in village Gawar. In Burak, 76.0 per cent of the respondents got information from books followed by magazines (10.0%), newspaper (8.0%) and leaflet (6.0%). Same trend was followed in pooled sample.

In electronic media, 66.0 per cent of the respondents took information from television followed by radio (18.0%) and internet (16.0%) in village Gawar. Whereas in Burak, 64.0 per cent of the respondents from television followed by radio (22.0%) and internet (14.0%). In case of pooled sample, same trend was followed.

Thus, it can be concluded that majority of the respondents got information from mother and sister as localite sources and teachers as cosmopolite sources. In print media, books was the major source of information for respondents and television in electronic media.

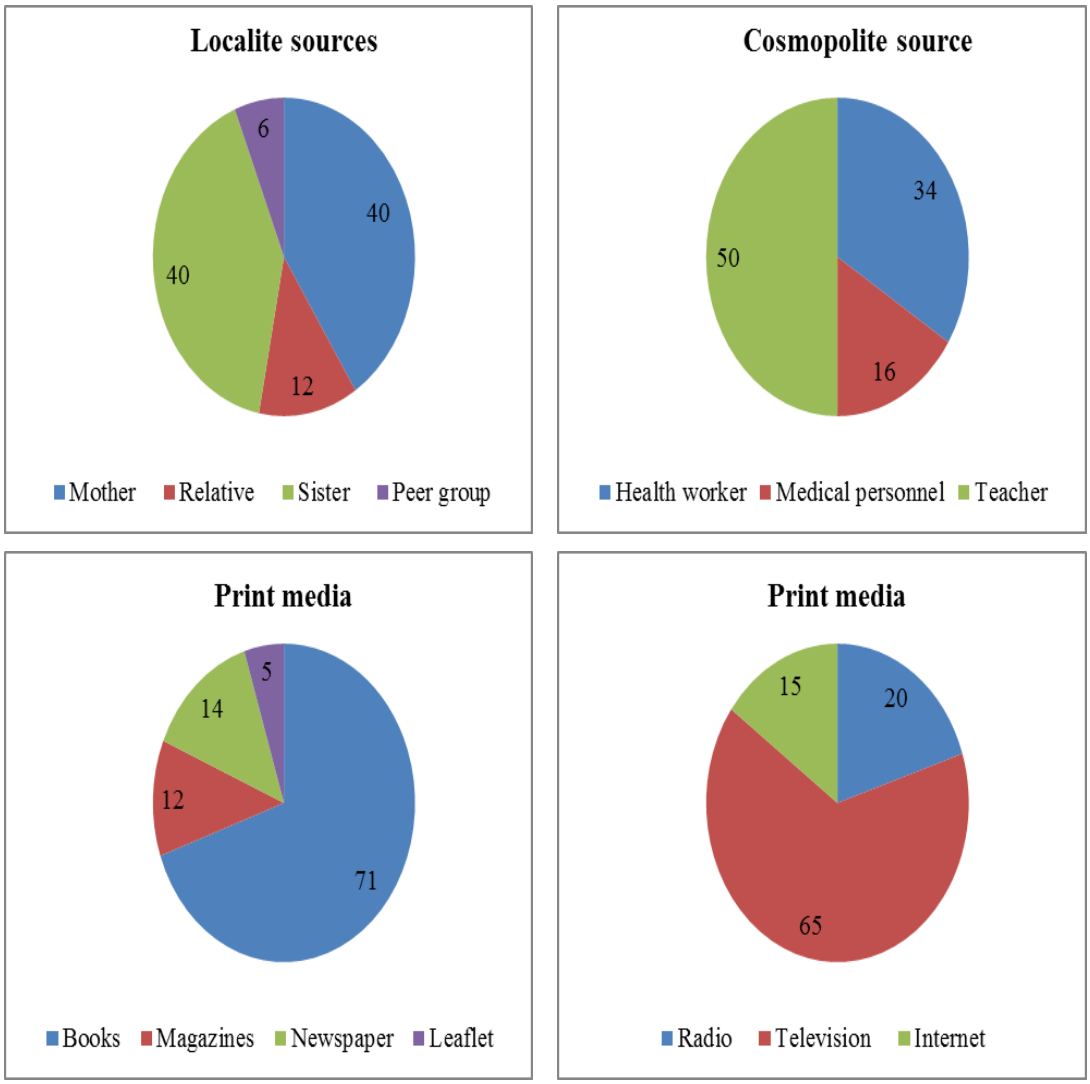


Fig. 4.3: Information source utilization

4.2 Experience about menstruation

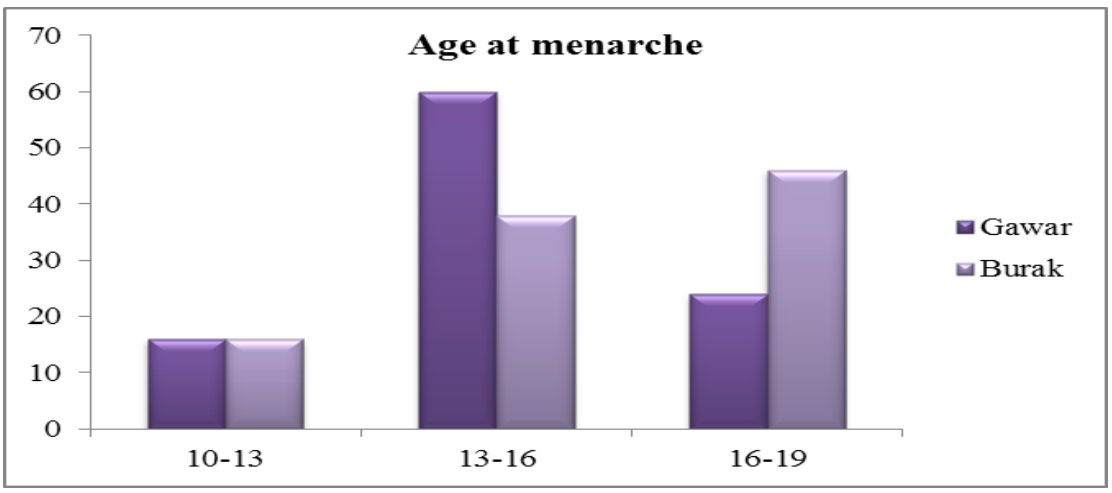
Experience about menstruation when respondents got their first menstruation, menstrual bleeding during each cycle and menstrual cycle pattern.

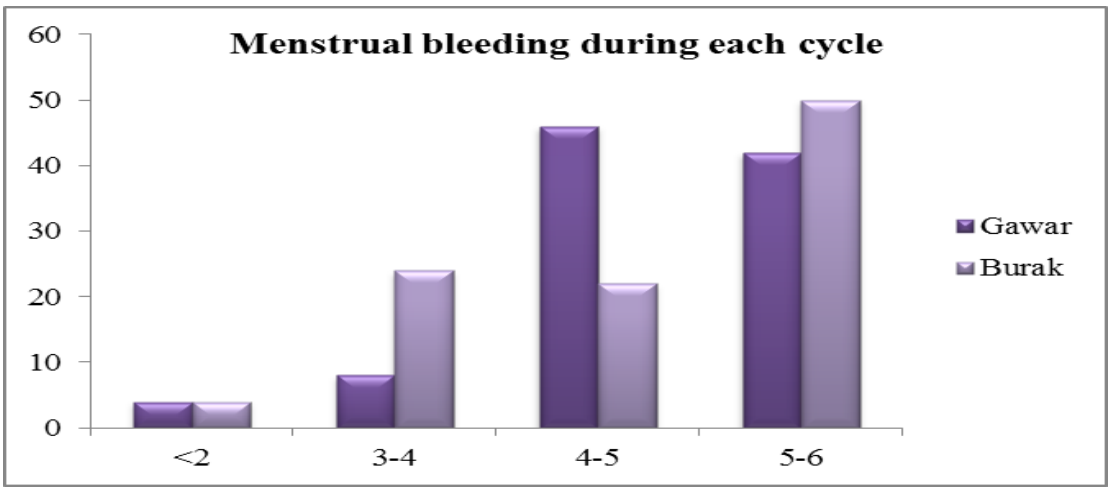
The data related to menstrual profile of study subjects as presented in Table 4 points out that in Gawar, more than half of the respondents (60.0%) attained menarche in the age group of 13-16 years followed by 24.0 per cent of the respondents who attained menarche in the age group of 16-19 years and only 16.0 per cent of the respondents attained menarche in the age group of 10-13 years. Whereas in Burak, nearly half of the respondents (46.0%) attained menarche in the age group of 16-18 years followed by 38.0 per cent in the age group of 13-16 years and only 16.0 per cent of the respondents attained menarche in the age group of 10-13 years. In case of pooled sample, almost half of the respondents (49.0%) attained menarche in the age group of 13-16 years followed by 35.0 per cent of the respondents who attained the menarche in the age group of 16-19 years and only 16.0 per cent of the respondents attained the menarche in the age group of 10-13 years.

Table 4: Menstrual profile of the study subjects

Menstrual profile	Gawar (n=50 f(%)	Burak (n-50) f(%)	Total (n=100) (%)
Age at menarche (years)			
10-13	8(16.0)	8(16.0)	16
13-16	30(60.0)	19(38.0)	49
16-19	12(24.0)	23(46.0)	35
Menstrual bleeding during each Cycle (days)			
< 2	2(4.0)	2(4.0)	4
3-4	4(8.0)	12(24.0)	16
4-5	23(46.0)	11(22.0)	34
5-6	21(42.0)	25(50.0)	46
Menstrual Cycle Pattern			
Regular	34(68.0)	40(80.0)	74
Irregular	7(14.0)	7(14.0)	14
Missed cycle	9(18.0)	3(6.0)	12

Note : In total, frequency and percentages are same





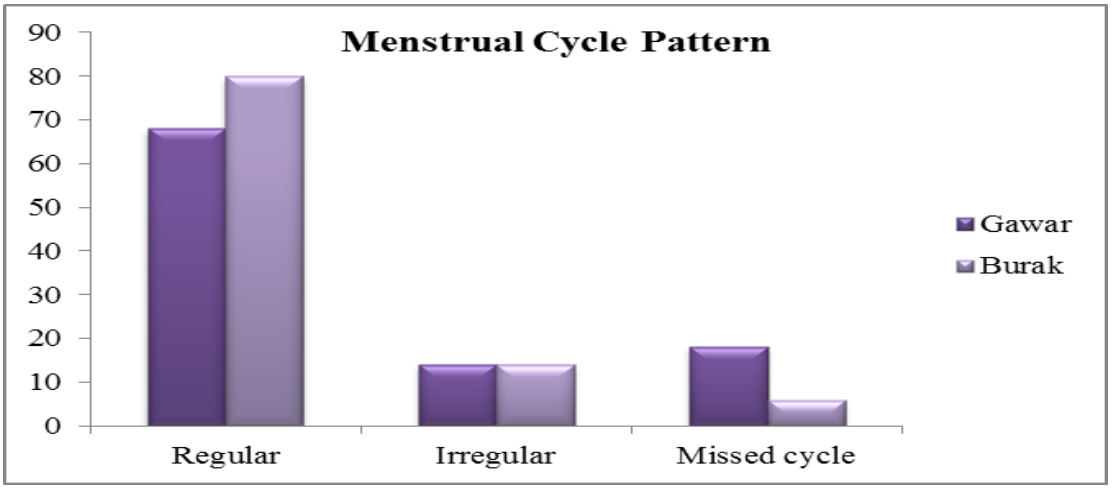


Fig. 4.4: Menstrual profile of the study subjects

The Table further depicts that 46.0 per cent of the respondents had 4-5 days menstrual bleeding duration in each cycle in village Gawar followed by 5-6 days (42.0%), 3-4 days (8.0%) and less than 2 days (4.0%). While in Burak, half of the respondents (50.0%) had 5-6 days menstrual bleeding duration in each cycle followed by 3-4 days (24.0%), 4-5 days (22.0%) and less than 2 days (4.0%). Thus, overall nearly half of the respondents (46.0%) had menstrual bleeding in each cycle for 5-6 days followed by 4-5 days (34.0%), 3-4 days (16.0%) and less than 2 days (4.0%).

Regarding the regularity in menstrual cycle pattern it was observed that in Gawar, more than half of the respondents (68.0%) had regular menstrual cycle pattern followed by 18.0 per cent who missed their menstrual cycle and only 14.0 per cent of the respondents had irregular menstrual cycle pattern. Whereas 80.0 per cent of the respondents had regular menstrual cycle pattern followed by irregular menstrual cycle pattern (14.0%) and only 6.0 per cent of the respondents missed the menstrual cycle pattern. In case of pooled sample, 3/4th of the respondents (74.0%) had regular menstrual cycle pattern followed by 14.0 per cent of the respondents who had irregular menstrual cycle pattern and only 12.0 per cent of the respondents missed the menstrual cycle pattern.

Thus, it can be concluded that nearly half of the respondents attained menarche in the age group of 13-16 years, majority of the respondents had 5-6 days duration of menstrual bleeding in each cycle with regular menstrual cycle pattern.

4.2.1 Information and Perceptions regarding Menstruation

Information and Perceptions regarding Menstruation reffered to the awareness about the various aspects of menstruation viz. heard about menstruation before menarche, duration of normal menses (2-7 days), about sanitary products, preparation before onset of menstruation, purchase of sanitary products, harmful effects of unhygienic menstrual practices, perception about reasons of menstrual cycle, organ from where bleeding occurs and stand on absorbent to be used.

Information of respondents regarding different aspects of menstruation in the both the villages Gawar and Burak has been presented in Table 5. It is evident from the Table that majority of the respondents (80.0%) had heard about menstruation before menarche and 20.0 per cent had not heard about menstruation before menarche from village Gawar. Whereas in village Burak, nearly 3/4th of the respondents (70.0%) already knew about menstruation before menarche and 30.0 per cent did not know about menstruation before menarche. The aggregated data, showed that (75.0%) respondents had heard about menstruation before menarche and 1/4th of the respondents (25.0%) did not hear about menstruation before menarche.

Regarding duration of normal menses Table indicates that majority of the respondents (90.0%) had normal menses (2-7 days) and only 10.0 per cent were not having normal menses from Gawar. Whereas 84.0 per cent of the respondents had normal menses (2-7 days) and 16.0 per cent of the respondents were not having normal menses in village Burak. In case of pooled sample, similar trend was observed.

A perusal of Table 5 clearly shows that in Gawar, majority of the respondents (74.0%) had awareness regarding sanitary products and 26.0 per cent were not having any awareness about sanitary products. Further in Burak, 78.0 per cent of the respondents had awareness about sanitary products and only 22.0 per cent of the respondents were not having any awareness about sanitary products. Similar trend was observed in case of pooled sample. 64.0 per cent of the respondents had awareness about sanitary pad and 10.0 percent had awareness about tampons in village Gawar. In Burak, 66.0 per cent of the respondents had awareness about sanitary pad followed by tampons and menstrual cup (6.0%) each respectively. In case of pooled sample, same trend was followed.

The table further showed that majority of the respondents (88.0%) were not prepared before the onset of menstruation and only 12.0 per cent were prepared before the onset of menstruation in village Gawar. In village Burak, 84.0 per cent of the respondents were not prepared before the onset of the menstruation and only 16.0 per cent of the respondents were prepared before the onset of menstruation. Whereas in case of pooled sample the data showed that 86.0 per cent of the respondents were not prepared and only 14.0 percent prepared before the onset of menstruation.

Regarding purchase of sanitary napkins 54.0 per cent of the respondents mothers' purchased sanitary products followed by family member (40.0%) and only 6.0 per cent respondents purchased by themselves in village Gawar. In village Burak, 56.0 per cent of the respondents mothers' purchased sanitary products followed by family member (26.0%) and self (18.0%). In case of pooled sample, same trend was followed.

The Table further depicts that in Gawar, nearly 3/4 of the respondents (72.0%) were not aware about the harmful effects of unhygienic menstrual practices and only 28.0 per cent of the respondents were aware about the harmful effect of unhygienic menstrual practices.

Table 5: Information/awareness of respondents regarding Menstruation

Variable	Gawar (n=50) f(%)	Burak (n-50) f(%)	Total (n=100) (%)
Heard about menstruation before menarche			
Yes	40(80.0)	35(70.0)	75
No	10(20.0)	15(30.0)	25
Duration of normal menses (2-7 days)			
Yes	45(90.0)	42(84.0)	87
No	5(10.0)	8(16.0)	13
About sanitary products			
No	13(26.0)	11(22.0)	24
Yes	37(74.0)	39(78.0)	76
If yes –			
Sanitary pad	32(64.0)	33(66.0)	89
Tampons	5(10.0)	3(6.0)	8
Menstrual cups	0(0.0)	3(6.0)	3
Preparation before onset of menstruation			
Yes	6(12.0)	8(16.0)	14
No	44(88.0)	42(84.0)	86
Purchase of sanitary products			
Mother	27(54.0)	28(56.0)	55
Self	3(6.0)	9(18.0)	12
Family member	20(40.0)	13(26.0)	33
Harmful effect of unhygienic menstrual practices			
Yes	14(28.0)	20(40.0)	34
No	36(72.0)	30(60.0)	66
If yes –			
Fungal infection	2(4.0)	5(10.0)	7
Reproductive tract infection	0(0.0)	3(6.0)	3
Urinary infection	9(18.0)	8(16.0)	17
Rashes	3(6.0)	4(8.0)	7
Perception about reasons of menstrual cycle:			
Physiological cause	35(70.0)	42(84.0)	77
God given cause	4(8.0)	1(2.0)	5
Due to some disesases	0(0.0)	1(2.0)	1
Result of sin	11(22.0)	6(12.0)	17
Organ release Blood:			
Uterus	6(12.0)	1(2.0)	7
Bladder	0(0.0)	11(22.0)	11
Vagina	37(74.0)	36(72.0)	73
Stomach	1(2.0)	2(4.0)	3
Ovary	6(12.0)	0(0.0)	6
Stand on absorbent to be used:			
Homemade sanitary napkins	32(64.0)	27(54.0)	59
Market available sanitary napkins	18(36.0)	23(46.0)	41

Note : In total, frequency and percentages are same

While in Burak, more than half of the respondents (60.0%) were not aware about the harmful effect of unhygienic menstrual practices and 40.0 per cent of the respondents were aware about the harmful effect of unhygienic menstrual practices. Thus, In case of pooled sample, 66.0 per cent of the respondents were not aware about the harmful effect of unhygienic menstrual practices and 34.0 per cent were aware about the harmful effect of unhygienic menstrual practices

Regarding awareness about the harmful effect of unhygienic practices, 18.0 per cent of the respondents knew about urinary infection followed by rashes (6.0%) and fungal infection (4.0%) in village Gawar, Whereas in village Burak, 16.0 per cent of the respondents knew about the urinary infection followed by fungal infection (10.0%), rashes (8.0%) and reproductive tract infection (6.0%). In case of pooled sample, 17.0 per cent knew about urinary infection followed by fungal infection and rashes (7.0%) each respectively and only (3.0%) reproductive tract infection.

As regards perception about the causes of menstrual cycle, nearly three-fourth (70.0%) of the respondents had perceived physiological reasons as the cause of menstrual cycle followed by result of sin (22.0%) and god given (8.0%) in village Gawar. Whereas in village Burak, majority of the respondents (84.0%) had perceived physiological reasons as the causes of menstrual cycle followed by result of sin (12.0%) and (2.0%) perceived the causes of menstrual due to some diseases and god given. In case of pooled sample, similar trend was observed.

Regarding the source of blood from organ where the bleeding occurs nearly $3/4^{th}$ of the respondents (74.0%) of Gawar had knowledge of organ i.e. vagina from where the bleeding occurs followed by uterus and ovary (12.0%) each respectively and stomach only (2.0%). In case of Burak, 72.0 per cent of the respondents had knowledge of organ i.e. vagina from where the bleeding occurs followed by bladder (22.0%), stomach (4.0%) and uterus (2.0%). In case of pooled sample mean nearly three-fourth of the respondents (73.0%) had knowledge of organ i.e. vagina from where the bleeding occurs followed by bladder (11.0%), uterus (7.0%), ovary (6.0%) and stomach (3.0%).

Further exploration of Table 5 indicates that in Gawar, 64.0 per cent of the respondents used homemade sanitary napkins followed by respondents (36.0%) who used market available sanitary napkins. While in Burak, more than half of the respondents (54.0) used homemade sanitary napkins and 46.0 per cent of the respondents used market available sanitary napkins. Thus, Similar trend was observed in case of pooled sample mean.

Thus, it can be concluded that majority of the respondents had heard about menstruation before menarche, had normal menses duration (2-7 days), had awareness about sanitary products, purchased by their mothers are not aware about harmful effects of unhygienic menstrual practices, perceived physiological reasons as the causes of

menstruation, knew about the organ "vagina" from where the bleeding occurs and majority were using homemade sanitary napkins.

4.2.2 Restrictions followed by respondents during Menstruation

Restrictions are the do's and don'ts that respondents followed during menstruation. The data presented in Table 6 revealed that in Gawar, cent per cent of the respondents did not visit any holy places. Whereas in Burak, majority of the respondents (94.0%) did not visit holy places and only 6.0 per cent of the respondents visited holy places during menstruation. In pooled sample mean, similar trend was observed.

During menstruation (72.0%) of the respondents in Gawar did not visit relatives, friends and 28.0 percent visit relatives and friends. While in Burak, majority of the respondents (78.0%) did not visit relatives, friends and 22.0 per cent of the respondents visited relatives, friends during menstruation. Overall score showed that 75.0 per cent of the respondents did not visit relatives, friends and only 25.0 per cent of the respondents visited relatives, friends.

The Table further revealed that in Gawar, nearly 3/4th of the respondents (70.0%) did household activities and 30.0 per cent of the respondents did not do the household activities during the menstruation. Whereas in Burak, more than 3/4th of respondents (76.0%) did household activities and 24.0 per cent of the respondents did not do the household activities during the menstruation. The similar trend was followed in case of pooled sample mean.

When asked about taking bath daily in village Gawar, 64.0 per cent of the respondents did not bathe daily during menstruation and 36.0 per cent of the respondents took bath daily. In Burak, more than half of the respondents (60.0%) took bath daily and 40.0 per cent of the respondents did not bathe daily during menstruation. In pooled sample mean, majority of the respondents (52.0%) did not bathe daily and 48.0 per cent of the respondents took sbath daily during menstruation.

Majority of the respondents (84.0%) did not attended religious functions and only 16.0 per cent attended religious functions during menstruation in Gawar. However in Burak, nearly 3/4th of the respondents (70.0%) did not attended religious functions and 30.0 per cent of the respondents attended religious functions during menstruation. Similar trend was observed in case of pooled sample mean.

It is evident from the Table 6 that in Gawar, majority of the respondents (82.0%) did not touch stored food and only 18.0 per cent of the respondents touched stored food during menstruation. In case of Burak, more than 3/4th of the respondents (76.0%) did not touch stored food and 24.0 per cent of the respondents can touch stored food during menstruation. In pooled sample mean 79.0 per cent of the respondents did not touch stored food and only 21.0 per cent of the respondents touched stored food.

Further, exploration of the table indicates that in Gawar, majority of the respondents (98.0%) slept on routine bed and only 2.0 per cent of the respondents did not sleep on routine bed during menstruation. While in Burak, majority of the respondents (96.0%) slept on routine bed and only 4.0 per cent of the respondents did not sleep on routine bed during menstruation. In case of pooled sample, same trend was followed.

In Gawar, 64.0 per cent of the respondents did not avoid hot, cold and sour food and nearly forty per cent of the respondents (36.0%) avoided hot, cold and sour food during menstruation. Whereas in Burak, majority of the respondents (86.0%) did not avoid hot, cold and sour food and only 14.0 per cent of the respondents avoided hot, cold and sour food during menstruation. In pooled sample, 3/4th of the respondents (75.0%) did not avoided hot, cold and sour food and 25.0 per cent of the respondents avoided hot, cold and sour food during menstruation.

Regarding attending the school during menstruation majority of the respondents (86.0%) in Gawar, attended school and 14.0 per cent of the respondents did not attend school during menstruation. However in Burak, 88.0 per cent of the respondents attended school and respondents (12.0%) did not attend school during menstruation. In case of pooled sample, majority of the respondents (87.0%) attended school and only 13.0 per cent did not attend school.

Data in Table further shows that in Gawar, majority of the respondents (86.0%) did not use separate utensils for eating and only 14.0 per cent of the respondents used separate utensils during menstruation. In Burak, majority of the respondents (82.0%) did not use separate utensils and 18.0 per cent of the respondents used separate utensils for eating during menstruation. The same trend was followed in case of pooled sample.

In case of Gawar, nearly 3/4th of the respondents (70.0%) did not touch *Tulsi* plant and 30.0 per cent of the respondents touched *Tulsi* plant during menstruation. While in Burak, more than half of the respondents (54.0%) did not touch *Tulsi* plant and 46.0 per cent of the respondents touch Tulsi plant during menstruation. In overall score, 62.0 per cent of the respondents did not touch *Tulsi* plant and 38.0 per cent touched *Tulsi* plant.

The Table further indicated that in Gawar, 80.0 per cent of the respondents washed hair and 20.0 per cent of the respondents did not wash hair during menstruation. Whereas in Burak, 66.0 per cent of the respondents washed hair and 34.0 per cent of the respondents did not wash hair during menstruation. Overall score showed that 73.0 per cent of the respondents washed hair and 27.0 per cent did not wash their hair.

Nearly 3/4th of the respondents (66.0%) cut hair or nails and 34.0 per cent of the respondents did not cut hair or nails during menstruation in Gawar.

Table 6: Restrictions followed by respondents during Menstruation

Restrictions	Gawar (n=50 f(%)	Burak(n-50) f(%)	Total (n=100) (%)
Visit holy places			
Yes	0(0.0)	3(6.0)	3
No	50(100.0)	47(94.0)	97
Visit to relatives, friends			
Yes	14(28.0)	11(22.0)	25
No	36(72.0)	39(78.0)	75
Perform household activities			
Yes	35(70.0)	38(76.0)	73
No	15(30.0)	12(24.0)	27
Take bath daily			
Yes	18(36.0)	30(60.0)	48
No	32(64.0)	20(40.0)	52
Attend religious functions			
Yes	8(16.0)	15(30.0)	23
No	42(84.0)	35(70.0)	77
Touch stored food			
Yes	9(18.0)	12(24.0)	21
No	41(82.0)	38(76.0)	79
Sleep on routine bed			
Yes	49(98.0)	48(96.0)	97
No	1(2.0)	2(4.0)	3
Hot, cold and sour food			
Avoided	18(36.0)	7(14.0)	25
Not avoided	32(64.0)	43(86.0)	75
Attend school			
Yes	43(86.0)	44(88.0)	87
No	7(14.0)	6(12.0)	13
Use of separate utensils			
Yes	7(14.0)	9(18.0)	16
No	43(86.0)	41(82.0)	84
Touch the *tulsi* plant			
Yes	15(30.0)	23(46.0)	38
No	35(70.0)	27(54.0)	62
Wash hair			
Yes	40(80.0)	33(66.0)	73
No	10(20.0)	17(34.0)	27
Cut hair or nails			
Yes	33(66.0)	39(78.0)	72
No	17(34.0)	11(22.0)	28
Dry underwear in the open			
Yes	20(40.0)	23(46.0)	43
No	30(60.0)	27(54.0)	57
Playing outside the home			
Yes	34(68.0)	39(78.0)	73
No	16(32.0)	11(22.0)	27
Touch family member			
Yes	38(76.0)	38(76.0)	76
No	12(24.0)	12(24.0)	24
Live in a separate room			
Yes	14(28.0)	22(44.0)	36
No	36(72.0)	28(56.0)	64
Menstrual blood is an impure blood			
Yes	34(68.0)	29(58.0)	63
No	16(32.0)	21(42.0)	37

Note : In total, frequency and percentage are same

However in Burak, 78.0 per cent of the respondents cut hair or nails and 22.0 per cent of the respondents did not cut hair or nails during menstruation. The aggregated data showed that 72.0 per cent respondents cut hair or nails during menstruation and 28.0 per cent did not cut hair or nails during menstruation.

In Gawar, 60.0 per cent of the respondents dried underwear outside the house and forty per cent of the respondents did not dry underwear outside the house during menstruation. In Burak, more than half of the respondents (54.0%) dried underwear outside the house and 46.0 per cent of the respondents did not dry underwear outside the house during menstruation. In overall score, 57.0 per cent of the respondents did not dry underwear outside the home and 43.0 per cent of the respondents dried underwear outside the home.

The data in Table further indicates that in Gawar, 68.0 per cent of the respondents play outside the house and 32.0 per cent of the respondents did not play outside the house during menstruation. While in Burak, more than 3/4th of the respondents (78.0%) play out in the open and 22.0 per cent of the respondents did not play out in the open during menstruation. In case of pooled mean score, same trend was observed.

More than 3/4th of respondents (76.0%) touched family member and 24.0 per cent of the respondents did not touch family members during menstruation, in Gawar. However in Burak, 76.0 per cent of the respondents touched family members and only 24.0 per cent did not touch family members. In case of pooled sample mean, similar trend was followed.

Further, the Table shows that in Gawar, nearly 3/4th of the respondents (72.0%) did not live separately and 28.0 per cent of the respondents lived separately during menstruation. Whereas in Burak, more than half of the respondents (56.0%) did not live separately and 44.0 per cent of the respondents lived separately during menstruation. In aggregated data, similar trend was observed.

The table showed that 68.0 per cent of the respondents perceive menstrual blood as an impure blood and 32.0 per cent of the respondents did not perceive it as an impure blood in village Gawar and in Burak, 58.0 per cent of the respondents perceived menstrual blood as an impure and 42.0 per cent of the respondents did not perceive menstrual blood as an impure blood. Same trend was followed in pooled sample.

Thus, it can be concluded that majority of the respondents did not visit holy places, relatives, friends etc. and did household activities during menstruation. They did not bathe daily, did not attend religious functions, did not touch stored food, slept on routine bed, did not avoid hot, cold and sour food. They went to school and did not use separate utensils, did not touch *Tulsi* plant during menstruation, Washed hair,cut hair or nails, did not dry underwear outside in the sun, played outside the house, could touch family member, did not live in a separate room and majority perceived menstruation as an impure blood.

4.2.3. Mindset of respondents about menstruation

Mindset depicts the actual feelings of the respondents about menstruation.

Table 7 shows the mindset of the respondents on their first menstruation in both Gawar and Burak. It was found that in Gawar, (56.0%) of the respondents were upset on their first menstruation followed by (36.0%) respondents tensed and normal only (8.0%). However in Burak 40.0 per cent of the respondents were tensed followed by upset (32.0%) and normal (28.0%). Pooled sample also showed that 44.0 per cent of the respondents were upset followed by 38.0 percent respondents tensed and 18.0 per cent normal during first menstruation.

Table 7: Mindset of respondents about menstruation

Mindset of respondents	Gawar (n=50 f(%)	Burak(n=50) f(%)	Total (n=100) (%)
Reaction to 1st menstruation			
Normal	4(8.0)	14(28.0)	18
Upset	28(56.0)	16(32.0)	44
Tensed	18(36.0)	20(40.0)	38
Reaction about menstruation in general			
Negative reaction	32(64.0)	28(56.0)	60
Positive reaction	18(36.0)	22(44.0)	40

Note : In total, frequency and percentage are same

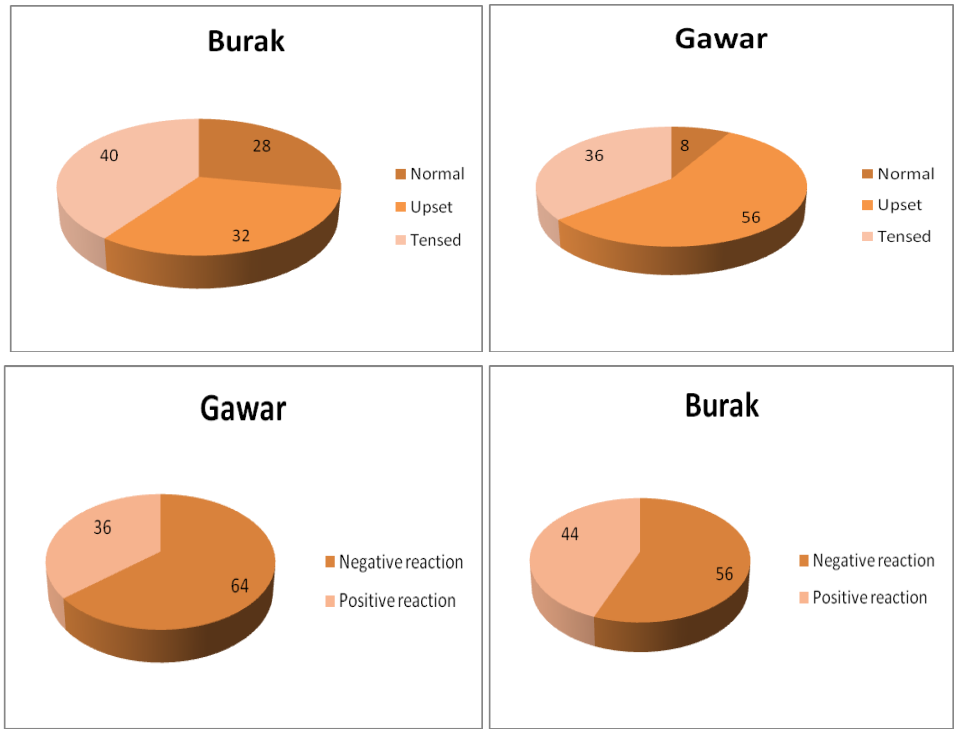


Fig. 4.5: Mindset of respondents about menstruation

Regarding reaction about menstruation in Gawar, more than half of the respondents (64.0%) had negative reaction in general and 36.0 per cent of the respondents had positive reaction in general during menstruation. Further, the Table revealed that in Burak, 56.0 per cent of the respondents had negative reaction regarding menstruation and more than forty per

cent of the respondents (44.0%) had positive reaction regarding menstruation in general. The aggregated data, also showed that majority of the respondents 60.0 per cent had negative reaction and 40.0 per cent had positive reaction about menstruation in general.

Thus, it can be concluded that majority of the respondents were upset during their first menstruation and in general had negative reaction towards menstruation.

4.2.4. Complications faced pre, during and post menstrual period by the respondents

Complications referred to the difficulties or problems the respondents faced due to menstruation in pre, during and post conditions .

The table further depicted that in village Gawar 60.0 per cent of the respondents faced backache and stomach pain followed by irritation (44.0%), breast soreness (40.0%), bloating and fatigue (16.0 each respectively), headache (12.0%) and depression/sadness and pimples (8.0) each respectively before the menstruation. Whereas in village Burak, 80.0 per cent of the respondents faced stomach pain followed by backache (74.0%), irritation (50.0%), breast soreness (36.0%) headache (16.0%), bloating and pimples (14.0%) each respectively, fatigue (12.0%). In case of pooled sample, 70.0 per cent of the respondents faced stomach pain followed by backache (67.0%), irritation (47.0%), breast soreness (38.0%), bloating (15.0%), fatigue and headache (14.0%) each, pimples (11.0%) and depression/sadness (4.0%) before the menstruation.

The table further showed that in village Gawar 92.0 per cent of the respondents lost confidence followed by fear (90.0%), backaches (68.0%), lazyness (66.0%), irritation (44.0%), food cravings (30.0%), mild stomach cramps (28.0%), headache (18.0%), fatigue (16.0%), pimples and reproductive tract infection (6.0%) each respectively during the menstruation. Whereas in village Burak, 96.0 per cent of the respondents felt fear followed by lost confidence (84.0%), backache (72.0%), lazyness (60.0%), irritation (50.0%), food cravings (38.0%) mild stomach cramps (22.0%), headache (14.0%), pimples and headache (10.0%) each respectively and reproductive tract infection (4.0) during the menstruation. In case of pooled sample, 93.0 per cent of the respondents felt fear followed by lost confidence (88.0%), backache (70.0%), lazyness (63.0%), irritation (47.0%), mild stomach cramps (25.0%), food cravings (34.0%), headache (14.0%), fatigue (12.0%), pimples (8.0%) and reproductive tract infection (5.0%) during the menstruation.

The table concluded that cent per cent of the respondents felt increased confidence, activeness and good sleep followed by clear face (20.0%), weakness and activeness (16.0%) each respectively fatigue (24.0%), clear face (20.0%) and weakness (16.0%) after menstruation in village Gawar. Whereas in Burak, cent per cent of the respondents felt increased confidence, activeness and good sleep followed by weakness (22.0%), fatigue (16.0%), clear face (14.0%). In case of pooled sample, cent per cent of the respondents felts

increased confidence, activeness and good sleep after menstruation followed by fatigue (20.0%), weakness (19.0%), and clear face (17.0%).

Thus, it can be concluded that majority of the respondents faced the problem of stomach pain, backache, irritation and breast soreness before the menstruation and fear, laziness, lost confidence, whereas irritation during the menstruation and feeling of increased confidence, activeness and good sleep were the post menstrual feelings faced.

Table 8: Complications faced pre, during and post menstrual period by the respondents

Complications/feelings	**Gawar (n=50) f(%)**	**Burak (n=50) f(%)**	**Total (n=100) (%)**
Before menstruation			
Bloating	8(16.0)	7(14.0)	15
Breast soreness	20(40.0)	18(36.0)	38
Irritation	22(44.0)	25(50.0)	47
Fatigue	8(16.0)	6(12.0)	14
Depression/sadness	4(8.0)	0(0.0)	4
Headache	6(12.0)	8(16.0)	14
Backache	30(60.0)	37(74.0)	67
Stomach pain	30(60.0)	40(80.0)	70
Pimples	4(8.0)	7(14.0)	11
During menstruation			
Reproductive tract infection	3(6.0)	2(4.0)	5
Irritation	22(44.0)	25(50.0)	47
Backaches	34(68.0)	36(72.0)	70
Headaches	9(18.0)	5(10.0)	14
Pimples	3(6.0)	5(10.0)	8
Food cravings	15(30.0)	19(38.0)	34
Fatigue	8(16.0)	4(8.0)	12
Mild stomach cramps	14(28.0)	11(22.0)	25
Fear	45(90.0)	48(96.0)	93
Laziness	33(66.0)	30(60.0)	63
Loose confidence	46(92.0)	42(84.0)	88
Post menstrual feelings			
Fatigue	12(24.0)	8(16.0)	20
Weakness	8(16.0)	11(22.0)	19
Increased Confidence	50(100.0)	50(100.0)	100
Clear face	10(20.0)	7(14.0)	17
Activeness	50(100.0)	50(100.0)	100
Good sleep	50(100.0)	50(100.0)	100

Multiple responses

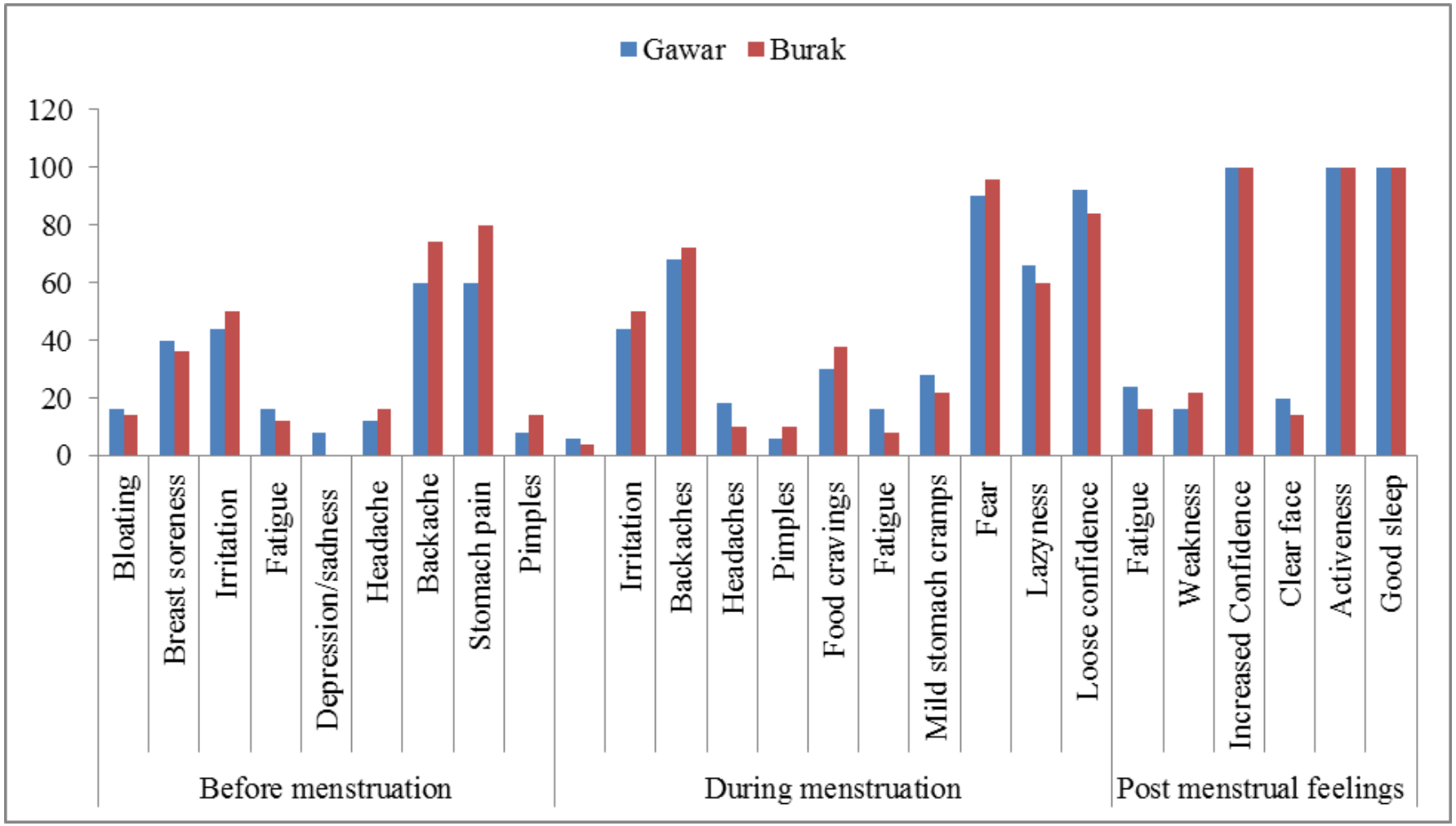


Fig. 4.6: Complications faced pre, during and post menstrual period by the respondents

4.3 Hygienic practices during menstruation

This section consists of the information regarding various personal and other hygiene exercised by the respondents such as frequency of bathing, cleaning of genitalia, washing of hands, use of soap, use of sanitary pad, change of absorbent, disposal method of absorbent, etc. in both Gawar and Burak villages.

4.3.1 Personal Hygienic Practices among respondents during menstruation

Table 9 illustrates the personal hygienic practices among the respondents during menstruation. It was found that in Gawar, majority of the respondents (40.0%) took bath after fourth day during menstruation followed by 36.0 per cent of the respondents who took daily and only 24.0 per cent of the respondents took bath on the first day of menstruation. While in Burak, 60.0 per cent of the respondents took bath daily during menstruation followed by 24.0 per cent of the respondents who took bath on the fourth day and only 16.0 per cent of the respondents took bath on the first day of menstruation. The pooled sample showed that nearly half of the respondents 48.0 per cent took bath daily followed by 32.0 per cent who took bath on the fourth day and 20.0 per cent of the respondent took bath on the first day during menstruation cycle.

Majority of the respondents (92.0%) did regular cleaning of external genitalia whereas only 8.0 per cent of the respondents did irregular cleaning of external genitalia in Gawar. However in Burak, 86.0 per cent of the respondents did regular cleaning of external genitalia and only 14.0 per cent did irregular cleaning of external genitalia. In case of pooled sample, same trend was followed.

As far as the frequency of washing genital area during menstruation was concerned in Gawar, majority of the respondents (82.0%) washed twice a day during menstruation and only 18.0 per cent of the respondents washed once a day. Whereas in Burak, half of the respondents (50.0%) washed genitalia once a day followed by twice a day (48.0%) and only 2.0 per cent washed on the first day. In aggregated data 65.0 per cent of the respondents washed genital area twice a day during menstruations followed by once a day (34.0%) and first day only (1.0%).

The Table further revealed that in Gawar, 58.0 per cent of the respondents used soap+water for cleaning of genital area followed by 26.0 per cent who used plain water and 12.0 percent used water+anticeptic and only 4.0 percent used feminine wash. In case of Burak 60.0 percent of the respondents used plain water for cleaning of genital area followed by saop+water (24.0%), water+anticeptic (16.0%). In overall score, 43.0 per cent of the respondents used plain water for cleaning of genital area followed by saop+water (41.0%), water+antiseptic (14.0%) and only (2.0%) used feminine wash.

Further, exploration of the Table regarding washing of hands after the use of sanitary napkins/absorbent indicated that in Gawar, majority of the respondents (94.0%) used

soap+water while only 6.0 per cent used plain water for hand washing. While in Burak, majority of the respondents (96.0) used soap+water while only 4.0 per cent of the respondents used water+antiseptic for washing of hands. However, in aggregated data, 95.0 per cent of the respondents used soap+water for washing of hands followed by plain water (3.0%) and water+antiseptic only (2.0%) for washing of hands.

The table further depicts that cent per cent of the respondents had proper toilet facility in both the villages Gawar and Burak. Same trend was followed in pooled sample.

Thus, it can be concluded that nearly half of the respondents took bath daily, did regular cleaning of external genitalia twice a day with the use of plain water and used soap+water for washing of hands after the use of sanitary napkins/absorbent and had proper toilet facilities at their home.

Table 9: Personal hygienic practices during menstruation followed by respondents

Personal hygienic practices	Gawar (n=50 f(%)	Burak(n-50) f(%)	Total (n=100) (%)
Frequency of bathing:			
Daily	18(36.0)	30(60.0)	48
First day	12(24.0)	8(16.0)	20
Fourth day	20(40.0)	12(24.0)	32
Cleaning of external genital area			
Regular	46(92.0)	43(86.0)	89
Irregular	4(8.0)	7(14.0)	11
Freqency of washing of genital area during menstruation			
Twice a day	41(82.0)	24(48.0)	65
Once a day	9(18.0)	25(50.0)	34
Only first day	0(0.0)	1(2.0)	1
Material used for cleaning purpose of genital area:			
Plain water	13(26.0)	30(60.0)	43
Soap+water	29(58.0)	12(24.0)	41
Water+antiseptic	6(12.0)	8(16.0)	14
Feminine wash	2(4.0)	0(0.0)	2
Washing hands after the use of sanitary napkins			
Plain water	3(6.0)	0(0.0)	3
Soap+water	47(94.0)	48(96.0)	95
Water+ antiseptic	0(0.0)	2(4.0)	2
Proper toilet facility at home			
Yes	50(100.0)	50(100.0)	100

4.3.2 Hygeinic Practices followed by respondents during menstruation

Hygienic practices reffered to the usage of sanitary pads, change of absorbent, reuse absorbent, places where absorbent is changed, disposal method of absorbent, places of drying absorbent, reasons for not using sanitary napkins, storage of absorbent, problems faced during

and after washing absorbent and diet pattern followed by the respondents during menstruation.

The materials used during menstruation in both Gawar and Burak villages has been presented in Table 10. It can be seen from the Table that in Gawar, 52.0 per cent of the respondents used cloth (same cloth after washing) during menstruation followed by sanitary pad (38.0%) and new cloth (10.0%). While, in Burak, nearly half of the respondents (48.0%) used sanitary pads during menstruation followed by cloth (40.0%) and new cloth (12.0%). In case of pooled sample, nearly half of the respondents (46.0%) used cloth during menstruation, followed by sanitary pad (43.0%) and new cloth (11.0%).

More than half of the respondents (52.0%) changed absorbent twice every 12 hours followed by once every 12 hours (26.0%) and thrice every 12 hours (22.0%) in Gawar. However in Burak, 64.0 per cent of the respondents changed absorbent twice every 12 hours followed by once every 12 hours (30.0%) and thrice every 12 hours (6.0%). The similar trend was observed in case of pooled sample mean.

The table further depicts the reuse of the absorbent by the respondents and it shows that 58.0 per cent of the respondents reused the absorbent in village Gawar and (42.0%) didn't reuse the absorbent whereas in Burak, 52.0 per cent reused and 48.0 percent didn't reuse the absorbent. Same trend was followed in case of pooled sample. Out of 58.0 percent in Gawar 26.0 per cent of the respondents reused the absorbent for one-two cycles followed by two-three cycles (22.0%) and more then three cycles (10.0%). while in Burak, out of 52.0 percent, 36.0 per cent of the respondents reused the absorbent for one-two cycles followed by two-three cycles (10.0%) and more than three cycles (6.0). in case of pooled sample, more than half of the respondents (55.0%) didn't reuse the absorbent and 45.0 per cent respondents reused the absorbent.

The data pertaining to Table 10 brings to the light that in Gawar, more than half of the respondents (54.0%) changed the absorbent at household toilet followed by private room (28.0%) and outdoors (18.0%). Whereas in Burak, 60.0 per cent of the respondents changed the absorbent in their private room followed by household toilet (26.0%) and outdoors (14.0%). Thus, in case of pooled sample, more than forty per cent of the respondents (44.0%) changed the absorbent at private room followed by household toilet (40.0%) and outdoors (16.0%).

The table further showed that in Gawar, nearly half of the respondents (44.0%) used dustbin for disposal of absorbent followed by burning (24.0%), reuse (22.0%) and flush down the toilets (10.0%) . In case of Burak, nearly $3/4^{th}$ of the respondents (64.0%) used dustbin as disposal method of absorbent followed by reuse (16.0%) and burning (12.0%) and flush down the toilets (8.0%). In aggregated data, 54.0 per cent of the respondents used dustbin as disposal method of absorbent followed by reuse (19.0%), burn (18.0%) and flush down toilets (09.0%).

As far as, place of drying absorbent was concerned in Gawar it was found that more than half of the respondents (66.0%) exposed the absorbent to the sun and 34.0 per cent of the respondents disposed off the absorbent. In Burak, 56.0 per cent of the respondents disposed off the absorbent and nearly 44.0 exposed the absorbent to the sun. In case of pooled sample, 55.0 per cent of the respondents exposed the absorbent to the sun and 45.0 per cent respondents disposed the absorbent.

Regarding reasons for not using the sanitary napkins, it was depicted from the table that in Gawar, more than half 56.0 per cent of the respondents found it costly followed by difficulty in discarding (28.0%) and no reason (16.0%) for not using the sanitary napkins. While in Burak, 66.0 per cent of the respondents found it costly followed by difficulty in discarding (18.0%) and no reason (16.0%). In case of pooled sample mean, more than half of the respondents (61.0%) found it costly, difficulty in discard (23.0%) and no reason (16.0%) for not using sanitary napkins.

The Table further depicts that, in Gawar, 62.0 per cent of the respondents stored the absorbent with routine cloth followed by the respondents who did not store the absorbent (24.0%) and 14.0 per cent of the respondents stored the absorbent in the bathroom. In case of Burak, more than half of the respondents (54.0%) stored the absorbent with routine cloth followed by the respondents who did not store the absorbent (36.0%) and only 10.0 per cent of the respondents stored the absorbent in the bathroom. In case of pooled sample mean percentage the same trend was followed.

Nearly half of the respondents (48.0%) faced the problem of drying during and after washing the absorbent in Gawar followed by lack of privacy (32.0%) and shortage of water (20.0%). Whereas in Burak, 48.0 per cent of the respondents faced the problem of privacy during and after washing the absorbents followed by drying (44.0%) and shortage of water (8.0%). In aggregated data, nearly half of the respondents (46.0%) faced the problem of drying during and after washing the absorbent followed by lack of privacy (40.0%) and shortage of water (14.0%).

Regarding diet pattern followed during menstruation by respondents it was found that in Gawar, 34.0 per cent of the respondents increased water intake followed by respondents (22.0%) who took iron pills, avoid curd, lassi and pickles and took green leafy vegetables/fruits (20.0%) each respectively and avoided heavy foods (4.0%) during menstruation. And in Burak, nearly half of the respondents (46.0%) increased water intake during menstruation followed by respondents (24.0%) who avoided curd , lassi and pickles, took green leafy vegetables/fruits (14.0%), avoided heavy foods (10.0%) and take iron pills (6.0%). In case of pooled sample, 40.0 per cent of the respondents increased water intake during menstruation followed by avoided curd, lassi and pickles (22.0%), took green leafy vegetables/fruits (17.0%), took iron pills (14.0%) and avoided heavy foods (7.0%).

Table 10: Hygienic Practices regarding the use of absorbent among respondents during menstruation

Hygienic practices	Gawar (n=50 f(%)	Burak (n-50) f (%)	Total (n=100) (%)
Materials used during menstruation:			
Sanitary pad	19(38.0)	24(48.0)	43
Clothes (same cloth after washing)	26(52.0)	20(40.0)	46
New cloth	5(10.0)	6(12.0)	11
change of absorbent:			
Once every 12 hours	13(26.0)	15(30.0)	28
Twice every 12 hours	26(52.0)	32(64.0)	58
Thrice every 12 hours	11(22.0)	3(6.0)	14
Reuse the absorbent			
Yes	29(58.0)	26(52.0)	55
No	21(42.0)	24(48.0)	45
If yes – for how many times			
One-two cycles	13(26.0)	18(36.0)	31
Two-three cycles	11(22.0)	5(10.0)	16
More than three cycles	5(10.0)	3(6.0)	8
Places where absorbent is changed			
Outdoors	9(18.0)	7(14.0)	16
Private room	14(28.0)	30(60.0)	44
Household toilet	27(54.0)	13(26.0)	40
Disposal method of Absorbent			
Dustbin	22(44.0)	32(64.0)	54
Burn	12(24.0)	6(12.0)	18
Flush down toilets	5(10.0)	4(8.0)	9
Other(reuse)	11(22.0)	8(16.0)	19
Place of drying absorbent			
Exposed to the sun	33(66.0)	22(44.0)	55
Dispose off after single use	17(34.0)	28(56.0)	45
Reason for not using sanitary napkin			
No reason	8(16.0)	8(16.0)	16
Difficulty in discarding	14(28.0)	9(18.0)	23
Costly	28(56.0)	33(66.0)	61
Storage of absorbent			
Stored in the bathroom	7(14.0)	5(10.0)	12
Didn't store the absorbent	12(24.0)	18(36.0)	30
Store it with routine clothes	31(62.0)	27(54.0)	58
Problems faced during and after washing absorbent			
Shortage of water	10(20.0)	4(8.0)	14
Lack of privacy	16(32.0)	24(48.0)	40
Drying difficulty	24(48.0)	22(44.0)	46
Diet pattern followed during menstruation			
Avoid heavy food	2(4.0)	5(10.0)	7
Avoid curd, lassi and pickles	10(20.0)	12(24.0)	22
Increased water intake	17(34.0)	23(46.0)	40
Take iron pills	11(22.0)	3(6.0)	14
Take green leafy vegetables/fruits	10(20.0)	7(14.0)	17

Thus, it can be concluded that majority of the respondents used same cloth after washing during menstruation, changed absorbent twice every 12 hours, reused the absorbent for one-two cycles, used dustbin as disposal method of absorbent and instead of drying, exposed the absorbent to the sun. Respondents changed the absorbent at private room, stored it with routine cloth, faced the problem of drying during and after washing the absorbent, increased intake of water during menstruation was also observed and did not use absorbent as they found it costly .

4.3.3 School sanitation facilities

School sanitation facilities referred to the facilities in relation to menstruation provided to the girls in schools.

The Table 11 brings to the light that in Gawar, majority of the respondents (82.0%) reported that there were separated toilets for girls in school followed by 18.0 per cent respondents who told about no separated toilets for girls. While in village Burak, nearly half of the respondents (52.0%) said that there were separate toilets for girls in school followed by no separate toilets for girls (48.0%). The overall score, followed the same trend.

Nearly forty per cent of the respondents (38.0%) said that toilets were functional in Gawar, followed by unclean and smelly (36.0%), clean and with light (12.0%) each respectively and only 2.0 per cent partially functional. Whereas in Burak, 42.0 per cent of the respondents said that toilets were functional followed by unclean and smelly (30.0%), clean (18.0%), with light (8.0% and partially functional (02.0%). In case of pooled sample mean, 40.0 per cent of the respondents said that toilets were functional followed by unclean and smelly (33.0%), clean (15.0%), with light (10.0%) and partially functional (2.0%).

Further, the table indicates that in Gawar, 3/4 of the respondents (88.0%) reported that schools had fully functioning water sources and only 12.0 per cent respondents mentioned that schools were found with partially functioning water source. However in Burak, 96.0 per cent of the respondents indicated that school had fully functioning water source and only (4.0%) respondents found that school had partially functioning water source. In case of pooled sample, similar trend was followed.

Regarding seperate facility for hand washing, The table points out that in Gawar, 3/4 of the respondents (76.0%) said that school had separate facilities for hands washing followed by 24.0 percent respondents who said that there was no facility for hand washing. While in Burak, Majority of the respondents (82.0%) said that schools had all washing facilities followed by (14.0%) who didn't have facilities for hand washing and 4.0 per cent respondents said the facilities sometimes not working. In case of aggregated data, Majority of the respondents (79.0%) said that schools had all washing facilities followed by schools had no washing facilities (19.0%) and 2.0 percent sometime not working.

Regarding container for disposing of menstrual sanitary napkins it was found that in Gawar, majority of the respondents (86.0%) mentioned that some toilets had container for disposing of absorbent followed by all toilets (14.0%) had container for disposing of menstrual hygiene materials. While in Burak, 58.0 per cent of the respondents said that some toilets had container for disposal of absorbent followed by all school toilets (42.0%) for disposing of absorbent. However the aggregated data shows that, Majority of the respondents (72.0%) said that some of the school toilets had container for disposing of menstrual hygiene materials followed by all school toilets (28.0%) having container for disposal of menstrual hygiene materials.

The data presented in Table further revealed that in Gawar, (74.0%) of the respondents told that soap was available in school toilets and only 26.0 per cent of the respondents told that soap was not available in school toilets. In case of Burak, 66.0 per cent of the respondents told that soap was available in the school toilets and nearly forty per cent of the respondents (34.0%) told that soap was not available in school toilets. In the overall score, similar trend was observed.

Thus, it can be concluded that there were seperate toilets for girls in the schools which were functional, had fully functioning water sources, with separate facility for hand washing, some of the school toilets had container for disposing of absorbent and soap was available in the school toilets.

Table 11: Sanitation facilities available for respondents at school

Facilities at school	Gawar (n=50) f(%)	Burak (n=50) f(%)	Total (n=100) (%)
School with separate toilet for girls			
Yes	41(82.0)	26(52.0)	67
No	9(18.0)	24(48.0)	33
Toilets accessible to girls			
Functional	19(38.0)	21(42.0)	40
Partially functional	1(2.0)	1(2.0)	2
Clean	6(12.0)	9(18.0)	15
With light	6(12.0)	4(8.0)	10
Unclean and smelly	18(36.0)	15(30.0)	33
School toilets with a functional water source	44(88.0)	48(96.0)	92
Fully functioning	6(12.0)	2(4.0)	8
Partially functioning			
Facility for hand washing			
Yes	38(76.0)	41(82.0)	79
No	12(24.0)	7(14.0)	19
Sometime not working	0(0.0)	2(4.0)	2
Container for disposing off absorbent			
All school toilets	7(14.0)	21(42.0)	28
Some toilets	43(86.0)	29(58.0)	72
Soap available in school toilets			
Yes	37(74.0)	33(66.0)	70
No	13(26.0)	17(34.0)	30

4.1 Factor associated with menstrual hygiene practices

4.1.1 Association of socio economic variables of respondents with the use of absorbent

The table depicts that association of socio economic profile of the respondents with use of absorbent

It was revealed that age (χ^2 = 16.11*), education (χ^2 = 32.625**) and fathers' occupation (χ^2 = 13.9218*) was significantaly associated with use of absorbent by respondents and with caste (χ^2 = 0.615), ordinal position (χ^2 = 3.47), size of family (χ^2 = 3.41), mothers' education (χ^2 = 1.20) and mothers' occupation (χ^2 = 4.6602) were non significantly associated with the use of absorbent by the respondents.

Table 12: Association of socio economic variables of respondents with use of absorbent

Age (years)	**Use of absorbent**				**χ^2 value**
	Sanitary pad	**Cloths**	**New cloths**	**Total**	
10-13	4	8	1	13	16.11*
13-16	35	19	6	60	
16-19	4	19	4	27	
Total	43	46	11	100	
Ordinal position					3.47
First	7	8	2	17	
Second	13	15	2	30	
Third	16	15	3	34	
Fourth	4	5	3	12	
Above fourth	3	3	1	7	
Total	43	46	11	100	
Caste					0.61
SC/ST	12	13	3	28	
OBC	11	12	4	27	
General	20	21	4	45	
Total	43	46	11	100	
Education					32.62**
VI	1	11	2	14	
VII	7	4	1	12	
VIII	17	7	1	25	
IX	9	9	2	20	
X	3	14	1	18	
XI	6	1	4	11	
Total	43	46	11	100	
Mother education					
Illiterate	22	26	5	53	1.20
Primary	17	18	5	40	
Secondary	4	2	1	7	
Total	43	46	11	100	

Size of family					
Large (6 and above)	2	3	2	7	3.41
Medium (4-6)	21	22	3	46	
Small (up to 4)	20	21	6	47	
Total	43	46	11	100	
Fathers' occupation					
Labourer	4	18	2	24	13.92*
Farmer	17	18	5	40	
Service	12	5	2	19	
Business	10	5	2	17	
Total	43	46	11	100	
Mothers' occupation					
Working	8	2	1	11	4.66
Home-maker	35	44	10	89	
Total	43	46	11	100	
Number of siblings					
Up to 2	13	22	5	40	3.01
Three and above	30	24	6	60	
Total	43	46	11	100	

Significant at 5% level of significance

4.1.2 Association of socio economic variable of the respondents with reaction about menstruation

The table depicts that association of socio economic variables of the respondents with the reaction about menstruation.

It was revealed that Age (χ^2 = 12.042*), education (χ^2 = 20.784*) was significantly associated with reaction about menstruation of the respondents however, factors like the ordinal position (χ^2 = 0.70), caste (χ^2 = 0.194), mothers' education (χ^2 = 2.45), size of family (χ^2 = 1.28), fathers' occupation (χ^2 = 3.05), mothers' ocupation (χ^2 = 0.79) and no. of siblings (χ^2 = 0.17) were not significantly associated with reaction about menstruation of the respondents.

Table 13: Association of socio economic variable of the respondents with reaction about menstruation

Age (years)	**Reaction about menstruation**			**χ^2 value**
	Negative	**Positive**	**Total**	
10-13	9	4	13	12.04*
13-16	28	32	60	
16-19	23	4	27	
Total	60	40	100	
Ordinal position				
First	9	8	17	0.70
Second	18	12	30	
Third	22	12	34	
Fourth	7	5	12	

Above fourth	4	3	7	
Total	60	40	100	
Caste				
SC/ST	16	12	28	0.19
OBC	16	11	27	
General	28	17	45	
Total	60	40	100	
Education				
VI	2	12	14	20.78*
VII	8	4	12	
VIII	20	5	25	
IX	13	7	20	
X	8	10	18	
XI	9	2	11	
Total	60	40	100	
Mothers' education				
Illiterate	28	25	53	2.45
Primary	27	13	40	
Secondary	5	2	7	
Total	60	40	100	
Size of family				
Large (6 and above)	5	2	7	1.28
Medium (4-6)	25	21	46	
Small (up to 4)	30	17	47	
Total	60	40	100	
Fathers' occupation				
Labourer	18	6	24	3.05
Farmer	22	18	40	
Service	11	8	19	
Business	9	8	17	
Total	60	40	100	
Mothers' occupation				
Working	7	4	11	0.79
Home-maker	53	36	89	
Total	60	40	100	
Number of siblings				
Up to 2	25	15	40	0.17
Three and above	35	25	60	
Total	60	40	100	

Significant at 5% level of significance

4.1.3 Association of Awareness about menarche before its onset with socio economic variables of the respondents

The table revealed that association of socio economic variables of the respondents with awareness about menarche.

It was found that age (χ^2 = 19.159*), education (χ^2 = 21.78*) and caste (χ^2 = 29.751**) were significantly associated with awareness about menarche before its onset however, factors like ordinal position (χ^2 = 0.57), size of family (χ^2 = 1.34), mothers' education, (χ^2 = 1.09), fathers' occupation (χ^2 = 2.15), mothers' occupation (χ^2 = 0.85) and no. of siblings (χ^2 = 1.23) were non significantly associated with awareness about menarche before its onset.

Table 14: Association of Awareness about menarche before its onset with socio economic variables of the respondents

Age (years)	**Awareness about menarche**			**χ^2 value**
	Yes	**No**	**Total**	
10-13	10	3	13	19.15*
13-16	53	7	60	
16-19	12	15	27	
Total	75	25	100	
Ordinal position				
First	12	5	17	0.57
Second	22	8	30	
Third	27	7	34	
Fourth	9	3	12	
Above fourth	5	2	7	
Total	75	25	100	
Education				21.78*
VI class	12	2	14	
VII class	11	1	12	
VII class	19	6	25	
IX class	13	7	20	
X class	10	8	18	
XI class	10	1	11	
Total	75	25	100	
Caste				29.75*
SC/ST	27	1	28	
OBC	26	1	27	
General	22	23	45	
Total	75	25	100	
Mothers' education				
Illiterate	42	11	53	1.09
Primary	28	12	40	
Secondary	5	2	7	
Total	75	25	100	

Size of family				
Large (6 and above)	5	2	7	1.34
Medium (4-6)	37	9	46	
Small (up to 4)	33	14	47	
Total	75	25	100	
Fathers' occupation				
Labourer	19	5	24	2.15
Farmer	32	8	40	
Service	13	6	19	
Business	11	6	17	
Total	75	25	100	
Mothers' occupation				
Working	7	4	11	0.85
Home-maker	68	21	89	
Total	75	25	100	
Number of siblings				
Up to 2	30	10	40	1.23
Three and above	45	15	60	
Total	75	25	100	

Significant at 5% level of significance

4.1.4 Correlation between socio economic profile of the respondents with menstrual hygienic practices

Age, education of respondent, education of mother and occupation of mother was positively corelated with all menstrual hygienic practices which mean that with the increase in the age, education and income of the respondents there was increase in menstrual hygienic practices. Ordinal position was not positively corelated with storage of absorbent, Caste was positively corelated with the use of material, reuse the absorbent, place where absorbent is changed and it's disposal method, however, thesize of family was negatively correlated with use of material, place where absorbent is changed, disposal method and problem faced after washing absorbent which means that with the increase in family size there was decrease in menstrual hygienic practices.

Table 15: Correlation between socio economic profile of the respondent with menstrual hygienic practices

Socio economic variables	Menstrual hygienic practices									
	Use of material	Change of absorbent	Reuse the absorbent	Places where absorbent is changed	Disposal method	Place of drying	Reasons for not using sanitary napkins	Storage of absorbent	Problem faced after washing absorbent	Diet intake during menstruation
Age	.343**	.050	.251*	.077	.170	.135	.166	.175	.219*	.024
Ordinal position	.381**	.150	.803**	.499**	.849**	.741**	.566**	-.605**	.618**	.231*
Caste	.253*	-.219*	.856**	.521**	.734**	-.588**	-.724**	-.766**	-.651**	-.063
Education	.391**	.029	.814**	.545**	.849**	.747**	.641**	.630**	.598**	.296**
Mother education	.069	.014	.115	.362**	.376**	.425**	.244*	.071	.086	.442**
Size of family	-.064	.008	.072	-.204*	-.146	.200*	.008	.080	-.153	.168
Mother occupation	.309**	.078	.196	.254*	.263**	.208*	.257**	.272**	.067	.047

****. Correlation is significant at the 0.01 level.**

***. Correlation is significant at the 0.05 level.**

CHAPTER-V

DISCUSSION

Adolescents are a large and growing segment of the world's population. More than half of the world's population is below the age of 25 years, and one in every two young people in the world is adolescent. In India, adolescents account for 20.0 per cent of country's population. In Haryana, adolescents constitute 21.0% of the total population (Census 2011). By year 2025, the population of adolescents in developed and developing countries would be around 19.0 per cent and 27.0 per cent respectively (Anonymous, 2016).

Women generally experience a variety of menstrual disorders, the most common disorders among adolescent are uterine bleeding, premenstrual syndrome, dysmenorrhea of primary type are of top concern and these are reasons for school absenteeism/drop out among young adolescents (Bachloo, 2016). Menstrual hygiene is defined as "sympathetic emotional and hygienic care given during menstruation." Menstruation is commonly called a period of menstrual flow. Menstrual hygiene comprises care of genital parts, use of sanitary napkins and personal hygiene (Dharni, 2018).

Lack of appropriate and sufficient information/awareness regarding menstrual hygiene among adolescent girls may result in incorrect and unhealthy behaviour during their menstrual period. Many mothers lack correct information and skills to communicate about menstrual hygiene to pass on to their children, leading to false attitudes, beliefs and practices among their daughters. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon.

The major findings of the study are discussed under following heads

5.1 Existing socio-economic profile of the selected respondents

Majority of respondents were in the age group of 13-16 years with third ordinal position in their respective family, belonged to general caste from VIII class with illiterate mothers', had large sized family and having sister as an elder sibling of the respondents up to two siblings, with all the household amenities viz. water connection, garbage disposal and toilet facilities. Similar findings were reported by Udayar (2016) that 46.1 per cent respondents were in the age group of 10 - 14 years. Majority (36.8%) were in birth order of second or third. With respect to mother's education of the study participants (30%) were illiterate.

Majority of respondents (59.0%) had income less than Rs.3 lakh to Rs.3 lakh per annum with occupation of fathers' as farmer and mothers' as home-makers and were residing in pucca houses. Similar findings were arrived by Patil (2016) who found that major occupation

of the respondents fathers' was agriculture followed by labourers and more than half of the respondents fathers' were illiterate and the majority belonged to class III socio economic status. Also Maji (2016) supported that most of the respondent's mother were housewives (60%) and 17% of respondent's mothers worked as domestic workers and 23% were daily labour.

Equal number of respondents (40.0%) got information from mothers and sisters as localite sources whereas, teachers from got it cosmopolite sources. In print media, books whereas television in electronic media were the major sources of information. Prajapati (2015) reported that mother was the source of information in 48.9 per cent girls followed by sister (25.0%), friends (12.5%) and relatives (10.2%). Shanbhag (2012) observed that the mothers were the most common source of information which retells the fact that mothers of adolescents should be integral part of all the programs on adolescent health and especially menstrual hygiene.

Thus, it can be concluded that respondents attained the menarche between 13-16 years and mother as a home-maker and having elder sister as a sibling helped them to become more aware about the menarche, as sister and mother were the major source of information to them.

5.2 Experience about menstruation

Almost half of the respondents attained menarche in the age group of 13-16 years, had 5-6 days duration of menstrual bleeding in each cycle with regular menstrual cycle pattern. Udayar (2016) also reported that majority of the girls attained menarche at the age of 13 years, bleeding was for 2 - 6 days duration in each cycle in 86.3 per cent subjects. Menstrual cycle was regular among 82.3 per cent girls.

Majority of the respondents (7.0%) had heard about menstruation before menarche, had normal menses (2-7 days), had knowledge about sanitary products and these products were purchased by mothers, eighty two per cent respondents were not aware about harmful effects of unhygienic menstrual practices and had perceived physiological reasons as the causes of menstruation, had incorrect knowledge of organ "Vagina" from where the bleeding occurs. Similar findings were reported by Maji (2016) who concluded that only 16.0 per cent per cent girls had correct information about the organ from where bleeding occurs that is uterus instead of vagina. He further revealed that nearly half of the respondents correctly knew that menstruation was normal and it was natural or physiological process but 16.0 per cent of them believed that it was god given and sometimes a curse also, eighty eight percent of the respondents knew that the duration of a normal menses is 2 to 7 days, sixty seven per cent of them were unaware about harmful effects of poor menstrual hygiene which could cause infections and maintaining proper menstrual can be the prevention of menstrual pain and other diseases like Reproductive Tract Infections and Sexually Transmitted Diseases. The results of the respondent study further revealed that half of the respondents were using homemade sanitary napkins. The present findings are in accordance with Nair *et al* (2007)

who found that 74.8 per cent of the girls used homemade sanitary pads and 24.0 per cent used ready-made sanitary pads.

Majority of the respondents did not visit holy places, relatives, friends and did household activities during menstruation. More than half of the respondents did not take bathe daily and majority did not attende religious functions, touched stored food. Majority slept on routine bed, but did not avoide hot, cold and sour foods. Majority went to school and did not use separate utensils, did not touch *Tulsi* plant during menstruation. Further, the present study also revealed that majority of respondents washed hair, cut hair or nails, did not dry underwear outside the house but played outside the house, could touch family member, did not live in a separate room. The results of the study are in accordance with subhash and sudeshna (2012) who also found that 90.3 per cent of the respondents practiced different types of restrictions such as not visiting religious places and in contrast findings avoided doing kitchen work and restricted from physical activities during menstruation. The present study showed that majority thought menstrual blood as an impure blood during menstruation which is supported by Dipali's study (2010) who also found that 75.0 per cent of the respondents felt that menstrual blood as an impure blood.

The findings of the present study further concluded that majority of the respondents (44.0%) were upset during their first menstruation and in general had negative reaction (60.0%) towards menstruation. Maji (2016) also reported that 44 per cent and 29 per cent of respondents respectively were upset and tensed during their first menstruation.

Majority of the respondents faced the problems of stomach pain, backache, irritation and breast soreness before the menstruation whereas, fear, laziness, lost confidence and irritation during the menstruation. Increased confidence, activeness and good sleep post menstrual feelings. Jitpure (2016) reported that Backache (67%), fatigue (52%), breast heaviness (46.3%), joint pain (26.82%) and increased weight during and a few days before menstruation (42.68%), headache (50%), abdominal bloating (35.36%) were the problem faced by the respondents.

Thus, it can be concluded that the respondents had an experience about menstruation as majority knew about so many aspects of menstruation but some misconceptions still exist in the respondents and instead of thinking menstruation as normal process in adolescent girls, they thought it as an impure blood getting released from the body. Even after so much awareness about menarche and sanitary pads through their mothers, elder sisters and mass media exposure, the girls felt shy in purchasing the sanitary napkins.

5.3 Hygienic practices during menstruation

The results further concluded that less than half of the respondents took bath daily, did regular cleaning of external genitalia with the plain water twice a day and used soap with water for washing hands after use of sanitary napkins/absorbent and had proper toilet facilities at their

homes. Patel Ridhi (2015) arrived at similar results regarding hygienic practices, 95.5 per cent girls had daily bath, Washing hands with soap and water was present in 93.2 per cent respondents and cleaning of external genitilia with soap & water was prevalent in 35.2 per cent. Only 42.1 per cent girls had toilet facility at their home while 57.9 per cent used common toilet.

Majority of the respondents used the same cloth after washing during menstruation, changed absorbent twice after every 12 hours and reused the absorbent for one-two cycles, used dustbin for disposal of absorbents and exposed to the sun the absorbent used. They changed the absorbent in a private room, stored it with routine clothes, faced the problem of drying during and after washing the absorbent. Increased intake of water during menstruation was also observed and respondents did not use absorbent as found it costly. The present findings are in accordance with the study conducted by Sudeshna (2012) who found that 66 per cent of the respondents used sanitary pads but still 34 per cent used old clothes and most of them reuse those cloths. They also faced problem in maintaining privacy while washing and drying of those cloths. As a result of privacy problem they dry and store those cloths in unhygienic places which sometimes causes infections. And in contrast to findings of the study Sudeshna (2012) further revealed that 75 per cent of adolescent girls said that they were disposing the used pads in ponds and 33 per cent of them were disposing with usual home garbage and 2 per cent of them burn those used pads. Only 22 per cent of them changed sanitary pads twice in 24 hours and rest of them changed once after 24 hours or according to situation and 29.2 per cent girls were not using sanitary pads because of cost, involved 21.5 per cent due to difficulty in discarding. Solanki et al.(2012) also supported the facts that Disposal of absorbent was by throwing these into the dust bins in 58.0 per cent cases.

Further the study depicted that there were seperate functional toilets for girls in schools, with fully functional water sources with separate facility for washing hands, Some of the school toilets had containers for disposing of absorbents and soap was available in school there. Similar findings were reported by MHM (2017) that schools had a functional or partially functional water sources, all schools had hand washing facilities in the latrine block.

Thus, it can be concluded that respondents were following most of the menstrual hygienic practices but still they used same cloth as an absorbent after its washing during menstruation as they found sanitary napkins costly, so some solutions have to be worked out by government in the form of providing subsidy on sanitary napkins and installation of machines at school and providing training to the village people to make sanitary napkins.

5.4 Factors associated with menstrual hygienic practices

The study revealed that age, education and fathers' occupation of the respondents were significantly associated with the use of absorbent. Similar findings were reported by Patil (2016) that hygienic practices of using sanitary pads were regularly and using adequate number of pads / day during menstruation was significantly associated with the participants

age, education and mother's literacy. Santina et al. (2018) reported that menstrual practice was significantly associated with age. Mothers' education, caste and mothers' occupation were not significantly associated with the use of absorbent which was also supported by Boratne (2016) who found that use of sanitary pad is not associated with mother's education and occupation as well as caste.

The present study further concluded that age and education of the respondents were significantly associated with reaction about menstruation. Similar findings was reported by Kamath *et al.* (2013) who found that girls who had attained menarche, there principle emotions were significantly associated with first menses and were scared (51.4%).

The present study depicted that awareness about menarche was significantly associated with age, education and caste of the respondents. Similar findings were reported by Kansal (2016) that significant association ($P < 0.05$) was observed between respondents age, education and caste with awareness about menarche and other issues related to menstruation.

Age, education of respondent, education of mother and occupation of mother was positively corelated with all menstrual hygienic practices, Ordinal position was not positively corelated with storage of absorbent, caste was positively corelated with use of material, however, reuse the absorbent, place where absorbent is changed and its disposal, size of family was negatively correlated with the use of material, place where absorbent is change, disposal method and problem faced in washing the absorbent.

Mahajan (2019) reported that education of mother had the significant effect on the knowledge scores of the participants. Correlation between the knowledge and practice scores of participants showed positive correlation between the two scores ($*P < 0.001$).

Thus , it can be concluded that with the increase in age and education of the respondents there was increase in awareness about the type and use of absorbent and also their reaction about menstruation was becoming positive as they had accepted it as a normal practice and it importance in life as an adolescent and being women.

CHAPTER-VI

SUMMARY AND CONCLUSION

Adolescence is a significant period in the life of a woman (Lawan *et al.,* 2010). The term adolescence comes from a Latin word means "to grow to maturity. Adolescents are a large and growing segment of the world's population. More than half of the world's population is below the age of 25 years, and one in every two young people in the world is an adolescent. In India, adolescents account for 20% of country population. In Haryana, adolescents constitute 21% of the total population (Census 2011).

The onset of menstruation, a physiological process changes a young woman's life. It is a natural and beneficial monthly occurrence in healthy adolescent girls and pre-menopausal in adult women (Deshgupta *et al.,* 2008). It is an important development associated with the adolescent years. Adolescence in girls is recognized as a special period which signifies transition from girlhood to womanhood. The world health organisation (WHO) has defined adolescence as the group of 10-19 years (Jain *et al*. 2009). Menstruation is a natural phenomenon which is unique to the females. The first menstruation (menarche) occurs between 11 to 15 years of age while the average age of menarche is 13.5 years. In total a woman spends around six to seven years of her life menstruating (Theres, M. and Maria, F., 2010).

Therefore, keeping these factors in mind the present study was planned with following objectives:

1. To explore misconception and experience about menstruation among adolescent girls
2. To assess menstrual hygiene practices
3. To delineate the factors associated with menstrual hygiene practices

Methodology

The study was conducted in Hisar district of Haryana state selected purposively. From Hisar district Block II was selected randomly and from Block II two villages *Gawar* and *Burak* were selected randomly. To explore misconception and experience about menstruation, menstrual hygiene practices and factors associated with menstrual hygiene practices, a total of 100 rural respondents (50 females/village) were selected from both the villages. Independent variables included socio-personal, economic and communication variables and two dependent variables, misconception and experience about menstrual hygiene practices and menstrual hygiene practices. A well-structured interview schedule was used as a tool for data collection that including all the variables of the study. Data were collected personally by the researcher. The statistical tools applied for data analysis were as frequency, percentages, chi-square and corelation.

Major findings

6.1 Socio economic Profile of respondents

- Majority of respondents were in the age group of 13-16 years with third ordinal position in their respective family, belonged to general caste, educated up to VIII class with illiterate mothers's, had large sized family. Majority had male as a sibling with total three siblings above the age of 19-21 years. In case of up to two siblings in total, majority of te respondents had elder sister, with all the household amenities viz. water connection, garbage disposal and toilet facilities.
- Majority of respondents had income less than Rs.3 lakh to Rs.3 lakh per annum with occupation of fathers' as farmer and had mothers' as home-makers and residing in pucca houses.
- Majority of the respondents got information from mother and sister in localite sources and teacher from cosmopolite sources. In print media, books and television as electronic media was the major source of information.

6.2 Experience about menstruation

- Majority of the respondents attained menarche in the age group of 13-16 years, had 5-6 days duration of menstrual bleeding in each cycle with regular menstrual cycle pattern.
- Majority of the respondents had heard about menstruation before menarche, had normal menses which duration upto (2-7 days), had awareness about sanitary products, which were purchased by their mothers, were not aware about harmful effects of unhygienic menstrual practices, perceived physiological reasons as the causes of menstruation, knew about the organ "vagina" from where bleeding occurs and were using homemade sanitary napkins.
- Most of the respondents did not visit holy places, relatives, friends and performed household activities during menstruation. They did not take bathe daily, did not attend religious functions, did not touch stored food, slept on routine bed, did not avoid hot, cold and sour food. They went to school and did not use separate utensils, did not touch *Tulsi* plant during menstruation, not washed hair but cut hair or nails, did not dry underwear outside the house, played outside the house, could touch family members, did not live in a separate room but majority perceive menstruation as an impure blood.
- Most of the respondents were upset during first menstruation and had negative reaction about menstruation in general.
- Majority of the respondents faced the problem of stomach pain, backache, irritation and breast soreness before the menstruation, they also felt fear, laziness, lose of confidence and irritation during the menstruation but increased confidence, activeness and good sleep as post menstrual feelings.

6.3 Hygiene practices during menstruation

- Nearly half of the respondents took bath daily, did regular cleaning of external genitalia twice a day with the use of plain water and used soap with water for washing of hands after the use of sanitary napkins/absorbent and had proper toilet facilities at their home.
- Majority of the respondents used same cloth after washing during menstruation, changed absorbent twice every 12 hours, reused the absorbent for one-two cycles, used dustbin as disposal method of absorbent and exposed the used absorbent to the sun. Respondents changed the absorbent in their private room, stored it with routine clothes, faced the problem of drying during and after washing the absorbent, Increased intake of water during menstruation was also observed, they did not use sanitary napkins as found them costly.
- In schools there were separate toilets for girls which were functional, had fully functioning water sources, with separate facility for hand washing, Some of the school toilets had container for disposing of absorbent and soap was also available in school toilets.

6.4 Association of dependent and independent variables

- Chi squre analysis revealed that the association of socio economic variable of the respondents with the use of absorbent was significantly associated with age, education, and father's occupation.
- Association of socio economic variables of the respondents with reaction about menstruation was significantly associated with the age and the education of the respondents.
- Association of awareness about menarche before its onset was significantly associated with age, education and caste.
- Age was positively coorelated with all menstrual hygienic practices, ordinal position was negatively coorelated with the storage of absorbent, caste was positively coorelated with use of material, reuse of absorbent, place where absorbent is changed and its disposal method, Education was positively coorelated with all the menstrual hygienic practices, mother's education was positively coorelated with the all menstrual hygienic practices, Size of family was negatively correlated with use of material, place where absorbent is changed, disposal method and problems faced after washing absorbent, Mothers' occupation was positively coorelated with all the menstrual hygiene practices.

  Thus, it can be concluded that as the education of the mother, increases the awareness about menstrual hygienic practices and as the size of the family increases the use of material as an absorbent decreased as they became economically were able to purchase sanitary pads.

In the thesis we have taken the basic awareness of respondents regarding menstrual hygiene and in future awareness could be propogated through print media and electronic media on the lacking aspects in respondents regarding menstrual hygiene.

Recommendations

- Girls should be educated well before the onset of menstruation by mothers, teachers and elder sisters and this should be continued time to time, physiological implications, significance of menstruation, and proper hygienic practices during menstruation.
- Goverment of India launched "kishore shakti yojna" (adolescent girl empowerment scheme) under ICDS in 1991 and now this scheme converted to "SABLA" could be utilized to cater the adolescents' reproductive health demands. Also ASHA worker could be encouraged to promote menstrual hygiene practices by making low cost/subsidized sanitary pads available (social marketing) by selling six sanitary pads known as free days at low price.
- For the easy availability of sanitary napkins in villages, women self help groups (like mahila mandals) , traditional birth attendants, female shopkeepers etc. should be involved to store and distribute sanitary napkins so that girls would feel comfortable to purchase sanitary napkins themselves.
- Education regarding misconception, myths, restrictions, reproductive health with more focus on menstrual hygiene should be made a part of school curriculum. Media role in the form of more short films/messages on the issues of menstruation should be encouraged.
- The messages portrayed in advertisements for sanitary napkins are only for aesthetic sense, no clear message is being portrayed regarding protection from RTI, as the respondents were reusing the absorbent.
- Skill development programme/training through involving the girls in the making of sanitary napkins and enhance the economic bar and increasing the use of sanitary napkins, good disposal methods for reproductive health and to save the environment protection could be encouraged.
- The government should provide special emphasis on functional water and disposal facilities in the schools.

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ANNEXURE-I

INTERVIEW SCHEDULE

Socio demographic profile of the respondent:

(Please tick your right answer)

1. Age at the start of menarche
    a. 10-13
    b. 13-16
    c. 16-19
2. Ordinal position
    a. First
    b. Second
    c. Third
    d. Fourth
    e. Above fourth
3. Caste
    a. SC/ST
    b. OBC
    c. General
4. Level of education :
    a. VI
    b. VII
    c. VIII
    d. IX
    e. X
    f. XI
5. Educational status of mother
    a. Illiterate
    b. Primary
    c. Secondary
6. Size of family
    a. Large (6 and above)
    b. Medium (5-6)
    c. Small (up to 4)
7. No. of Siblings –
    a. Up two 2
    b. Three and above
8. Age of the sibings
    a. 17-19
    b. 19-21

9. Sex of the siblings
    a. Male
    b. Female
10. Elder sister as sibling
    a. Up two two
    b. Three and above
11. Household amenities –
    a. water connection
    b. Garbage disposal
    c. Toilet facilities

Economic profile of the respondents

(Please tick your right answer)

1. Income (Rs.)
    a. <3 and equal to 3 lakh
    b. 4-5 lakh
    c. >5 lakh
2. Occupation of father
    a. Laborer
    b. Farmer
    c. Service
    d. Business
3. Occupation of mother
    a. Labourer
    b. Farmer
    c. Home-maker
4. House type
    a. Kaccha
    b. Mixed
    c. Pucca

COMMUNICATION VARIABLES

1. Possession of communication means

Sr. No.		**Possession**	
1.	**Localite sources**	**Yes**	**No**
a.	Mother		
b.	Relatives		
c.	Sister		
d.	Peer group		
2.	**Cosmopolite sources**		
a.	Health worker		
b.	Medical personnel		

c.	Teacher		
3.	**Print media**		
a	Books		
b	Magazines		
c	Newspaper		
d	Leaflets		
4.	**Electronic media**		
a	Radio		
b	Television		
c	Internet		

Menstrual profile of the respondents

(Please tick your right answer)

1. Age at menarche (years)
   a. 10-13
   b. 13-16
   c. 16-19
2. Menstrual bleeding during each cycle (days)
   a. < 2
   b. 3-4
   c. 4-5
   d. 5-6
3. Menstrual cycle pattern
   a. Regular
   b. Irregular
   c. Missed cycle

Information/awareness of respondents regarding menstruation

(Please tick your right answer)

Sr. no.	Information/awareness	Yes	No
1.	Heard about menstruation before menarche		
2.	Duration of a normal menses (2-7 days).		
3.	About sanitary products	**If yes-** Sanitary pad Tampons Menstrual cups	
4.	Preparation before onset of menstruation		
5.	Harmful effect of unhygienic menstruation practices	**If yes-** Fungal infection RTI Urinary tract infection Rashes	

1. Purchase of sanitary products
    a. Mother
    b. Self
    c. Family members
2. Perception about reasons of menstrual cycle
    a. Physiological cause
    b. God given cause
    c. Due to some disease
    d. Result of sin
3. Organ release blood
    a. Uterus
    b. Bladder
    c. Vagina
    d. Stomach
    e. Ovary
4. Stand on absorbent to be used
    a. Homemade sanitary napkins
    b. Market available sanitary napkins

Restrictions followed by respondents during menstruation

(Please tick the responses that you faced)

Sr. no.	Restrictions	Yes	No
1.	Visit holy places		
2.	Visit to relatives, friends		
3.	Do household activities		
5.	Bath daily		
6.	Attend religious functions		
7.	Touch stored food		
8.	Sleep on routine bed		
9.	Avoid hot, cold and sour foods		
10.	Attend school		
11.	Use of separate utensils		
12.	Touch the Tulsi plant		
13.	Wash hair		
14.	Cut hair or nails		
15.	Dry underwear outside the house		
16.	Playing outside the home		
17.	Touch family members		
18.	Live in a separate room		
19.	Menstrual blood as an impure blood		

Mindset of respondents about menstruation

(Please tick your right answer)

1. Reaction to first menstruation
    a. Normal
    b. Upset
    c. Tensed
2. Reaction about menstruation in general
    a. Negative reaction
    b. Positive reaction

Complications/feelings pre. During and post menstrual period by the respondents

(Please tick your right answer)

1. Before menstruation

a. Bloating
b. Breast soreness
c. Irritation
d. Fatigue
e. Depression/sadness
f. Headache
g. Backache
h. Stomach pain
i. Pimples

1. During menstruation

a. Reproductive tract infection
b. Irritation
c. Backaches
d. Headaches
e. Pimples
f. Food cravings
g. Fatigue
h. Mild stomach cramps
i. Fear
j. Lazyness
k. Loose confidence

2. Post menstrual feelings

a. Fatigue
b. Weakness
c. Increased Confidence
d. Clear face
e. Activeness
f. Good sleep

Personal hygienic practices during menstruation followed by respondents

(Please tick your right answer)

1. Frequency of bathing
    a. Daily
    b. First day
    c. Fourth day
2. Cleaning of external genitalia
    a. Regular
    b. Irregular
3. Frequency of washing of genital area during menstruation
    a. Twice a day
    b. Once a day
    c. Only first day
4. Material used for cleaning purpose of genital area
    a. Plain water
    b. Soap+water
    c. Water +antiseptic
    d. Feminine wash
5. Washing hands after the use of sanitary napkins
    a. Plain water
    b. Soap +water
    c. Water + antiseptic
6. Proper toilet facility at home
    a. Yes
    b. No

Hygienc practices regarding the use of absorbent among respondents during menstruation

(Please tick your right answer)

1. Material used during menstruation
    a. Rags
    b. Sanitary pad
    c. Cotton wool
    d. Toilet rolls
    e. Clothes
    f. New cloth
2. Change of absorbent
    a. Once every 12 hours
    b. Twice every 12 hours
    c. Thrice every 12 hours

3. Reuse the absorbent
    a. Yes
    b. No

If yes-

    a. One-two cycle
    b. Two-three cycle
    c. More than three cycle

4. Places where absorbent is change
    a. Outdoors
    b. At private room
    c. At household toilet
5. Place of drying absorbent
    a. Expose to the sun
    b. Disposed
6. Reasons for not using sanitary pads
    a. No reason
    b. Difficulty in discard
    c. Costly
    d. Don't know about it
    e. Don't feel comfortable with it
7. Storage of absorbent
    a. Stored in the bathroom
    b. Didn't store the absorbent
    c. Store it with routine cloth
8. Problem face during and after washing absorbent
    a. Shortage of water
    b. Lack of privacy
    c. Drying
9. Diet pattern followed during menstruation
    a. Avoid heavy foods
    b. Avoid curd, lassi and pickles
    c. Increase water Intake
    d. Take iron pills
    e. Take green leafy vagetables/fruits

School sanitation facilities

(Please tick your right answer)

1. Schools with separate toilet for girls
    a. Yes
    b. No

2. Toilets accessible to girls that are –
    a. Functional
    b. Partially functional
    c. Clean
    d. With Light
    e. Unclean and smelly
3. Schools with a functional water source
    a. Fully functioning
    b. Partially functioning
4. Facility for hand washing
    a. Yes
    b. No
    c. Sometime not working
5. Container for disposing of absorbent
    a. All school toilets
    b. Some latrines
6. Soap available at school toilets
    a. Yes
    b. No

ABSTRACT

Title of thesis	:	**Study on Menstrual Hygiene Practices among Rural Adoloscent Girls**
Full name of the degree holder	:	Jyoti (2017HS08M)
Title of Degree	:	Master of Science
Name and address of major advisor	:	Dr. Manju Dahiya, Principal Scientist Dept. of Extension Education & Communication Management, I.C. College of Home Science, CCS HAU, Hisar.
Degree awarding University	:	CCS Haryana Agricultural University, Hisar
Year of award of degree	:	2019
Major subject	:	Extension Education and Communication Management
Total No. of pages in thesis	:	66 + v + VIII
Number of words in the abstract	:	444

Keywords: Adolescent, Menstruation, Misconception, Experience, Menstrual Hygiene Practices

Adolescence in girls has been recognized as a special period in their life cycle that requires specific and special attention. This period is marked with the onset of menarche. Menstruation is a phenomenon unique to all females. This study was undertaken with the aims to assess the knowledge of adolescent's girls living in rural area regarding menstruation and also to study their misconception and experience and menstrual hygienic practice regarding menstruation. The present study was conducted in Hisar district of Haryana state. From Hisar district block II was selected randomly and from block II two villages viz. Gawar and Burak were selected randomly. 50 females from each villages were selected randomly. Thus, making a total of 100 respondents. A set of independent variables and dependent variables were selected for the study. In this study majority of the respondents respondents attained the menarche between 13-16 years, in class VIII followed by IX with mothers' as a home-maker, elder sibling as a sister, both of them helped the respondents to become more aware about the menarche as both were the major source of information for them. From the findings of the present study, it can be observed that the adolescent girls had proper awareness about menstruation before menarche (75.0%) and duration of menstruation (87.0%). Regarding experience of respondents about menstruation it was found majority knew about so many aspects of menstruation but some misconceptions still exist in the respondents and instead of thinking menstruation as normal process in adolescent girls, they thought (67.0%) it as an impure blood getting released from the body. Majority of the respondents (44.0%) felt upset during their first menstruation and had (60.0%) negative reaction in general. Majority of the respondent faced the problem of (70.0%) stomach pain, (67.0%) backache, (47.0%) irritation and (38.0%) breast soreness before the menstruation, fear (93.0%), lose confidence(88.0%), lazyness (63.0%), and irritation (47.0%) during the menstruation and cent per cent of the respondents felt increased confidence , activeness and good sleep post menstrual feelings. Majority of the respondents were following good menstrual hygienic practices. Use of absorbent was found to be significantly associated with age (χ^2 = 16.11*), education (χ^2 = 32.625**) and fathers' occupation (χ^2 = 13.9218*). Age (χ^2 = 12.042*), education (χ^2 = 20.784*) was significantly associated with reaction about menstruation of the respondents. It was found that age (χ^2 = 19.159*), education (χ^2 = 21.78*) and caste (χ^2 = 29.751**) was significantly associated with awareness about menarche before its onset. Age education of the respondents and education of mother was positively coorelated with menstrual hygienic practices. It can be concluded that the proper menstrual hygiene and correct perception can protect the women from suffering.

MAJOR ADVISOR **SIGNATURE OF THE STUDENT**

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Matric	HBSE Board	2011	73.2	English, Hindi, Math., Social Science, Science, Sanskrit
Senior Secondary	HBSE Board	2013	63.6	English, Hindi, Physics, Chemistry, Mathematics
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a) Donated in "Blood Donation Camp" (i.e. on 18-11-15).

b) Donated in "Blood Donation Camp" (i.e. on 11-10-16).

c) Donated in "Blood Donation Camp" (i.e. on 19-04-18).

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g) Attended "National seminar on innovative strategies for gender equality" held at CCS Haryana Agricultural University, Hisar, Haryana (i.e. from March 8, 2019).

h) Attending a mountaineering camp (Mt. Deo Tibba)

i) Attending a water sports camp (i.e. 23-27 october 2018).

Jyoti

UNDERTAKING OF THE COPY RIGHT

I, **Jyoti**, Admn. No. **2017HS08M**, undertake that I give copy right to the CCSHAU, Hisar of my thesis entitled, **Study on Menstrual Hygiene Practices among Rural Adoloscent Girls**. I also undertake that, patent, if any, arising out of the research work conducted during the programme shall be filed by me only with due permission of the competent authority of CCSHAU, Hisar.

Signature of the Student