

## Original Research Article

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# Menstrual taboos and social restrictions affecting good menstrual hygiene management among reproductive age group female students

Rajanbir Kaur<sup>1</sup>, Kanwaljit Kaur<sup>2</sup>, Rajinder Kaur<sup>1\*</sup>

<sup>1</sup>Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, Punjab, India

<sup>2</sup>Department of Medical Microbiology, Government Polytechnic College for Girls, Amritsar, Punjab, India

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**\*Correspondence:**

Rajinder Kaur,

E-mail: rajinder.botenv@gndu.ac.in

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## ABSTRACT

**Background:** Awareness about menstruation and menstrual hygiene is an important aspect of health education for adolescent girls and pre-menopausal women. Taboos and socio-cultural restrictions still overcome the scientific facts and hygienic health practices among females of different communities. The present study was designed to assess the knowledge, awareness, beliefs, restrictions and practices regarding menstruation among the undergraduate and postgraduate females of Amritsar city of Punjab.

**Methods:** This observational cross-sectional study was conducted among two hundred female students pursuing different degree courses in the university. A pre-designed questionnaire contains thirty five questions related to socio-demographic profile, knowledge and practices and different socio-cultural and environmental factors which affects menstrual hygiene.

**Results:** The study results elicited that majority of the participants know that menstruation was a physiological process and poor menstrual hygiene leads to urinary and reproductive tract infections. As most of the participants were from middle class families residing in the urban areas of the city, they faced fewer restrictions and can access and afford sanitary napkins easily.

**Conclusions:** This study shows a significant association between the age and knowledge of the participants regarding menstrual hygiene practices. The education status of the parents plays an important role in the good menstrual hygiene practices of the participants.

**Keywords:** Menstrual hygiene, Menstruation, Sanitary pads, Knowledge, Cultural practices, Reproductive tract infections

## INTRODUCTION

Menstruation, also known as menses or periods is a natural process that occurs in adolescent girls and pre-menopausal women every month. It begins between the ages of 12-15 years which marks the onset of period of menarche. The menstrual cycle is usually of 28 days in which the inner endometrial lining of the uterus along with mucosal tissue and blood discharges through the vagina.<sup>1-3</sup> Menstrual cycle is divided into three phases, follicular phase (proliferative), ovulation phase and luteal

phase (secretory) that occurs due to rise and fall of hormones produced by the hypothalamus and pituitary glands of the brain in the female body.<sup>4</sup> It is a natural phenomenon occurring in girl's body but due to lack of knowledge and false perceptions it is still considered a taboo in our society. There are many social, cultural and religious norms and misconceptions which affects girls/women's life during menstruation. They are not allowed to cook, worship, play and to attend religious functions.<sup>5,6</sup> In some reported cases, they have to live in a hut or chhaupadi's away from the family as menstruating

women considered dirty and impure, even their touch is considered impure according to some religious beliefs. These false beliefs and misconceptions are big barriers in the path of good personal and menstrual hygiene practices.<sup>7</sup>

Unfortunately, the adolescent girls are not pre-informed or aware regarding menstruation, due to which it is difficult to accept it as a normal process in their body. Also, due to shyness and embarrassment they don't feel comfortable to discuss it with their family.<sup>6</sup> They are also unaware of personal hygiene during menstruation which may give rise reproductive tract infections (RTI), toxic shock syndrome, urinary tract infections (UTI) and other reproductive disorders. Adolescents mostly learn about menstruation from friends, books, internet which may provide incorrect and incomplete information.<sup>8</sup> The needs and practices of the menstruating women are different in the developed and developing countries. The choice of the menstrual products depends upon availability in the market, economic status and knowledge about menstruation.<sup>9</sup> In the developed countries, women mostly use commercial sanitary pads, tampons and menstrual cups which are easily available online and in the market. But in the developing countries, women have narrow choice as they can't afford these commercial products.<sup>7,10</sup> So, they mostly rely on reusable cloth pads, cotton, gauge or wool. Women living in urban areas prefer modern sanitary products which they dispose off by flushing in the toilet, throwing in the dustbins with domestic wastes or through solid waste management.<sup>9</sup> In rural areas, women mostly use re-usable pads so, they dispose the used menstrual products by burning, burial or throwing in pit latrines. The menstrual waste generated by women living in rural areas is less as compare to women in urban areas.<sup>11</sup>

Several previous studies among adolescent school girls have shown that they have very little knowledge about menstruation and menstruation hygiene management. Also, they feel shy and embarrassed in discussing such topics with family and teachers. Most of the studies on menstruation, menstruation hygiene and waste management were conducted among adolescent school girls; there was lesser known data among college/university students. So, the purpose of this study was to discover the knowledge and practices among female undergraduate and postgraduate students in Amritsar city of Punjab. In this study, we also evaluated certain factors which directly or indirectly affect good menstrual hygiene and waste management practices among girls/women.

## METHODS

### Type of study

This cross-sectional observational study was conducted among the undergraduate and postgraduate female students of Amritsar city, Punjab.

### Place and duration of study

The study was conducted from July to September 2017 among the students of different departments of Guru Nanak Dev university and Government polytechnic college of Amritsar, Punjab.

### Study population

The study included 200 girl students of 16-30 years of age who were willing to participate in the study.

### Study tool

After reviewing the relevant literature, a pre-designed and self-administered questionnaire was prepared for the study. Purpose of the study was clearly explained to the participants and an informed consent was taken from them. Participants who did not give consent were excluded from the study. This questionnaire was prepared in English language and included 35 questions related to menstruation, menstrual hygiene, practices and restrictions, source of information and general awareness questions regarding it. After collection of the questionnaire from the participants, all their queries and doubts were cleared by the research worker. The privacy of the participants was maintained throughout the study. The requirement for approval was waived by the ethics committee, and a direct consent was taken from the participants.

### Data analysis

The collected data was checked manually and then entered into Microsoft excel spreadsheet. The frequencies and proportions were calculated from the data. Chi square test was used to describe association. The p value less than 0.05 was considered as statistically significant.

## RESULTS

### Socio-demographic profile

In the present study, two hundred girl students were participated in the study. The majority of the girl students were between the ages of 21-25 years with mean age  $22.7 \pm 4.08$ . The education status of the participants shows that most of them were well educated with diploma (16%), bachelor's degree (29%) and master's degree (55%). The study revealed that most of them belonged to Hindu religion (53.5), Sikh (38%) and others (8.5%). About 56.5% of the students were from urban area of the city and rest 43.5% were from rural area. The education status of parents showed that most of them were well educated; as 39.5% mother's of participants studied upto college level and similarly 45.5% father's of participants studied in colleges. The data regarding mother's occupation showed that besides possessing higher level of education majority of them were housewives (73.5%) and

only 26.5% were employed in government or private sector (Table 1).

#### **Knowledge, practices and awareness of the participants regarding menstruation**

In this study, majority of the respondents (56.5%) experienced menarche at the age between 13-14 years with mean age  $13.7 \pm 1.63$ . Most of the students (59%) were aware of the menstruation before menarche and 80% of them learned about menstruation in class. Majority of the students (22.5%) discussed about menstrual hygiene with mother, teacher (9.5%), friend (17%) and sister (15.5%). About 77.5% of the girls have regular menstrual cycle, while 4.5% don't know about it.

In majority of the cases source of information regarding menstruation is respondent's mother's (55%), teacher (29.5%), friend (22.5%), TV/internet (14.5%) and books (9%). Most of the respondents had knowledge about menstruation as 70.5% of them knew poor menstrual hygiene caused infections and 84% of them knew that pads should be changed regularly. 91.5% of the respondents bathed daily during menstruation and 62% of them have knowledge that personal hygiene may prevent menstrual pain. The study also revealed that the number of pads changed per day during menstruation and it was found that 36.5% of the respondents changed two pads per day and only 67% of the respondents changed their pads at night (Table 2).

**Table 1: Socio-demographic profile of the participants (n=200).**

Variables	Subgroups	Frequency	Percentage
<b>Age (years)</b>	16-20	40	20
	21-25	131	65.5
	26-30	29	14.5
<b>Education status</b>	Diploma	32	16
	Bachelor's	58	29
	Master's	110	55
<b>Religion</b>	Sikh	76	38
	Hindu	107	53.5
	Others	17	8.5
<b>Residence</b>	Urban	113	56.5
	Rural	87	43.5
<b>Mother's education status</b>	Can't read and write	8	4
	Read and write	20	10
	Elementary	25	12.5
	High school	68	34
	College	79	39.5
<b>Father's education status</b>	Can't read and write	4	2
	Read and write	19	9.5
	Elementary	20	10
	High school	66	33
	College	91	45.5
<b>Mother's occupation</b>	Housewife	147	73.5
	Government/private employee	53	26.5

**Table 2: Knowledge and practices of the respondents regarding menstruation (n=200).**

Variables	Subgroups	Frequency	Percentage
<b>Age at menarche</b>	11-12	33	16.5
	13-14	113	56.5
	15-16	54	27
<b>Awareness about menstruation before menarche</b>	Yes	118	59
	No	82	41
<b>Learned about menstruation in class</b>	Yes	160	80
	No	40	20
<b>Ever discussed about menstrual hygiene</b>	Yes	129	64.5
	No	71	35.5
<b>Discussed about menstrual hygiene with</b>	Mother	45	22.5
	Teacher	19	9.5
	Friend	34	17.0
	Sister	31	15.5

Continued.

Variables	Subgroups	Frequency	Percentage
Menstrual cycle	Regular	155	77.5
	Irregular	36	18
	Don't know	9	4.5
Source of information regarding menstruation (multiple responses)	Teacher	59	29.5
	Mother	110	55
	Friend	45	22.5
	Media (TV/internet)	29	14.5
	Books	18	9
	Uterus	98	49.0
Knowledge about organ of menstrual bleeding	Vagina	75	37.5
	Bladder	6	3.0
	Don't know	21	10.5
	Homemade pad/cloth	15	7.5
Sanitary material used during menstruation	Commercial sanitary pad	175	87.5
	Tampons	0	0
	Menstrual cups	0	0
	Cotton or other soft tissue	10	0.5
Pads should be changed regularly	Yes	168	84
	No	32	16
Cause of menstruation	Physiological	146	73
	Disease	15	7.5
	Curse from god	21	10.5
	Don't know	18	9.0
No. of pads used per day	1	11	5.5
	2	73	36.5
	3	70	35
	>3	46	23
Change pads at night	Yes	134	67
	No	66	33
Bathe daily during menstruation	Yes	183	91.5
	No	17	8.5

Table 3: Socio-cultural and environmental factors.

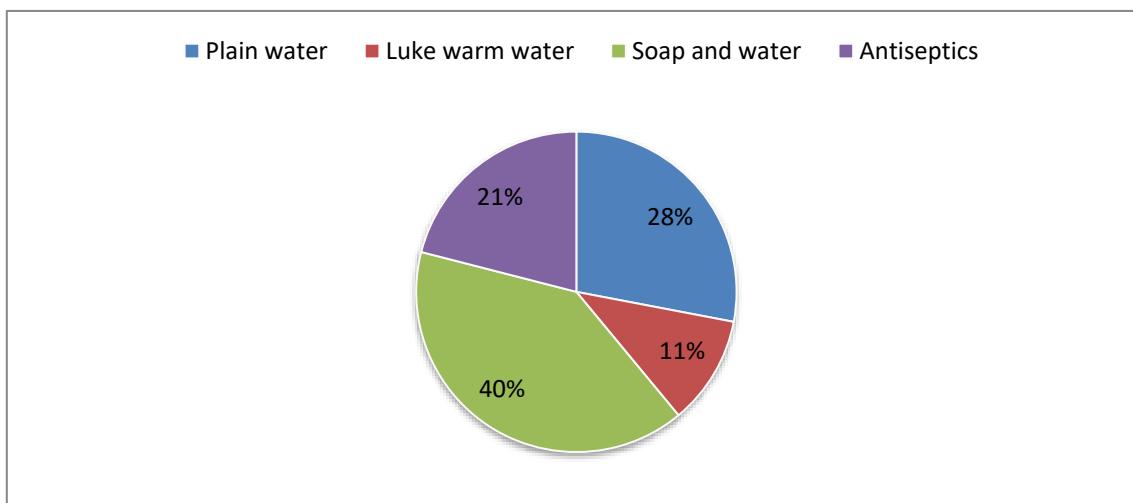
Variables	Subgroups	Frequency	Percentage
Restrictions during menstruation (multiple responses)	Religious places	150	75
	Games	32	16
	Kitchen	29	14.5
	Food	49	24.5
	No restrictions	30	15
Had access to clean water	Yes	176	88
	No	24	12
Toilet facility available at	Home	7	3.5
	School/college	9	4.5
	Both	184	92
Privacy of the toilet is kept at workplace	Yes	159	79.5
	No	41	20.5
Feel comfortable in school/college while on periods	Yes	115	57.5
	No	85	42.5
Absent from school/college during menstruation	Yes	63	31.5
	No	137	68.5
Do you feel difficulty in disposing menstrual pads/cloth	Yes	144	72
	No	56	28
Clothes preferred during periods	Jeans	20	10
	Regular wear	35	17.5

Continued.

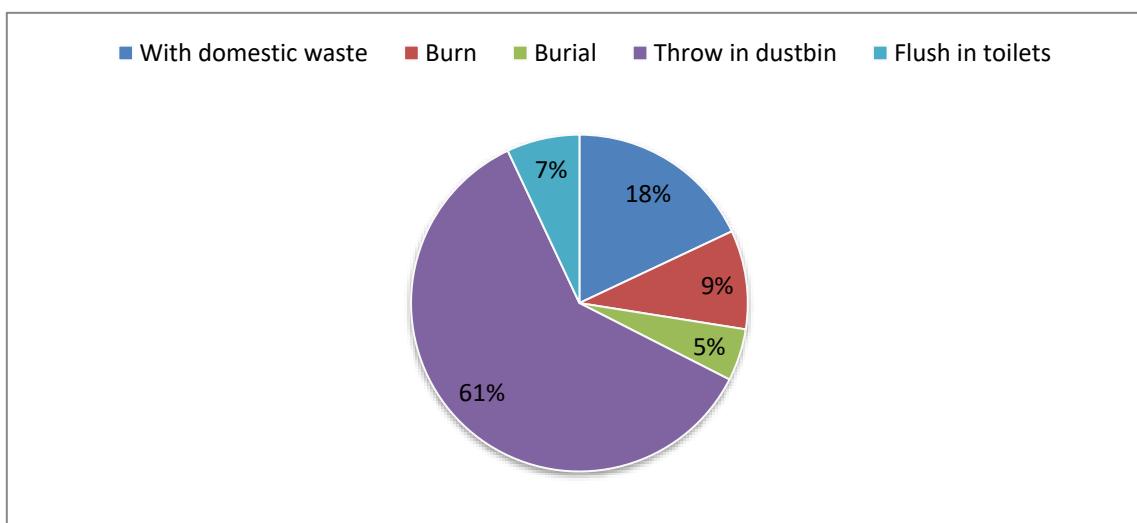
Variables	Subgroups	Frequency	Percentage
	Long tops	40	20
	Dark coloured clothes	86	43
	Cotton clothes	13	6.5
	Others	6	3

**Table 4: Association between age and knowledge of the participants.**

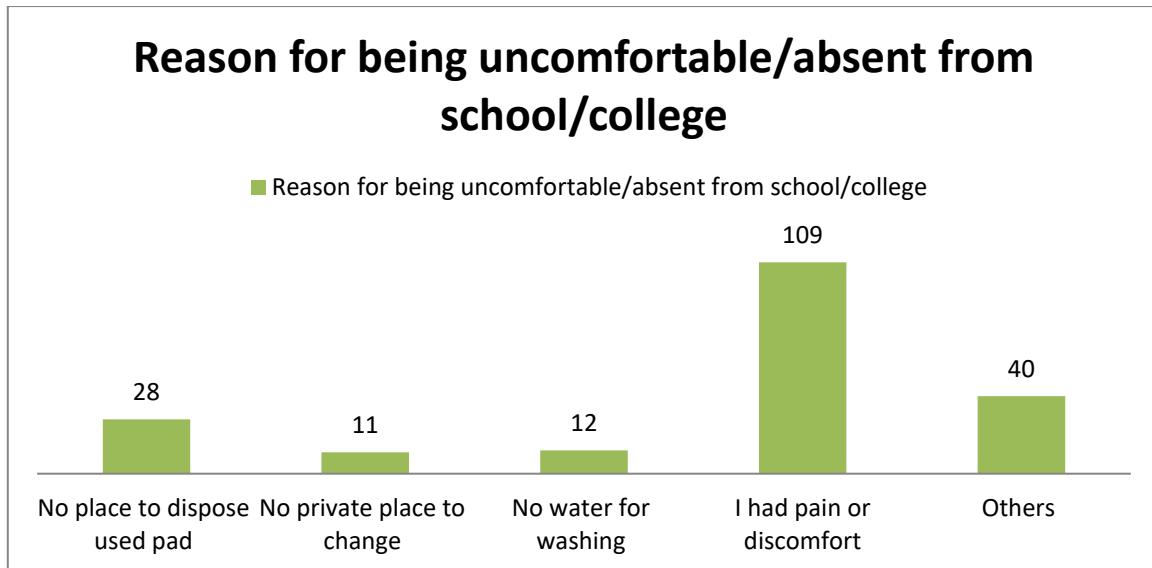
Questions	Categories	Frequency	Percentage	Comments
Awareness about reproductive tract infections	Yes	108	54.0	$\chi^2=13.86$ ; df=2; p=0.01
	No	92	46.0	
Uncared menstruation produces foul odour/smell	Yes	134	67.0	$\chi^2=9.78$ ; df=4; p=0.04
	No	29	14.5	
	Don't know	37	18.5	
Poor menstrual hygiene causes infection	Yes	141	70.5	$\chi^2=6.27$ ; df=2; p=0.04
	No	59	29.5	
Personal hygiene prevents menstrual pain	Yes	124	62	$\chi^2=8.16$ ; df=2; p=0.01
	No	76	38	



**Figure 1: Methods adopted by the participants for cleaning of genitalia.**



**Figure 2: Different methods for disposing menstrual waste.**



**Figure 3: Reason for absenteeism from the workplace during menstruation.**

#### *Socio-cultural and environmental factors that affect menstrual hygiene management*

In this study, majority of the respondents belonged to Hindu religion and they faced one or more restrictions during their periods. Mostly they were not allowed to visit any religious places (75%) like temples and worshipping of God. About 16% of the participants were not allowed to play games, go to kitchen to cook food (14.5%) and to eat certain foods (24.5%) like pickles during menstruation, while 15% of them faced no restrictions at home. Most of the students had access to clean water (88%) and had toilet facility at home and workplace (92%). About 79.5% of the respondents said that privacy of the toilets was kept at their workplaces and among them 57.5% feel comfortable at workplace during menstruation. About 31.5% of the participants remain absent from the school/colleges during menstruation (Table 3).

#### *Relationship between the age and knowledge of the participants regarding menstrual hygiene*

This study elicited that the age and education level of the participants as well as of their parents affected menstrual hygiene. The participants older than 21 years were significantly more aware and knowledgeable as compared to their younger colleagues.

They also practised better menstrual hygiene practices. Chi square analysis showed a significant association between the age and the knowledge of the participants regarding menstrual hygiene practices ( $p \leq 0.05$ ). The students having higher level of study possess better knowledge and practised good menstrual hygiene practices (Table 4).

#### **DISCUSSION**

Menstrual hygiene affected pre-menstrual women and adolescent girls all over the world. This study supported the hypothesis that people's knowledge and perceptions towards menstruation affected the good menstrual hygiene practices. Several other studies also supported this hypothesis.<sup>12-14</sup> In this study, the average age of the participants was 22.7 years and most of them were undergraduate and postgraduate students. In a similar study conducted in Tamale, Ghana among female university students, the mean age was 23 years. Menarche was an event in girl's life which she took almost by surprise. Awareness of menstruation before menarche was stated by 59% of the participants while other studies reported low level of awareness.<sup>15-17</sup> Majority of them were from well-educated families residing in urban areas of the city. The mother's education status also played an important role in awareness.<sup>18</sup> Girls felt fear, anxiety, discomfort and shame who did not possess any knowledge regarding menstruation.<sup>19</sup>

This study recorded that 80% of the participants learned about menstruation in class. As majority of them were well educated, so they might learn regarding menstruation in their curriculum. 64.5% of the respondents discussed about menstrual hygiene with their teachers, mother, friends and sister. Mothers were the first person to notify and discuss regarding menstruation. The probable reason for this was because mothers provided the sanitary material to the menstruating girl and to aware her about the meaning of menstruation.<sup>20,21</sup> Most of the teachers in educational institutes were males, so girls felt uncomfortable and shy to discuss such things with them. Also, lack of trust in teachers was another reason.

In this study, majority of the students pursuing their undergraduate and postgraduate degrees in medical field,

so they possessed good knowledge about the organ of menstrual bleeding as 49% answered uterus. The study found that most of the participants were aware of the cause of menstruation as 73% answered physiological. The study results were similar to the study conducted by Kamath et al 2013 in Manipal, India where 72% urban and 68.9% rural girls knew that it was a physiological process. The education status of the mother played an important role in it. Also, majority of the students learned about this in their curriculum.<sup>22</sup>

Menstrual hygiene was the major risk factors for RTI and UTIs and other vaginal disorders. Majority of the participants (70%) in this study had knowledge that poor menstrual hygiene cause infections. They were also aware of the RTIs. This study found significant association between the age and knowledge of the participants for practising good menstrual hygiene practices ( $p<0.05$ ) which was similar to other studies. The educational status of the parents especially mothers was an important parameter of good menstrual hygiene practices.<sup>23-25</sup>

India is a secular country and the people were bound to different religions. They followed different religious beliefs and practices of their religions. In this study, majority of the students were Hindu. They considered menstruating women as impure and did not allow them to worship and cook. 75% of the participants were restricted from going to religious places and study results were similar with the other studies conducted in India.<sup>26,27</sup> The cultural and social practices regarding menstruation mainly depends upon the educational status of the parents, family environment, girl's education and attitude.

Majority of the participants resided in the urban areas of the city, so they had access to clean water and toilet facility. The other such studies conducted in the rural and slum areas reported poor water, sanitation and toilet facilities.<sup>28</sup> Participants that changed their sanitary pads twice a day were in the majority. 67% of the participants changed their pads at night and 91.5% bathed daily during menstruation. The study results were contrary to the study done by El-Gilany et al 2005 in Egypt where only 26% of the girls changed their pads at night.<sup>29</sup> Another study by Ade et al 2013 elicited that majority of the rural girls of Raichur bathed daily during menstruation. Majority of the participants of this study felt that privacy of the toilets was kept at workplace and they felt comfortable during periods.<sup>30</sup>

Less number of participants were absent from the school/college during menstruation as compared to other studies conducted in India. This might be due to better water and sanitation facilities and proper toilet privacy at the workplaces. Most of the participants were absent from school/college due to abdominal pain or uterus cramps (Figure 3).

In this study, 86% of the participants preferred to wear dark colored clothes, while 40% preferred to wear long

tops during this time. This might be due to fear of any blood stains on the clothes seen by others.

A significant association between the age of the participants and their knowledge about personal hygiene prevents menstrual pain ( $p<0.05$ ) and uncared menstruation produces foul smell ( $p<0.05$ ) were seen. The participants of this study mostly relied on commercial sanitary pads because most of them came from urban areas and belonged to middle class families. The parents were also educated and were willing to pay for their menstrual needs. They can easily access and afford disposable sanitary pads. A study done by Yasmin et al 2013 in an urban community of West Bengal (India), reported that 82% girls used sanitary pads as compared to cloth pads.<sup>17</sup> In an another study by El-Gilany et al 2005 elicited that 66% adolescent school girls in Mansoura (Egypt) also used sanitary pads.<sup>29</sup> The girls residing in the rural or slum areas were still relying on using old or ragged clothes, cotton wool and handmade napkins as they can't afford the sanitary pads due to poor socio economic conditions.<sup>5,31</sup>

Cleaning of genitals after micturition prevents infections as well as unpleasant odor. Genital cleaning removed the excess blood between the skin of the labia or crust around the vaginal opening. Most of the participants of this study clean their genitals with water and soap followed by plain water (Figure 1). The study results were similar to the study conducted by Parameaswari et al 2014 in Chennai, India that elicited that 58.4% of the girls used soap and water for cleaning genital area.<sup>32</sup> Yasmin et al 2013 reported that 74% girls of urban community in West Bengal preferred to clean their genitalia with plain water.<sup>17</sup>

72% of the participants felt difficulty in disposing their used products. They might feel shy or they feared that others may see them or may be the toilets lack proper dustbins with covers. The study results revealed that most of the participants threw their used menstrual products in the dustbins at workplaces followed by dumping with domestic waste at homes (Figure 2). Only few participants preferred to burn or bury them. Parameaswari et al 2014 reported that 50% of the girls in Chennai threw their used menstrual products in dustbins.<sup>32</sup>

One of the major strengths of this study was that, the participants were selected by random method that eliminated the biasness in the study. Besides this, there were several limitations linked with this study that were worth stating. The first one was, this study was purely based on the self-administered questionnaires rather than personal interviews hence, the reliability of the answers cannot be verified. Secondly, there were some participants that may state they practised good menstrual hygiene practices but in actual they didn't. Thirdly, the study was undertaken among the female students of different departments of the university. Therefore, the

results of this study cannot be generalized for all the females in Amritsar city.

## CONCLUSION

This study found that the female participants possess good knowledge of menstruation and menstrual hygiene management. The age, education status of the parents especially of mothers and education status of the respondents affects good menstrual hygiene practices. Girls having knowledge of menstruation prior to menarche can handle their menstruation confidently and safely. The study also revealed that the religious restrictions among Hindu communities are still practised even till date. Education and the socio-economic status of the parents affect the good menstrual hygiene practices. There is still a need to implicate better school education programmes to aware and educate students, to provide better water and sanitation facilities to the urban slum areas of the city. We can make the people to come out of these traditional beliefs, restrictions and misconceptions by providing them correct knowledge.

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