

# Knowledge and Practice on menstrual hygiene among specially abled (Deaf & Dumb) adolescent Girls at selected centres in Bhubaneswar, Odisha State -A Pilot Project.

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## Abstract

*Introduction: Disabilities are nuanced and multifaceted; 15% of the world's population is disabled and has trouble working. Deaf and dumb cause major lifestyle changes and habits among adolescent girls that lead to physical, psychological, and social adjustment issues. Menstruation is a normal physiological process every teenage girl experiences every month. The ability to manage menstruation hygienically is essential to the dignity and wellbeing of women, which is an integral part of basic hygiene, sanitation and reproductive health services. Objective: To determine the existing knowledge and practice of menstrual hygiene among speciallyabled adolescent girls at selectedcentres inBhubaneswar(BBSR). Methods: This cross-sectional study was conducted between September 2020 and November 2020 in Bhubaneswar town of Odisha. Total census sample of 22 deaf and mute adolescent girls from B.B.C Govt High School for the Deaf (Unit III), Bhubaneswar. A questionnaire consisting of three parts namely Part A: Sociodemographic and obstetrical and gynaecological information; Part B: Menstrual hygiene knowledge questionnaire; and Part C: Menstrual hygiene practice checklist. Results:The finding of the study reported that 45.46 per cent had moderately adequate knowledge on menstrual hygiene; 27 per cent of study participants had proportionately inadequate and adequate knowledge of menstrual hygiene, and 86.37 per cent had reported good practice in menstrual hygiene.The Mean and SD of Knowledge score was 37.958 ,Practice was 8.50 and Karl Pearson Correlation ( $r =0.26$ ,  $p=0.23$ ) estimated that there was no significant positive fair correlation between knowledge score and practice score.*

***Conclusion: Good menstrual hygiene triggers women's health, trust and self-esteem and is linked to gender equality and fundamental human rights. Setting realistic time-limited targets, including education (Videos and Information Booklets) on hygienic practices followed during menstruation using sign language for deaf and mute adolescent girls, would be a welcome effort to provide basic hygiene and reproductive services to specially-enabled girls and women.***

***Keywords: adolescents, deaf, dumb, mute, menstrual hygiene, reproductive health.***

## **Introduction:**

Menstruation is a natural phase of physiology, undergone every month by both women and girls<sup>(1)</sup>. Hygienic menstruation control is important for women's dignity and wellbeing. It forms an important part of fundamental hygiene, health and reproductive health<sup>(2)</sup>. Menstrual Hygiene Management (MHM) issues are increasingly recognised in the water, sanitation and hygiene (WASH) industry on a global level.<sup>(3)</sup> WHO and UNICEF (2014) described the management of menstrual hygiene, as women and girls use clean menstrual hygiene material in order to absorb/ collect blood that can be changed in privacy as a form of clean menstrual hygiene.<sup>(4,5,6)</sup> An individual aged from 10 years to 15 years is regarded as a young person, according to WHO.<sup>(7)</sup> The transition phase between childhood and adulthood is known as growth and development-marked adolescence.<sup>(8)</sup> The menstruation of girls after puberty is the key predictor of women's health and vitality.<sup>(9,10)</sup> They strive to control their period in an environment in which menstruations are shrouded in secrecy and shame.<sup>(11)</sup> In the world, 7.3 billion people are without adequate access to sanitation, 892 million which have been lost in the last few years, they defecate in open, deprived of basic hygiene and vital washing facilities.<sup>(12)</sup> Even for disabled people, women and girls with hearing impairment, because of a lack of consciousness and hygiene, the condition is critical.<sup>(13)</sup> Disability is complex and numerous. In the 2011 World Disability Survey, almost 15% of the world's population lived with disability, and 2-4% were facing problems.<sup>(14)</sup> According to the 2011 census, 22% of the India population, was disabled. Nineteen per cent were hearing impaired, and 7.6 per cent were speech deficiency.<sup>(15)</sup> Deaf and mute induces drastic changes in young girls' way of life and habits, contributing to physical, psychological and social issues.<sup>(16)</sup> The menstrual cycle is the normal physiological, natural hormonal shift in women's reproductive systems.<sup>(17)</sup> Menstruation is still a taboo in India, and it is common people in society who feel insecure, and society prevents women and girls from articulating their needs and menstrual hygiene issues.<sup>(18)</sup> The WHO reported that 90% of the world's 14-24-year-olds live in developing countries.<sup>(19)</sup> UNESCO identified students being away from schools for three to four days every four weeks due to menstruation.<sup>(20)</sup> The equipment and management of teenagers

with sufficient information and awareness about menstrual hygiene allow them to gain knowledge that improves their self-esteem and academic performance.<sup>(21)</sup>

## **Background**

The period from childhood to adulthood is adolescence. It is crucial to note puberty as a series of events for girls. Each girl is different and can grow differently through these changes and is recognised more and more as a crucial time in her life. The body, brain, and behavioural changes rapidly grow.<sup>(22)</sup> In India, the women's reproductive age group includes more than 31 crore censuses (2011).<sup>(15)</sup> The latest United Nations report on disability and development 2018 emphasises that developing States must have aggregate disability data in place<sup>14</sup> is a major requirement.<sup>(23)</sup> Accordingly, censuses 2011 are 22% of the deaf and dumb trigger major changes in lifestyle and behaviour among teenagers, which contributes to physical, psychological, and social adjustment issues.<sup>(24)</sup> According to census 2011, the overall impairment of people born with hearing handicaps in the survey was 19 per cent, the total disability of speech in the census survey was 10.5 per cent, and that of persons with speech handicaps 7.6 per cent, and the total disability was 6.1 per cent in the census and the survey (2012 -2013).<sup>(25)</sup> In developing nations, nearly 90 per cent of the planet has deaf or mute and visually impaired.<sup>(26)</sup> Awareness on menstrual activities among teenage girls who are deaf or mute, it is an important need for health, but often unattended and lacks access to health information and services.

### **Objectives:**

The purpose of the present study was to identify the current menstrual hygiene knowledge & practice level among adolescent girls with challenged skills (deaf and dumb). The core objectives of the study are as follows, 1. The level of knowledge on menstrual hygiene and practice among adolescent girls with special needs can be correlated. 2. Associate knowledge level & compare menstrual hygiene practice levels of speciallyabled teenage girls (Deaf&Dumb) with socio demographic variables.

**Methodology:**

The study was performed at the B.B.C Govt High School for the Deaf(Unit III), BBSR with the aid of a descriptive cross-sectional research design. There are about 22 adolescents with regular menstrual cycle, found in menarche.

**Population :**

A sample of 22 students who engage in the study environment with hearing and speech disability

**Criteria for the sample:**

Eligible students are all fitted with android mobile telephone with the internet.

**Criteria of inclusion**

- Menarche achieved
- Android, internet access cell phone.
- to answer via the connection given by Google
- read and comprehend the language of Odiya (suggested by School authorities.)

**Sampling Technique:**

To recruit the students for the study based on their eligibility requirements. The complete enumerative sampling approach was used.

**Tools for Data Collection**

The researcher developed socio demographic characteristics for the collection of data for students, including age, religion, parent education status, siblings, income, etc. The questionnaire was developed by Zelalem Belayneh et al on student's obstetric and gynaecological features, awareness and practice of menstrual hygiene<sup>(27)</sup>. The questionnaire was allowed to use. For tool I, the numbers of artefacts have been summarised by several things in each field of expertise. The overall awareness score was 60. The evaluation of knowledge by students 67% and higher was deemed to be an acceptable knowledge of 51% - 67% moderately appropriate knowledge and less than 50%

inadequate. For Tool II, the actual menstrual practice included ten objects to be measured. Each move was followed and recorded 1 and 0 was not scored. The practice was judged bad ( $<5$ ), and the practice was good  $>5$ . Due to the impact of a lockout of Covid -19 data was shared to the participants via google link [https://docs.google.com/forms/d/1OMISEvd9KmlJA9TAYfnqutek\\_73Cp-5O4GoWn-xr143s/edit](https://docs.google.com/forms/d/1OMISEvd9KmlJA9TAYfnqutek_73Cp-5O4GoWn-xr143s/edit) Odiya Language) Questionnaire are translated in to (Odiya) back to English to check internal consistency.

### **Ethical and administrative issues:**

The research protocol has been approved by the Ethics Committee of All India Institute of Medical Sciences, Bhubaneswar (Odisha) vide reference no: T/IM/NF/Nursing/19/88. Letter of permission to conduct the study was granted by the competent authorities of B.B.C Govt High School for the Deaf (UNIT III) Bhubaneswar, Odisha, India, vide reference no: 213 dt 05/08/2020. Parent/guardian consent for the younger participants  $> 16$  years was obtained. After recruiting the participants for the study, they have been ensured on confidentiality. Investigator also guaranteed the rights, without any consequences, to retire from the study at any time, and their participation was voluntary. Teachers were made conscious of a Google form method on android telephones and instructed them to fill out data using the sign language using the Zoom Classroom app. Participants filled data with android telephones.

### **Statistical Analysis**

Data collected via Google form have been downloaded and coded to MS office excel. The data collected were arranged, tables and percentages were displayed. The number and percentage were determined for the categorical variable. To estimate the relationship between information and practice, Karl Pearson's correlation coefficients were used. Significant results are subject to an essential test to look for a 5% significant relation between the variable.

**Results**

Table 1 Frequency and Percentage of Socio demographic variable.(n=22)

Demographic Variable		No of Adolescent Girls ‘	%
Class	5 – 6 th	4	18.2%
	7-8 th	11	50.0 %
	9 -10 th	7	31.8%
Religion	Hindu	21	95.5%
	Muslim	1	4.5%
Edu Father	Formal Education	1	4.5%
	Graduation	3	13.6%
	Primary Education	11	50.0%
	Secondary Education	7	31.8%
Edu Mother	Formal Education	4	18.2%
	Graduation	1	4.5%
	Primary Education	11	50.0%
	Secondary Education	6	27.3%
Occupation Father	Business	13	59.1%
	Govt Servant	3	13.6%
	Private Job	6	27.3%
Occupation Mother	Business	2	9.1%
	House wife	19	86.4%
	Private	1	4.5%
No of Siblings	Elder sister	11	50.0%
	Nil	6	27.3%
	Younger sister	5	22.7%
Monthly family Income	< Rs.10000	3	13.6%
	Rs. 10001- Rs 20000	18	81.8%
	Rs. 20001- Rs 30000	1	4.6

Table 1 showed the total 22 participants (deaf and dumb) of adolescent Girls were included in the study. Half of them (50%) were studying between 7<sup>th</sup> to 8<sup>th</sup> Standard. Majority (95%) were belongs to Hindu religion, 50 % of them are having elder sisters from whom they had preconceived the knowledge on menstruation.

**Table 2: Obstetric & Gynaecological related Characteristics on Menstrual bleeding(n=22)**

Obstetric variables		Number of adolescent Girl's (f)	%
Age at menarche	< 12 years	3	13.64%
	12 -15 years	18	81.82%
	>15 days	1	4.55%
Duration of menstrual FLOW	< 3 days	4	18.18%
	3 -5 days	13	59.09%
	>3 days	5	22.73%
Regularity of menses	Regular	21	95.45%
	Irregular	1	4.55%
Family H/O Dysmenorrhea	No	9	40.91%
	Yes	13	59.09%
Pain on mensuration	No	8	36.36%
	Yes	14	63.64%
No of Pad used/day	One	0	0.00%
	Two	4	18.18%
	Three	13	59.09%
	>Three	5	22.73%

**Table 2** shown Obstetric & Gynaecological related Characteristics on Menstrual bleeding information. Majority (95.45%) of them were having regular menstrual cycle. More than half (59.09%) of them were using three sanitary pads per day to maintain menstrual hygiene.

**Table 3:** Knowledge regarding menstrual hygiene among specially abled adolescent girls (n=22).

Sl	Statements	Strongly Disagree		Disagree		Agree		Strongly Disagree	
		n	%	n	%	n	%	n	%
1	It is a normal physiological phenomena	2	9.09%	1	4.55%	0	0.00%	19	86.36%
2	It is unique to female	0	0.00%	1	4.55%	3	13.64%	18	81.82%
3	It will be experienced every month	2	9.09%	1	4.55%	1	4.55%	18	81.82%
4	It is a lifelong process	5	22.73%	6	27.27%	6	27.27%	5	22.73%
5	It will be stopped after initiation of intercourse	3	13.64%	3	13.64%	13	59.09%	3	13.64%
6	It is a sign of Conception	2	9.09%	2	9.09%	11	50.00%	7	31.82%
7	It has foul smell	1	4.55%	3	13.64%	2	9.09%	16	72.73%
8	It is pathological	2	9.09%	8	36.36%	6	27.27%	6	27.27%
9	Uterus	4	18.18%	5	22.73%	11	50.00%	2	9.09%
10	Bladder	0	0.00%	3	13.64%	14	63.64%	5	22.73%
11	Vagina	2	9.09%	0	0.00%	15	68.18%	5	22.73%
12	Abdomen	2	9.09%	5	22.73%	9	40.91%	6	27.27%
13	Hormonal	2	9.09%	0	0.00%	4	18.18%	16	72.73%
14	Diseases	2	9.09%	10	45.45%	10	45.45%	0	0.00%
15	Curse	4	18.18%	8	36.36%	10	45.45%	0	0.00%
16	Not allowed to go to kitchens during menses	4	18.18%	11	50.00%	2	9.09%	5	22.73%
17	Not allowed touch others during menstruation	3	13.64%	7	31.82%	5	22.73%	7	31.82%
18	It is not good to discuss about menses	3	13.64%	8	36.36%	5	22.73%	6	27.27%
19	Activities done by menstruating women are not Blessed	3	13.64%	5	22.73%	13	59.09%	1	4.55%
20	Being free from menses is a free	3	13.64%	10	45.45%	4	18.18%	5	22.73%

**Table No.3** showed that question wise knowledge Percentage score, 27.27% had adequate knowledge, 45.46% had moderately adequate knowledge and 27.27 % had inadequate of knowledge respectively. Nearly two third (86.37%) of study participants had good menstrual hygiene practices.



**Table 4** Level of Practice on Menstrual Hygiene (n=22)

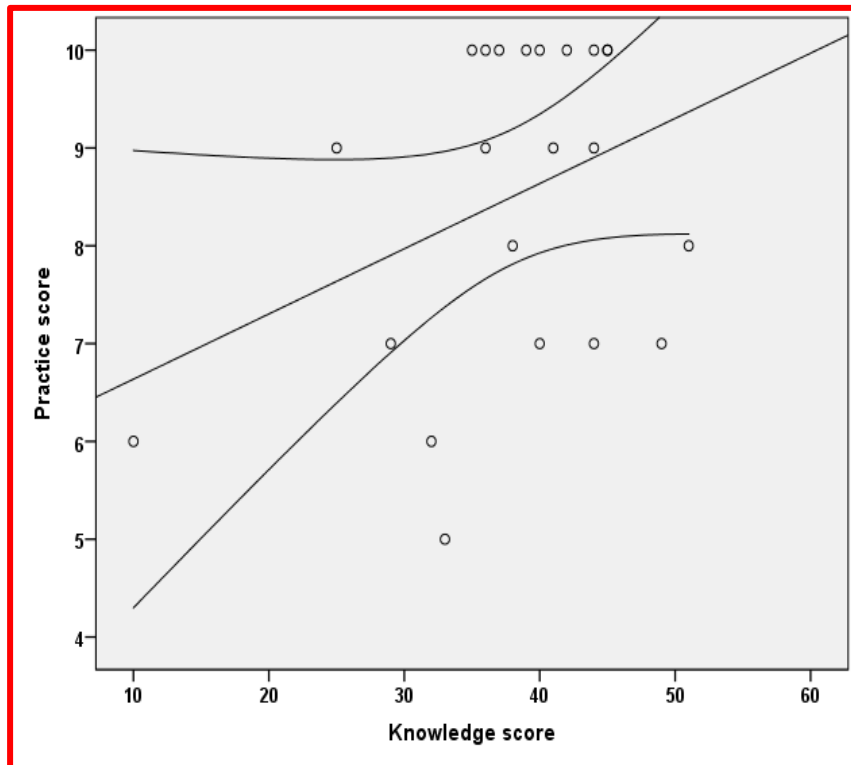
	Statements	Good		Bad	
		n	%	n	%
1	Using absorbent materials during menstruation	16	72.73%	6	27.27%
2	Using commercially made sanitary pads during menstruation	20	90.91%	2	9.09%
3	Change of pads /Cloths more than 3 times a day	19	86.36%	3	13.64%
4	Using clean clothes with soap and water	15	68.18%	7	31.82%
5	Dries cloths in sun light	19	86.36%	3	13.64%
6	Cleans external genitalia during menstruation	18	81.82%	4	18.18%
7	Dispose the pads by wrapping with paper	20	90.91%	2	9.09%
8	Washes bath daily with soap during menstruation	21	95.45%	1	4.55%
9	Disposed used sanitary pads in dust bin	19	86.36%	3	13.64%
10	Cleaning of external genitalia with water & soap during menstruation	20	90.91%	2	9.09%

**Table 4** showed majority (86.37%) of the study participants had good practice in menstrual hygiene. 72.73% were using absorbent sanitary napkins during menstruation. Majority 95.45% of specially abled adolescent Girls were bathing daily and 90.91% of them were cleaning their external genitalia using soap and water frequently during menstruation.

**Table 5: Correlation between mean score of knowledge and Practice on Menstrual Hygiene among Deaf & Dumb adolescent Girls (n=22).**

Correlation between	Mean score Mean±SD	Karl Pearson Correlation coefficients	Interpretation
Knowledge score Vs Practice score	37.95±8.84 8.50±1.63	r= 0.26,P=0.23	There is not significant positive fair correlation between knowledge score and practice score.

Fig 1. Shows the correlation between the knowledge & practice score of participants, there is not significant positive fair correlation between knowledge & practice.



Demographic Variable		Practice Score				n	Chi Square Test
Edu Father	Formal Education	Poor		Good		1	$\chi^2=8.62$ $p=0.05(S)$
		n	%	n	%		
	Formal Education	1	100%	0	1	1	
	Graduation	1	33.33%	2	66.67%	3	
	Primary	1	9.09%	10	90.91%	11	
	Secondary Education	0	0.00%	7	100.0%	7	
	Private	0	0.00%	1	100.0%	1	
Occupation Mother	Business	2	100%	0.00%	0.00%	2	$\chi^2=13.95$ $p=0.01(S)$
	House wife	1	5.26%	18	94.74%	19	
	Private	0	0.00%	1	100.0%	1	

Table 6. Association between level of practice score and adolescents' demographic variables.(n=22)

Table 6: Showed Bi-variable and Multi variable logistics analysis to identify the factors associated with Knowledge and Practice in menstrual hygiene. More than 59% of the study's samples fathers were businessmen and the remainder of the study participants mothers were housewives (86.4%), and 50% of the parents were completed primarily Education. This was affected by good menstrual hygiene practice ( $\chi^2$  level = 13.95,  $p=0.01$ ).

### Discussion:

The present study shown that half of the participants (50%) had elderly sisters but had no chance to speak to older siblings. A modest degree of non-transparent information ( $\chi^2=5.08, p=0.27$  NS) is present in 45.46 percent of the deaf and the dumb with, specially capable individuals. This disagrees with research in Portugal, Bourges et al.<sup>(28)</sup> have shown that teenagers are profoundly affected by their perception and attitudes to puberty and reproductive health because of the low educational status and their older siblings. Following the present findings of the research, Rajini and others in India recorded that 83 per cent of peer group impact is a major source of information about menstrual

hygiene because of the efficiency of sign language used for deaf and mute girls.<sup>(29)</sup> According to the current study, 27.27% and 45.47% per cent of participants had relatively adequate and moderately adequate levels of Knowledge. More than 59% of the study sample's Fathers were businessmen and the remainder of the study sample's mothers 86.4% were housewives, and 50% of the parents were completed primary Education. Parent's Educational status has an impact over the good menstrual hygiene practice of the samples ( $\chi^2$  level = 13.95 p=0.01). Since education for parents is an essential factor to transfer menstrual knowledge to their children. Herman et al endorsed those findings that high percentage of Illiterate father representing nearly half and one third of mothers having university education and house wives is an important factor to overcome misconception, incomplete knowledge & blindfold faith in cultural, taboos, myths and social customs.<sup>30</sup>

The study results indicated that 45.46% of deaf and mute youth had moderately adequate knowledge and 27 per cent of study participants had proportionately inadequate and adequate knowledge of menstrual hygiene. Majority 86.370% of them have good menstrual hygiene practice. This finding is not in line with the findings observed in Assiut by Osman et al on reproductive health, indicates 100percent of deaf and blind students had poor knowledge on pre-test and raised up to 58.8% in post test.<sup>(31)</sup> According to current study 90.91 per cent of the deaf and mute children used commercially manufactured sanitary pads and 81 per cent were clean of their external genitalia frequently and 95.45% of them wash and bath daily with soap during menstruation. Disagreement with these findings Zelalem et al at Ethiopia identified 60.03% of adolescent Girls followed poor menstrual hygiene practice with 95%CI and 33.9% did not use sanitary pads during menstruation. Ethiopian research on menstrual hygiene practice observed among adolescent Girls shown ,in India it is 60.1%,64.0% at Nigeria and 55.7% in Brazil have poor menstrual hygiene practices.<sup>(32)</sup> Obstetric and gynaecological factors associated with menstrual hygiene practices of deaf and mute girls were statistically non-significant in this study, this result is in disagreement with study conducted at Ethiopia among adolescent girls shown significant association might be due to long duration of menstrual flow, having economic constraints to buy absorbent for longer time and affect their psychological & emotional state influence to diminish their motivation and commitment to perform their safe hygienic practice.<sup>(27)</sup> Recent research results estimated that there is no positive correlation ( $r=0.26, p=0.23$ ) between menstrual hygiene awareness and practice of specially qualified adolescent girls. Similarly, a cross-sectional analysis in Nigeria reported that incorrect practice of menstrual hygiene was observed on the girls with poor menstrual knowledge of 1.48.<sup>(33)</sup>

### **Limitations and strength**

This research was conducted among the vulnerable population involves deaf and mute adolescent girls using intensive, culturally adapted approaches and trying to understand basic menstrual hygiene awareness and current practices. Good practices of menstrual hygiene lead to wellbeing, trust and respect for specially challenged teenage girls and relate to gender equality and fundamental human rights. However, there are drawbacks to this analysis. Firstly, the sectional nature of the study design does not disclose the relationship between the cause and effect of the variables. The analysis follows the compilation of quantitative data and is not triangulated by integrated approaches. B.B.C Govt School for the Deaf(UNIT III) at Bhubaneswar, Odisha, limited data collection only to single settings. Data collected only from those who have access to android mobile telephones and can fill out Google forms with details.

### **Recommendations**

More participants are recommended in the study to express their menstrual difficulties and challenges. Studies can take a multi-centric approach in different environments to explore the impact on menstrual hygiene practices of cultural taboos, beliefs and behaviours. A standardised interview schedule may be used to answer the questionnaire. Public health workers are advised to sensitise them through health education in reproductive health, sex education and sexually transmitted diseases to children who are deaf and mute, in sign language.

### **Conclusion**

Good menstrual hygiene generates women's wellbeing, trust and self-esteem and is related to equality of sex and fundamental human rights. In order to measure the degree of achievement of MHM in India, indicators have also been established in the context of the Swacha Bharat Mission Guidance. Setting practical, timely objectives will be a welcome effort for girls and women to include basic facilities of hygiene & reproductive hygiene during a menstrual cycle using sign language for deaf and mute teenagers.

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