



Awareness and Practice of Menstrual Hygiene among Visually Impaired Adolescent Girls: Using Braille Methods

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Abstract

Menstruation is a delicate physiological process through which a shedding of uterine lining occurs each month in females of reproductive age. Menstrual hygiene is considered as important hygiene maintenance in adolescent girls from the time of menarche. Visually impaired adolescent girls have very less or no knowledge about reproductive tract infections caused due to ignorance of personal hygiene during menstruation time. Ensuring proper menstrual hygiene is vital for the well-being and development of healthy reproductive life in visually impaired girls. Awareness can be given to them by educating their parents and also getting training from healthcare professionals, particularly nurses. Braille Method is one of the technique which is used to provide proper knowledge about menstrual hygiene and its maintenance.

Keywords: Menstrual hygiene; Reproductive tract infections; Dysmenorrhea; Menarche

Introduction

Adolescent girls undergo periodic menstruation from the onset of menarche; they menstruate 11 to 12 times a year, from menarche till menopause; women typically spend around 3,000 days in menstruation in their life [1]. Menstruation management is crucial for maintaining well-being, sexual health and reproductive health [2]. Reproductive tract infections have become a severe health issue that is wreaking havoc on the lives of teenagers and is linked to poor menstrual hygiene (UNICEF, 2015). Reproductive tract infection is less common when menstrual hygiene is adequately maintained [3]. As of 2020, 253 million people have visual impairment issues across the globe; the obstacles faced by visually impaired women have not been adequately studied during menstruation [4]. They may have a substantial negative impact on their health, including dysmenorrhea and other symptoms [5]. Ensuring proper menstrual hygiene is vital for the well-being and development of healthy reproductive life in visually impaired girls.

In India, menstruation is often considered socially unacceptable and hesitant to discuss it [6]. Having sufficient information on menstruation management among adolescent girls empowers them to improve their self-esteem [7]. Visually impaired Girls have generally been an under privileged social category in our society. Girls with disabilities have a high drop-out from school [8]. The reason seemed to be that they could not use toilets and had trouble acquiring sanitary disposal facilities.

Method

Between January 2021 and March 2021, a cross-sectional survey was done among visually impaired adolescent girls to identify the relationship between knowledge and practice of menstrual hygiene. The study was conducted at government high school and vocational training institute for the visually impaired. Thirty samples were collected, 14 from the former and 16 from the latter.

Criteria of inclusion

Adolescent girls and women who have attained menarche and are partially blind can read and understand the Odia Braille method.

This study assumed that the visually impaired adolescent girls were unaware of menstrual hygiene management and practice.

Data collection

The structured questionnaire developed initially by Belayneh and Mekuriaw was used in this study [7]. The tool assessed demographic gynecological information, awareness and practice on

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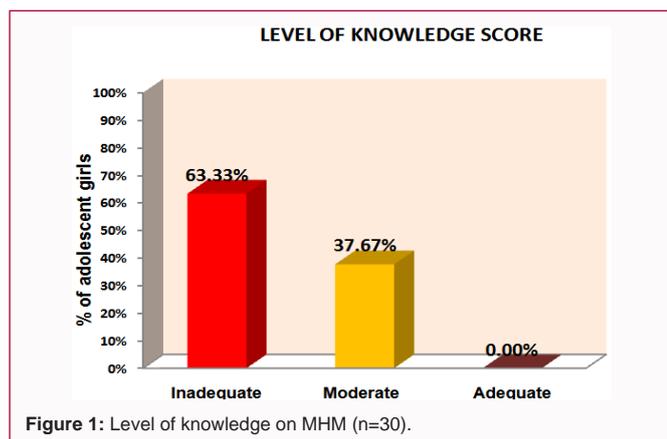


Figure 1: Level of knowledge on MHM (n=30).

menstrual hygiene. The questionnaire was translated into regional language and back to English to check internal consistency and its appropriateness.

The study participants were advised to read the questionnaire in Braille language for as long as they wanted. Informed consent, demographics, knowledge and practice-related questionnaire were included in the booklet. They were sensitized by their Institute’s lecturers and the study investigator. The teacher and peer group helper writers interacted with the study participants. Then item wise responses of the study participants were recorded in the response sheet.

The actual score for menstrual hygiene management awareness was 60. Adolescent girls with a knowledge score of 67% or more were considered adequate knowledge, 51% to 67% had moderately, and <50% had inadequate knowledge. Ten questionnaires were used to assess the practices. The MHM practice score was graded Poor (<5) and Good (>5).

Ethical and administrative issues

The Institutional Ethics Committee has approved this study with reference no: T/IM/NF/Nursing/19/88. The competent authorities of the government school and association for the visually impaired vide reference no: 216/Dt 21/07/2020, granted a letter of permission to conduct the study on March 02/2021 via confirmatory mail.

Statistical analysis

The response from the visually impaired girls was transcribed with the help of some peers. The data were analyzed using SPSS 18 (Statistical Package for the Social Sciences) software package. For the categorical variable, the number and rate were determined. The Karl Pearson correlation coefficient had been used to estimate the relationship between awareness and practice. Significant results are subject to crucial testing to assess the 5% significant relation between the variables.

Results

The visually impaired adolescent girls in the study had a mean age of 14.20 ± 3.523 years (min: 11. Max: 19). In Table 1 depicts that 40% of the study participants were high-school students, and 60% were vocational training institutes. Most of the 76.67 % reached menarche between the ages of 12 and 15 years, and their monthly flow lasted an average of 3 days. About 40% of them reportedly experienced dysmenorrhea, and 23.33% had a family history of the same.

In Table 2 showed obstetric and gynecological characteristics

Table 1: Socio-demographic characteristics of visually impaired girls (n=30).

Variables (30)	Frequency	%
Age category in years		
11–13	14	46.67
14–16	9	30
17–19	7	23.33
Class		
Inter-School	12	40
Vocational Training	18	60
Religion		
Hindu	29	96.67
Christian	1	3.33
Muslim	0	0
Education of Father		
Formal Education	8	26.67
Primary Education	10	33.33
Secondary education	12	40
Education of Mother		
Formal Education	13	43.33
Primary Education	9	30
Secondary education	8	26.67
Occupation of Father		
Labor	15	50
Private Employee	10	33.33
Business	5	16.67
Occupation of Mother		
Housewife	26	86.67
Private employee	4	13.33
No of Sibling		
Nil	10	33.33
One	5	16.67
Two	10	33.33
Three	5	16.67
Monthly Income		
<Rs.10000	22	73.33
Rs.11,000-20,000	8	26.67
Rs.21,000-30,000	0	0
>Rs.31,000 above	0	0
Age at Menarche		
<12 years	7	23.33
12–15 years	23	76.67

of menstrual bleeding, with the majority (76.67%) having a regular menstrual cycle and just 23.33% of blind students suffering from dysmenorrhea.

Visually impaired adolescent girls of about 63.33% had poor knowledge of menstrual hygiene, with a mean and standard deviation of (37.47 ± 6.22), but none had good knowledge (Figure 1).

The Figure 2 depicts that a large percentage, 63.3%, had good practice of menstrual hygiene management; only 36.67% of

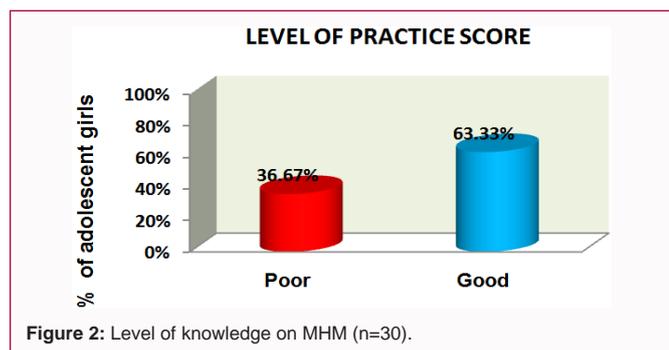


Table 2: Obstetric & gynecological characteristics of menstrual bleeding (n=30).

Variables	Frequency	%
Duration of Menstrual Flow		
<3 days	3	10
3 to 5 days	22	73.33
>3 days	5	16.67
Regularity of menses		
Regular	23	76.67
Irregular	7	23.33
Family H/o dysmenorrhea		
Yes	7	23.33
No	23	76.67
Pain (Abdominal & Low back pain)		
Yes	12	40
No	18	60
No of Absorbent menstrual pads used during menstruation		
One	0	0
Two	8	26.67
Three	19	63.33
>Three	3	10

respondents (mean and SD 7.07 ± 1.91) possessed poor practices.

The association between knowledge and practice of menstrual hygiene

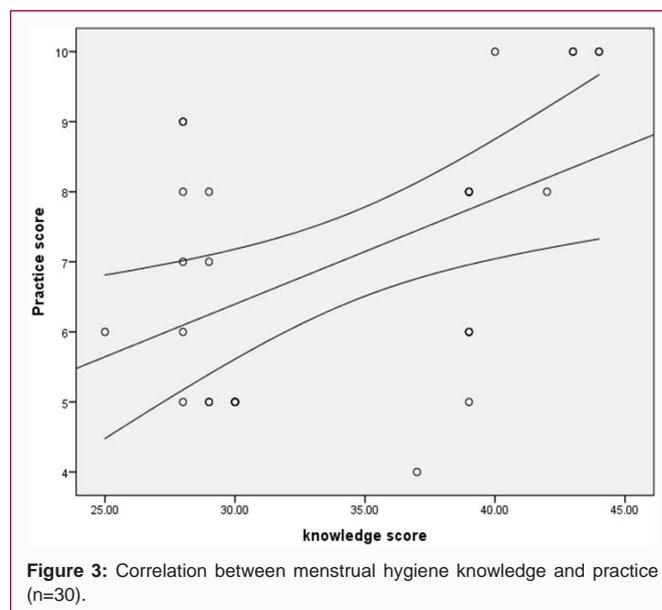
In Table 3 shown, after employing the χ^2 test, a statistically significant difference was found between awareness of Parents includes (Father $\chi^2=6.49$, $df=2$, $p=0.04$) (Mother $\chi^2=7.43$, $df=2$, $p=0.05$) with menstrual hygiene practices (Father $\chi^2=7.32$, $df=2$, $p=0.03$) (Mother $\chi^2=6.28$, $df=2$, $p=0.05$). Girls with Visual disabilities who might have dysmenorrhea were aware of hygiene practices ($\chi^2=5.92$, $df=1$, $p=0.02$). Similarly, using more menstrual absorbent pads improved hygiene practices ($\chi^2=9.66$, $df=1$, $p=0.01$).

The correlation between menstrual hygiene knowledge and practice

The Figure 3 depicts the substantial, positive, moderate relationship among knowledge and practice levels ($r=0.49$, $p=0.001$) through a scatter diagram. As per the findings of this study, having adequate awareness of menstrual hygiene should lead to hygiene practices among visually impaired adolescent girls.

Discussion

Nearly two-thirds (63.33) of the visually impaired girls had



poor knowledge of menstruation; none had adequate knowledge. According to the findings of a study conducted in India (2020) involving deaf and dumb adolescent girls, 45.47% of them had adequate awareness of menstrual hygiene [6,9].

Approximately 40% of visually impaired adolescent girls have experienced dysmenorrhea. These arguments were supported by a study conducted by Dündar & Özsoy [10], Dasgupta & Sarkar [11], Wilbur et al. [4]. Visually impaired of about 83.33% adolescent girl’s concurred, filthy blood left the body, which is why they were not permitted to enter the kitchen, touch others, or pray during menstruation. Jane Wilbur in Nepal agreed with all these findings [4]. Throughout the menstruation, a sanitary pad must be changed every three to four h/day and, genitourinary cleansing should have been done [12]. However, this study found that 66.67% of them replaced their used absorbent pad not more than three times a day. Similar findings were noticed [10].

Most of the study participants were (73.33%) cleaned their genital area thoroughly with soap and water quite frequently, and 76.67% took a shower daily, implying these hygienic practices would help them avoid infection. These findings were paralleled with the survey undertaken in Nepal [8,13]. Opposite to the above results, Dunder reported that blind women did not clean their genital area more often and did not shower every day. Nearly 66.67% of the participants discarded their used menstrual absorbent materials, adequately wrapped in papers and put them in the lidded been provided. These findings were similar to a study done in Ethiopia [9]. In this study, 63.33% of participants had good menstrual hygiene practices. These results challenge Upashe et al. Ethiopia, which showed that only <39.9% of adolescent girls were practiced good menstrual hygiene [9]. Insufficient awareness of menstrual hygiene management was indicated by 63.33% of visually impaired adolescent girls. By contrast, the education of parents would result in increased awareness and practice of menstrual hygiene. Several studies have shown that visually impaired adolescent girls mothers were vital to their daughters’ MHM. These findings are consistent with Gupta et al. It is because educated mothers are much more likely to discuss as well as provide information to their daughters, which improve women’s health. Visually impaired young girls preferred to obtain information

Table 3: Association between knowledge & practice of menstrual hygiene among visually impaired girls, 2020 (n=30).

Demographic variable	Knowledge level				Chi-square	Practice level				Chi-square	
	Poor		Fair			Good		Poor			
Education of Father	n	%	n	%	$\chi^2=6.49$ P=0.04* Df=2	n	%	n	%	$\chi^2=7.32$ P=0.03* Df=2	
Formal	7	87.5	1	12.5		6	75	2	25		
Primary	7	70	3	30		3	30	7	70		
Secondary	4	33.33	8	66.6		2	16.7	10	83.3		
Education of Mother					$\chi^2=7.43$ P=0.02* Df=2					$\chi^2=6.28$ P=0.05* Df=2	
Formal	11	84.62	2	15.38		8	61.5	5	39.4		
Primary	5	55.5	4	44.4		2	22.3	7	77.7		
Secondary	2	25	6	75		1	12.5	7	87.5		
Obstetric & Gynecological variable											
Demographic variable	Knowledge level				Chi-square	No Absorbent menstrual pads used	Practice level				Chi-square
	Poor		Fair				Good		Poor		
Pain during menstruation	n	%	n	%	$\chi^2=5.92$ P=0.02* Df=1	n	%	n	%	$\chi^2=5.92$ P=0.02* Df=1	
Yes	4	33.3	8	66.7		Two	0	0	8		100
No	14	77.8	4	22.2		Three	10	52.6	9		47.3
						>Three	1	33.3	2		66.6

from healthcare professionals, particularly nurses [10]. The researchers found a significant difference between visually impaired girls who experienced dysmenorrhea and those who did not. It was easier to have a better practice experienced dysmenorrhea and even with the use of more menstrual absorbent pads during menstruation. These conclusions were also supported by Yadav et al. Belayneh [2]. Menstrual hygiene awareness ($r=0.49$, $p=0.001$) was reported to be linked with better menstrual hygiene practice in this study. The findings are inconsistent with that of deaf and dumb adolescent girls in India [6].

Recommendations

This study can be reproduced with larger sample size, more study setups involving adolescent girls with various disabilities and a focused group interview method concerning the qualitative approach. The textual content on Braille can be augmented with tactile graphic images developed with embossing technology. A specialized restrooms facility for visually impaired persons is recommended to maintain MHM outside the home to ensure menstruation safety. There is a need for more research into these topics. As a result, proper health awareness encourages the visually impaired to practice appropriate MHM.

Conclusion

The visually impaired adolescent girls had limited knowledge and experience of menstrual hygiene. Menarche and menstruation guidance should be provided using appropriate training resources such as audio drama, Braille, and tactile techniques [14]. Nurses have absolute and societal power to promote awareness and encourage reproductive health among women and people with disabilities.

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Secretary, Computerized Braille Press.

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