



Impact of pharmacist mediated educational program on knowledge and practice of menstrual hygiene among adolescent girls

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ABSTRACT

In India, awareness about menstruation before menarche was low, and it is viewed as unclean or dirty in society. In adolescent girls who attained menstruation for the first time, menstrual hygiene management is constrained by social, practical and economic factors such as the expense of sanitary pads, lack of water facilities, lack of private rooms for changing sanitary pads, and limited education about the facts of menstrual hygiene. The practice of good menstrual hygiene reduces the incidence of reproductive tract infections. The aim of the present study was to assess the impact of pharmacist mediated educational program on menstrual hygiene practice. A self-administered questionnaire comprises socio-demographic characteristics, knowledge related to menstruation and menstrual hygiene practice was used to collect data. The collected data was analyzed to assess the knowledge related to the menstrual hygiene practice, school attendance during the menstrual period at baseline and after providing education on menstrual hygiene. Pharmacist mediated program had a positive impact on menstrual hygiene practice, Government of India need to conduct more educational programs on menstrual hygiene management at a community level.



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INTRODUCTION

Adolescence is an inimitable period of age characterized by substantial Physical, emotional, cognitive and social changes (Gultie *et al.*, 2014). Menstruation is one of the milestones of puberty and an inimitable event in life (Ameade and Garti, 2016).

Globally, 20% of the total populations were adolescents, and 85% were living in developing countries (Kabir *et al.*, 2015). In India, awareness about menstruation before menarche was low. The lim-

Table 1: Socio demographic characteristics of study population

S. No	Variables (n=423)	Frequency	%
1	Age at menarche		
	9 - 12 years	48	11.35
	13 - 16 Years	368	87
	MT 16 Years	7	1.65
2	Occupational status of father		
	Farmer	144	34.04
	Merchant	93	22
	Employee	86	20.33
	Daily labor	91	21.51
	Others	9	2.13
3	Occupational status of mother		
	Housewife	309	73.05
	Merchant	35	8.27
	Employee	59	13.95
	Daily labor	11	2.6
	Others	9	2.13
4	Educational status of father		
	Primary and below	67	15.84
	Secondary and above	356	84.16
5	Educational status of mother		
	Primary and below	114	26.95
	Secondary and above	309	73.05
6	Financial status (Income) of the parents per annum (Rs.)		
	BPL	112	26.48
	1-3 lacs	279	65.96
	MT 3 lacs	32	7.56
7	Source of information about menstruation		
	Mother	97	22.93
	Friends	252	59.57
	Teachers	53	12.53
	Others	21	4.97

ited knowledge available was passed down informally from mothers, who were themselves lacking in knowledge of reproductive health and hygiene due to low literacy levels and socioeconomic status (Shah *et al.*, 2013; Dasgupta and Sarkar, 2008). Adolescent girls were the highly vulnerable group with respect to social status and health, and the menstruation is viewed unclean or dirty in society (Upashe *et al.*, 2015; Dasgupta and Sarkar, 2008; Thakur *et al.*, 2014; Ali and Rizvi, 2010). During menstruation, adolescent girls restricted in mobility, from participating in household and spiritual events and extend to eating certain foods like papaya and jiggery (Shah *et al.*, 2013; Thakur *et al.*, 2014; Romm *et al.*, 2010). In rural areas of India, even today's also menstruation is a secret of mother and daughter in many families (Thakur *et al.*, 2014).

In adolescent girls who attained menstruation for the first time, menstrual hygiene management (MHM) is constrained by social, practical and economic factors such as the expense of sanitary pads, lack of water facilities, lack of private rooms for changing sanitary pads, and limited education about the facts of menstrual hygiene (Gultie *et al.*, 2014). Worldwide 10 % of women are exposed to UTIs, due to lack of menstrual hygiene (Upashe *et al.*, 2015; Reid, 2003; Dasgupta and Sarkar, 2008; Phillips-Howard *et al.*, 2016). In low-income settings, school dropouts increase when the girl reach puberty (Boosey *et al.*, 2014). In India, very limited social and health-related research on menstruation problems (Thakur *et al.*, 2014).

The Ministry of Health and Family Welfare, Government of India, declared a new scheme for raise

Table 2: Knowledge related to menstruation and menstrual hygiene practice at base line

S. No	Variables (423)	Frequency	%
1	What is Menstruation?		
	Physiological process	271	64.07
	Pathological process	29	6.86
	Curse from god	87	20.57
	Don't know	36	8.51
2	What is the cause of Menstruation?		
	Hormones	198	46.80
	Pathological process	87	20.56
	Curse from god	96	22.7
	Don't know	42	9.92
3	Knowledge about menstrual hygiene		
	Yes	198	46.8
	No	225	53.2
4	Knowledge about menstruation (Before first menstruation)		
	Yes	321	75.89
	No	102	24.11
5	Path of urine and menstruation		
	Same	227	53.67
	Separate	53	12.53
	Don't know	143	33.80
6	Knew that there is foul smelling during menstruation		
	Yes	251	59.33
	No	172	40.67
7	Knew that menstrual blood is unhygienic		
	Yes	263	62.17
	No	160	37.83
8	Knowledge summary index		
	Good	222	52.52
	Poor	201	47.48

of menstrual hygiene among adolescent girls in the age group of 10-19 year in rural areas (Matharu, 2011). Good hygienic practices, such as the practice of sanitary pads and adequate washing of the genital areas, are important during menstruation period; the practice of good menstrual hygiene reduces the incidence of reproductive tract infection (Narayan et al., 2001; Upashe et al., 2015; Mcgrory, 1995). The present study is planned to assess the impact of menstrual hygiene practice on knowledge and practice of menstrual hygiene among adolescent girls in backward areas of Andhra Pradesh, India.

MATERIALS AND METHODS

Ethical approval

The study protocol was submitted to the Institutional Review Board (IRB). The study was ini-

tiated after ethical clearance from the Institutional Review Board with the approval number: RIPER/IRB/2016/028.

Study design and sample size

An interventional study was carried out at various schools of Anantapur district, AP, India for six months during June – November 2016. The required sample size was calculated by using Epi-info 7 for Dos version 3.5.1 software (Centers for Disease Control and Prevention, Clifton Road, Atlanta, USA) with an assumption of confidence interval 95%, a margin of error 5% and proportion of knowledge about menstrual hygiene practice 50%. Considering the above assumption, the sample size became 384. Finally, 10 % of the determined sample was added to compensate for the non-response rate, and the sample size was found to be 423.

Table 3: Impact of Pharmacist mediated educational program on knowledge and Practice of menstrual hygiene at base line and after follow up

S. No	Question	Baseline		Follow-up	
		Frequency	%	Frequency	%
1	Type of material used during menstruation				
	Old Cloth	189	44.68	16	3.78
	Falalin Cloths	63	14.89	12	2.83
	Sanitary Pads	171	40.42	395	93.38
2	Did you use the same Cloth/ Falalin/ Pads during menstrual period more than once?				
	Yes	209	49.41	11	2.61
	No	214	50.59	412	97.39
3	Absent from school/ Work?				
	Yes	234	55.32	31	7.33
	No	189	44.68	392	92.67
4	Skin abrasions				
	No	284	67.14	87	20.57
	Yes	139	32.86	336	79.43
5	Feel unclean				
	No	292	69.03	94	22.22
	Yes	131	30.97	329	77.78
6	Spoils dress				
	No	254	60.04	25	5.91
	Yes	169	39.96	398	94.09
7	Stains visible to others on absorbent pad while drying				
	No	204	48.23	9	2.13
	Yes	219	51.77	414	98.87
8	Feels uncomfortable				
	No	326	77.07	124	29.31
	Yes	97	22.93	299	70.69
9	Cleaning of external genital organs with soap and water after every change of pads/ cloths.				
	No	228	53.9	316	74.7
	Yes	195	46.1	107	25.3
10	Smells				
	No	264	62.41	67	15.84
	Yes	159	37.59	356	84.16
11	Drying problem				
	No	204	48.22	10	2.36
	Yes	219	51.78	413	97.64

Study criteria

Adolescent girls in the age group of 10–19 years who had attained menarche, and willing to participate were recruited in the study. Adolescent girls who are sick and not attained menarche were excluded from the study.

Study procedure

The consent was obtained from the head of the school, parents and from the girls by explaining the objectives and details of the study. Privacy was ensured, and nobody was present during the collection of data. To collect the data, a self-administered questionnaire was prepared after a thorough literature review and validated. Finally, questionnaire was translated into local language Telugu. The questionnaire comprised variables on socio-demographic characteristics, knowledge related to menstruation and menstrual hygiene practice. The collected data was analyzed to assess the knowledge related to the menstrual hygiene practice, school attendance during the menstrual period at baseline and after providing education on menstrual hygiene practice.

Statistical analysis

The collected data was checked for the completeness and analyzed to assess the knowledge related to the menstrual hygiene practice, school attendance during the menstrual period at baseline and after providing education on menstrual hygiene. Graph Pad Prism 3.0 software (San Diego, California, USA) was used for the statistical analysis. Descriptive statistics like mean, frequency and percentage were used to represent demographic details of subjects.

RESULTS AND DISCUSSION

Total of 423 adolescent girls were participated in the study. The present study revealed that the Mean age of the menarche was found to be 13.52 ± 1.33 years. Among the participants, 87 % were attained the menarche at 13-16 years (Table 1). This is almost similar to the studies from Egypt, Saudi Arabia, Ghana and Japan (Aryeetey *et al.*, 2011; Gumanga and Kwame-Aryee, 2012; El-Gilany *et al.*, 2005; Fetohy, 2007). However, it is lesser with the studies from Ethiopia (Gultie *et al.*, 2014). This may be due to variation in heredity, socioeconomic conditions and nutrition of the girls. Most of the students (59.57%) acquire information about menstruation from their friends, followed by mother (22.93%). It indicates that students are more interested and free to talk with their friends rather than mother and teachers. These findings were consistent with the

study done at Egypt (El-Gilany *et al.*, 2005).

Among the participants, the majority (73.05 %) of their mothers were housewives, and 26.95 % of mothers have education at primary school level only (Table 1). 26.48% of the participants parents income was below the poverty line (BPL), and only 7.56 % of them have income more than INR 3 lacs (Table 1). In this study, 52.52 % of the participants had good knowledge about menstruation hygiene (Table 2). Majority of the students (64.07 %) knew that menstruation was a physiological process, whereas few of them (20.57 %) believed that it was from a curse of god (Table 2). The results were lesser than previous studies in Ethiopia (Gultie *et al.*, 2014). This may be due to poor literacy among their parents.

The study showed that most of the respondents are unaware about menstrual hygiene and practices, due to social restrictions and lack of knowledge on the physiology of the reproductive system.

At baseline, 44.68% were used old cloths, and 40.42% were used sanitary pads. This was greatly improved after providing an educational program with 93.38% were used the sanitary pads (Table 3). These results states that community-based educational programs could bring significant improvement in awareness of menstrual hygiene and practices.

At baseline, most of the students have a higher rate (55.32%) of absents to schools due to menstrual-related discomfort, Reproductive tract infections, skin abrasions due to improper menstrual hygiene practice. After educational interventional program regarding menstrual hygiene and practice, the rate of absentees for school work was greatly declined to 7.33% (Table 3).

CONCLUSION

The study concludes that the pharmacist mediated educational program will have a positive impact on menstrual hygiene and practices on adolescent girls in a resource-limited setting of south India. Govt. of India need to take initiation to conduct an educational program on menstrual hygiene and practices at a community level and also need to supply sanitary pads at the secondary school level with free of cost.

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