

## IMPACT OF PHARMACIST MEDIATED EDUCATION ON KNOWLEDGE, ATTITUDE, AND PRACTICES OF RURAL ADOLESCENT GIRLS TOWARD MENSTRUAL HYGIENE

THAKUR MEGHA, RAMESH ADEPU\*, GUNDU AKHILA, CHERIPALLY SANDHYA, MOUNIKA D

Department of Pharmacy Practice, Vikas College of Pharmaceutical Sciences, Rayanigudem, Suryapet. Email: [adepu63@gmail.com](mailto:adepu63@gmail.com)

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### ABSTRACT

**Objectives:** The aim of the study was to study the influence of pharmacist-provided education on knowledge, attitude, and practices (KAP) of school-going adolescent girls toward menstrual hygiene practices in rural Suryapet, Telangana.

**Methods:** This study was a prospective interventional study. After obtaining the permission from the school, adolescent girls meeting the study criteria were included in the study. A 13 item KAP questionnaire was designed, validated, and administered to girls. A structured education was given about menstrual hygiene management to them. Post-education and the KAP questionnaire was readministered and results were analyzed.

**Results:** A total of 206 students were enrolled in the study and 90 (43.0%) students were in the age group of 14. Knowledge about menstruation was 27.18% in pre-test and it was 94.68% after post-test showing a significant ( $p < 0.01$ ) improvement. After the education, the respondents have changed their opinion from "menstruation as a curse from God" (63.59%) to "as a natural process" (95.63%). Mother was named as the main information source about menstruation, followed by teachers and friends. Post-education increased the attitude of maintaining regular genital hygiene from 86.40% to 96.60%. Proper discard of menstrual waste to refuse bin increased from 54.85% to 95.15% indicating the overall improvement in knowledge, attitude, and practice regarding menstrual hygiene among adolescent girls.

**Conclusion:** Improvement in post-KAP scores suggests the positive impact of pharmacist mediated education on knowledge, attitudes, and practices among the rural school going girls.

**Keywords:** Menstrual hygiene, Menarche, Rural adolescent girls, Knowledge, attitude, practice.

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### INTRODUCTION

Menarche is the onset of menstruation for the first time in an adolescent girl [1]. Earlier, it used to occur between 14 and 16 years. However, due to various reasons such as geographic variations, environmental conditions, and economic affordability of purchasing nutritious foods, the menarche age in young girls has reduced to 10–12 years [2]. Early menarche is called precocious puberty and has sociocultural, emotional, and health consequences. It can predispose to diseases such as cancers and heart disease [3].

Although menstruation is a normal vaginal bleeding that occurs due to uterus lining shedding, an important change occurs among girls during the adolescent years and continues till menopause [4]. It is always dealt with perceptions, secrecy among different cultures, and poor and inadequate sanitary facilities kept girls often away from attending schools. School-going girls from low-income families struggle to manage their monthly periods. They are constrained by practical, social, economic, and cultural factors. Most girls are ignorant about the physiology of menstruation and therefore the first experience of menstruation remains as fear, shame, and disgust [5]. Young girls find it difficult to manage menstrual hygiene in schools due to a lack of clean washrooms and privacy. Understanding and managing hygiene during menstruation is an essential feature for adolescent girls as it impacts health in terms of increased vulnerability to reproductive tract infections (RTI) and their complications such as chronic pelvic pain, dysmenorrhea, and in severe cases infertility due to poor hygiene practices [6].

As the cultural taboos and lack of awareness about menstrual hygiene management are prevailing among the rural folks, there is a need for improving awareness about menstrual hygiene. Thus, the present study

was designed to evaluate the effectiveness of the pharmacist-mediated educational intervention on school-going adolescent girls toward menstrual hygiene. Educational intervention includes assessment of the knowledge, attitude, and practices toward menstrual hygiene, promotion of safe and healthy menstrual practices, and prevention of reproductive tract infections.

### METHODS

This was a prospective interventional study conducted in adolescent school-going girls in the age group of 12–16 years at selected upper primary schools in rural areas of Suryapet, Telangana over a period of 6 months. After obtaining the Ethical Committee approval and the necessary permissions from the school, adolescent girls fit into the inclusion criteria were enrolled in the study. Before initiating the education program, a 13-item validated questionnaire covering knowledge, attitude, and practice (KAP) regarding menstrual hygiene was prepared and validated. The KAP questionnaire was administered to the enrolled students. After collecting the pre-education KAP data, the students were given education regarding safe practices on menstrual hygiene and provided a printed information leaflet. After 4 weeks of education, the KAP questionnaire was readministered to observe the influence of education on knowledge, attitude, and practices toward menstrual hygiene. The collected KAP data (Pre and Post) were analyzed using the students' t-test where  $p < 0.001$  is considered as statistically significant.

### RESULTS

About 206 adolescent girls attending upper primary schools in nearby villages of Suryapet town were enrolled in the study. The average age for menarche in Telangana is reported as 12 years. The majority of respondent girls were in the age group of 14 years and studying

8<sup>th</sup> standard. In rural areas, both parents go to their jobs in various fields such as agriculture or other labor-related jobs. The majority of parents were illiterates or with a low literacy rate. The primary goal of their life is to earn two squire meals a day for the family members. Neither parent is in a position to spare adequate time toward their children's academic growth or concerned with any other health-related issues such as menarche in girl child. Fear and hesitation to clarify menstrual-related doubts always keep these young girls under stress and prevent them from attending school regularly. The demographic details of the respondents are given in Table 1.

The objective of this study is to assess the knowledge, attitude, and practices of rural adolescent girls toward menstrual hygiene practices and preventing health complications associated with menstruation through pharmacist-mediated counseling and improving their awareness and practices.

Menstrual pattern is also studied among the student respondents. The majority students reported that menstrual flow is for 5 days and normal. Overall results on menstrual pattern are presented in Table 2.

To assess the knowledge, attitudes, and practices of the respondent students, a 13-item questionnaire was developed referring to various

**Table 1: Age distribution of the respondents**

Age group	Class	Number of students (n=206), n (%)
16	10 <sup>th</sup> standard	11 (4.95)
15	9 <sup>th</sup> standard	46 (22.33)
14	8 <sup>th</sup> standard	90 (43.06)
13	8 <sup>th</sup> Standard	44 (21.35)
12	7 <sup>th</sup> standard	15 (6.27)

**Table 2: Pattern of menstrual flow**

Pattern	n=206, n (%)
Age at which menarche occurred (years)	
<12	15 (7.28)
12-14	134 (65.04)
>14	57 (27.66)
Duration of blood flow (days)	
<2	32 (15.53)
3-5	151 (70.30)
>5	23 (11.16)
Quantity of blood flow	
Normal	163 (79.12)
Excessive	29 (14.07)
Scanty	14 (6.79)

**Table 3: Pre- and post-test knowledge, attitude, and practice scores**

Serial number	Question	Pretest results, n (%)	Posttest results, n (%)	p
1	Menstruation is flow of blood from the reproductive organs	56 (27.18)	196 (95.14)	<0.001
2	Awareness of students regarding the organ through which the menstrual blood flows	24 (11.61)	194 (94.17)	<0.001
3	Is menstruation a curse from God?	131 (63.59)	197 (95.63)	<0.001
4	Is menstruation a disease/sickness?	177 (85.92)	202 (98.05)	<0.001
5	Does sanitary products during menstruation help girl students preventing infections?	147 (71.35)	199 (96.60)	<0.001
6	How frequently sanitary napkins are changed?	108 (52.42)	176 (61.16)	<0.001
7	How frequently students take bath during menstruation?	117 (56.79)	190 (92.23)	<0.001
8	How frequently the students wash their genital during menstruation?	178 (86.40)	199 (96.60)	<0.001
9	What is the mode of sanitary products disposal?	113 (54.85)	196 (95.14)	<0.001
10	How frequently wash their hands before and after changing the sanitary pad?	139 (67.47)	200 (97.08)	<0.001
11	How frequently use water and soap for hand washing?	116 (56.31)	195 (94.66)	<0.001
12	What is the mode of drying menstruation cloths?	113 (54.85)	159 (77.18)	<0.001
13	Does you use medications to relieve menstrual pain?	171 (83.09)	184 (89.32)	<0.001

literatures and current social situations prevailing in the Suryapet region. These 13 questions focus on knowledge-, attitude-, and practice-related aspects of menstruation. According to the methodology, a pre-test was conducted and followed by providing pharmacist mediated education in the Telugu language and the discussion was complimented with an information leaflet. At the end of the 2-week period, a post-test was conducted to assess the impact of education on knowledge, attitudes, and practices. The collected data are analyzed using student "t" test with p values. The results of pre- and post-test scores are presented in Table 3.

## DISCUSSION

To the best of our knowledge, this is the first of its kind study to evaluate the effect of a school-based educational intervention on the menstrual knowledge, beliefs, and practices of adolescent girls in Telangana state, India. This prospective interventional study was undertaken among adolescent girls, with an aim to assess the knowledge, attitude, and practices regarding menstrual hygiene among rural adolescent girls and also to study the impact of educational intervention on school going girls in rural Suryapet.

Adolescence is a transition phase from childhood to adulthood with the development of physical, sexual, and psychological domains due to secretion of various sex hormones. Unfortunately, this period is still inadequately acknowledged in Indian society and also in medical disciplines. During this critical phase of the beginning of first menstruation, various taboos, misbeliefs, faulty familial practices, and inadequate information put the adolescent girls under stress. The best solution to overcome this situation is adequate education. Shamshad *et al.* demonstrated the impact of education on knowledge, attitude, and practices about menstrual hygiene. Compared to pre-education scores (27.18%) and post-education had shown a significant improvement (95.14%) in knowledge among students of different standards [7].

Among the 206 students enrolled in our study, 90 (43.06%) students were in the age group of 14 years. This finding correlates with the study findings of the Arora study [8] and Deepali study [9]. The findings of these studies suggest that the average age for menarche is 13.3 years. The study findings also suggest that only 16% of the girls know about menstruation before the menarche. Age also is one of the reasons for understanding about the menstruation. About 72% of girls reported that friends are their main source of information on menstrual related issues. This shows poor communication between mothers and daughters or it could be due to ignorance or low level of education among mothers especially in rural areas. Garg *et al.* also reported that only 12% of their respondents had prior knowledge about menstruation at the menarche [10]. Jogdand and Yerpude reported similar results in their study conducted in Guntur (AP) [11]. Normally, menstruation takes place for 3-5 days. Menstrual flow rate in our study was reported between 3-5 days in 70% of the respondents. Among the total study students, the gap between their two

menstrual cycles was 28 days among 132 students, 41 days among 25 students, 35 days among 35 students, and 38 days among 14 students; however, the gap between their cycles showed variations based on their diets, lifestyle, and also health conditions.

Among the total students recruited in our study, the knowledge regarding menstruation increased from 27.18% students in pre-test to 94.58% in the post-education. Majority respondents were feeling that menstruation is a curse from God. Post-education has increased the knowledge that "Menstruation is a physiological process and not a curse from God" from 63.59% to 95.63%. When students were asked, if they consider menstruation as a disease/sickness, out of 206 students, 85.92% students do not feel it as sickness in the pre-test and increased to 98.05% in the post-test. When all the students were asked about their source of information about menstruation and hygiene, 114 (55.34%) students said that they got information from their mothers. This response clearly states that mothers, friends, and teachers play an important role in making young girls aware about menstrual hygiene management during initial stages of adolescence.

The restrictions faced by young girls are avoiding them during festivals, preventing them taking part in games and sports, and restricting them to eat certain foods. As parents impose these restrictions, the same may be implemented by the girls. The pre- and post-test scores reveal that improved post-test scores indicate the influence of education on knowledge, attitude, and practices. Similar findings were observed in various other studies [12,13].

Awareness regarding the organ through which menstruation occur has improved from pre-test to post significantly ( $p < 0.001$ ). Similarly, about the change of sanitary pads, taking bath twice a day improved from pre-test to post-test significantly.

Maintenance of menstrual hygiene among the young girls depends on the awareness influenced by psychological process. In this, mothers play a key role in comforting the child at first menstruation, helping the girl to understand about the reproductive system and its hygiene, and preparing to take precautions in maintaining the menstrual hygiene. Of late, media is also playing a vital role in addressing the use of sanitary pads in maintaining the menstrual hygiene. Sex education at upper primary school as a curricular instruction helps students to understand about the secondary sexual characteristics, menstruation process, and menstrual hygiene [14,15]. The school management should understand the girl students' needs and accordingly create a separate girl students' common room with clean wash room facilities.

## CONCLUSION

From our study, we conclude that hygiene practices by the girl students in rural areas during menstruation were disappointing. Our findings show that majority girls do not have proper knowledge about menstruation and suffer from a huge physical and psychological burden. False beliefs and restrictions add to this negative experience. If adequate health education is provided, these girls will start hygienic practices and also helpful to dispel some of the restrictions. Not only educating girls, even mothers also should be encouraged to break the silence and start discussing with their daughters regarding menstruation and hygiene practices.

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## CONFLICTS OF INTERESTS

None.

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