

## IMPACT OF AUDIO DRAMA ON MENSTRUAL HYGIENE AMONG VISUALLY IMPAIRED ADOLESCENTS

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### Abstract

**Background:** Menstrual hygiene management constitutes a vital aspect of adolescent health, yet visually impaired girls often encounter substantial barriers in accessing appropriate knowledge and adopting safe practices. Traditional health education methods frequently overlook the needs of this population, thereby necessitating innovative and inclusive approaches. Audio drama, as an auditory teaching modality, holds promise as an effective medium for disseminating health information to individuals with visual limitations.

**Aim:** The study sought to evaluate and compare the pre-intervention and post-intervention levels of awareness and hygienic practices among visually challenged adolescent girls, following the implementation of an audio drama on menstrual hygiene management.

**Methods:** A pre-experimental, one-group pre-test–post-test design was employed with 30 participants selected through random sampling (Lottery). Knowledge was measured using a structured questionnaire, while hygienic practices were assessed using an observational checklist. The data were analyzed using descriptive and inferential statistics, including the paired *t*-test.

**Results:** Prior to the intervention, a majority of participants exhibited either inadequate or moderately adequate knowledge, and most reported only fair hygienic practices. Following exposure to the audio drama, 86.7% of participants achieved adequate knowledge, and 70% demonstrated good hygienic practices. Statistical analysis confirmed a significant improvement, with paired *t*-test values of  $t = 21.4$  for knowledge and  $t = 16.7$  for practice at  $df = 29$ , both significant at  $p < 0.05$ .

**Conclusion:** The findings provide robust evidence that audio drama is a highly effective, inclusive, and disability-sensitive educational strategy for improving menstrual hygiene awareness and practices among visually challenged adolescent girls. The study underscores the necessity of integrating innovative, accessible pedagogical approaches into adolescent health education to promote equity, empowerment, and positive behavioural change.

**Keywords:** Menstrual hygiene management, visually challenged adolescents, audio drama, knowledge enhancement, hygienic practices, inclusive health education.

### INTRODUCTION

Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health (WHO). Adolescents experience rapid physical, cognitive and psychosocial growth. This affects how they feel, think, make decisions, and interact with the world around them. Menstruation is also called monthly bleeding. Every month, 1.8 billion people across the world menstruate. Millions of these girls, women are unable to manage their menstrual cycle in a dignified, healthy way. They probably face more challenge in fulfilling the comfort need on their menstruation by maintaining self-hygiene. Disability hamper them to do their personal and social activities<sup>1</sup>.

Shreya Anne, Vijayalakshmi K (2024) conducted a cross sectional study to evaluate menstrual hygiene awareness and practices among 500 urban adolescent girls aged 11-16 years who had attained menarche. A structured questionnaire developed by Chettinad Hospital's Department

of Obstetrics and Gynecology was used, covering awareness of menstruation, hygiene practices, and access to products. The findings revealed that although most girls had good awareness about menstruation, there were gaps in understanding menstrual hygiene management and in addressing cultural and social restrictions. The study emphasized the need for improved menstrual education, better access to resources, and efforts to reduce stigma, enabling adolescent girls to manage menstruation with dignity and confidence<sup>2</sup>.

P. M. Joanna Rachel, Dr. Veena M Joseph (2017) conducted a study to assess the knowledge and practices related to menstrual hygiene among nursing students in three nursing colleges of Kanchipuram district, Tamil Nadu, India. A total of 102 participants were selected using convenience sampling. Data were collected using a structured interview schedule to obtain demographic information and structured questionnaires to assess knowledge and practice of menstrual hygiene. The findings revealed that only 3% of the participants had adequate knowledge (>75% score), 27% demonstrated moderately adequate knowledge (51–75% score), and 70% had inadequate knowledge (<50% score). In terms of practice, 50% of the participants reported adequate menstrual hygiene practices, 40% had moderately adequate practices, and 10% exhibited inadequate practices<sup>3</sup>.

## MATERIALS AND METHODS

The research was commenced after the approval of the Institutional Human Ethics Committee (CARE IHEC – II) of Chettinad Academy of Research and Education (Ref No: IHEC - II/0734/24). The research trial was registered in clinical registry of India (CTRI/2024/10/075384). Quantitative research approach was implemented with pre-experimental one group pretest posttest research design. The study was conducted at Government Blind school, Thanjavur. Random sampling method was used to select the visually challenged adolescent girls with sample size of 30. Sample size was estimated by using n master sample size estimating software. Inclusion criteria for the research study included the visually challenged adolescent girls who attained menarche, between the age group of 10 to 19 years, able to understand Tamil and English, available at the time of data collection and having regular menstrual cycle. Visually challenged adolescent girls who were not willing to participate and who have verbal or hearing response problems were excluded from the research study. Audio drama on menstrual hygiene management and the research tool were developed by the investigator and validated by the experts. Duration of the Audio drama is 25 minutes. Assent and Consent form were taken from the adolescent girls and their parents. Data collection tool consisted of three parts such as demographic, menstrual variables, questionnaire to assess knowledge regarding menstrual hygiene and observation checklist to assess the expressed practice regarding menstrual hygiene. Demographic and menstrual variables comprised of age, standard of study, education of father, education of mother, occupation of the father, occupation of the mother, family income, duration of stay in the hostel, residency and previous source of information regarding menstrual health, age at menarche, frequency of menstrual cycle, duration of menstrual cycle. Pretest was conducted by interview method. Audio drama was played to the students with two reinforcement sessions. Post test was conducted after 2 months. Data were analyzed using descriptive and inferential statistics.

## RESULTS

With related to the collected demographic profile of thirty visually challenged adolescent girls, the majority wise percentage were explained likewise. 80% were between 14-16 years, 60% were studying 8<sup>th</sup> and 9<sup>th</sup> standard, 40% of the participants' parent's occupation was farmer, 46.7% of the participants stayed in the hostel for 1-2 years, 80% of the participants were from rural area, 40% of the participants attained menarche between the age of 15-17 years, 40% of the students' frequency of menstrual cycle was >35 days. Related to duration of menstrual

cycle, majority of the respondents (36.7%) had a menstrual cycle duration between 3-5 days and 93.3% of the participants used sanitary napkin during menstruation.

**Table 1.a. Demographic variables of the study participants  
 N=30**

DEMOGRAPHIC VARIABLES	#	%
<b>Age of the students</b>		
10-13 yrs	6	20
14-16 yrs	24	80
17-19 yrs	0	0
<b>Standard of study</b>		
6 <sup>th</sup> -7 <sup>th</sup>	4	13.3
8 <sup>th</sup> -9 <sup>th</sup>	18	60
10 <sup>th</sup> -11 <sup>th</sup>	8	26.7
12 <sup>th</sup>	0	0
<b>Education of the father</b>		
Professional degree	0	0
Graduate	5	16.7
Diploma	0	0
High school	7	23.3
Middle school	8	26.7
Primary school	7	23.3
Illiterate	3	10
<b>Education of the mother</b>		
Professional degree	0	0
Graduate	1	3.3
Diploma	0	0
High school	9	30
Middle school	12	40
Primary school	3	10
Illiterate	5	16.7
<b>Occupation of the father</b>		

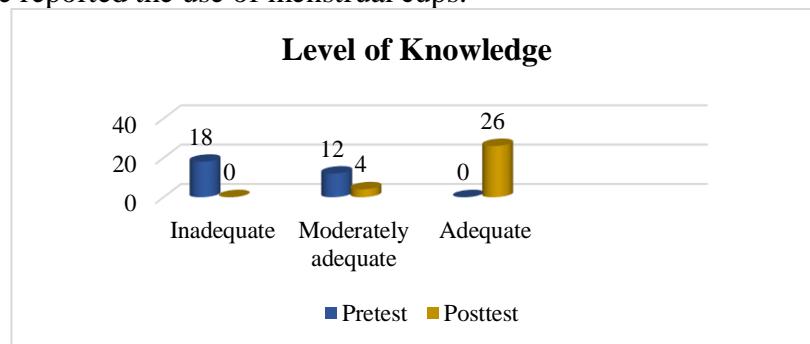
Professional	2	6.7
Clerical/Shop/Farmer	15	50
Skilled worker	11	36.6
Unskilled worker	0	0
Unemployed	2	6.7
<b>Occupation of the mother</b>		
Professional	3	10
Clerical/Shop/Farmer	13	43.3
Skilled worker	5	16.7
Unskilled worker	1	3.3
Unemployed	8	26.7
<b>Family income</b>		
< 5000	14	46.7
5001 – 7500	4	13.3
7501 – 10000	2	6.7
10001 – 20000	3	10
>20000	7	23.3
<b>Duration of stay in the hostel</b>		
1- 2 yrs	14	46.7
3 – 4 yrs	6	20
> 4 yrs	10	33.3
<b>Residency</b>		
Rural	24	80
Urban	6	20
<b>Previous source of information</b>		
Family	24	80
Friends	5	16.7
Mass media	1	3.3

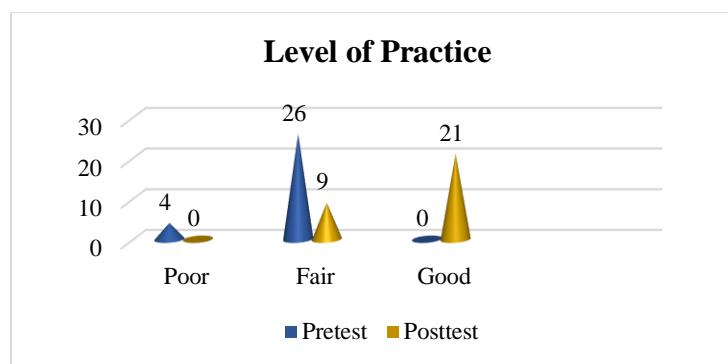
The above table reveals that most of the participants (80%) were between the age group of 14-16 years, 60% were studying in 8<sup>th</sup> and 9<sup>th</sup> standard, most of the parents were studied up to middle school, majority of the participants' family income was Rs <5000, most of the students were staying in the hostel for 1-2 years and majority were from rural area.

**Table 1.b. Menstrual variables of the study participants**  
**N=30**

MENSTRUAL VARIABLES	#	%
<b>Age at menarche</b>		
Less than 10 years	9	30
10-14 years	7	23.3
15 – 17 years	12	40
Above 17 years	2	6.6
<b>Frequency of menstrual cycle</b>		
Below 28 days	9	30
28 – 30 days	9	30
Above 35 days	12	40
<b>Duration of menstrual cycle</b>		
Less than 3 days	6	20
3 – 5 days	11	36.7
6 – 7 days	7	23.3
More than 7 days	6	20
<b>Material used during menstruation</b>		
Sanitary napkin	28	93.4
Cloth	2	6.6
Menstrual cup	0	0

The data on menstrual variables revealed that the majority of participants (40%) attained menarche between 15–17 years of age, regarding the frequency of the menstrual cycle, 40% of participants experienced cycles longer than 35 days, in terms of menstrual duration, 36.7% had cycles lasting 3–5 days, followed by 23.3% with 6–7 days, with respect to materials used during menstruation, an overwhelming majority (93.4%) used sanitary napkins, while 6.6% relied on cloth, and none reported the use of menstrual cups.





**Figure 1 Comparison of pretest and posttest level of Knowledge and Practice regarding menstrual hygiene**

**Table. 2. Effectiveness of Audio drama regarding menstrual hygiene management**

Level of Knowledge	N	Mean	SD	Paired t test value	df	Sig. (p-value)
Pretest	30	9.63	1.95	21.84	29	p<0.001 S
Posttest		17	1.74			

The statistical analysis reveals that the mean knowledge score of the participants in the pre-test was 9.63 (SD = 1.95), whereas in the post-test it increased markedly to 17.00 (SD = 1.74). The difference between the pre-test and post-test mean scores was subjected to a paired *t*-test, which yielded a value of *t* = 21.84 at *df* = 29, with a corresponding level of significance *p* < 0.001. Since the obtained *p*-value is less than 0.001, the difference is considered to be highly statistically significant.

Level of Practice	N	Mean	SD	Paired t test value	df	Sig. (p-value)
Pretest	30	8.8	1.39	16.7	29	p<0.001 S
Posttest		12.26	1.38			

The mean practice score in the pre-test was 8.80 (SD = 1.39), whereas the mean score in the post-test increased substantially to 12.26 (SD = 1.38). The difference between the pre-test and post-test mean scores was subjected to a paired *t*-test analysis, which yielded a test statistic of *t* = 16.70 at *df* = 29, with a corresponding probability value of *p* < 0.001.

## Discussion

The principal objective of the present study was to assess and compare the pre-test and post-test levels of awareness and hygienic practices before and after the implementation of an audio drama on menstrual hygiene management among visually challenged adolescent girls. The pre-test findings revealed that a majority of participants, 18 (60%), had inadequate knowledge and 12 (40%) had moderately adequate knowledge. Following the intervention, the post-test results demonstrated a substantial shift, wherein 4 participants (13.3%) were found to have moderately adequate knowledge and 26 participants (86.7%) had attained adequate knowledge.

With regard to hygienic practices, the pre-test results indicated that 4 participants (13.3%) had poor practice, 26 participants (86.7%) demonstrated fair practice, and none exhibited good practice. However, in the post-test assessment, a notable improvement was observed, with 21 participants (70%) attaining good practice. The statistical analysis further substantiated these findings, as the paired *t*-test values obtained for knowledge (*t* = 21.4) and practice (*t* = 16.7) at *df* = 29 were found to be highly significant at *p* < 0.05.

In light of these results, the null hypothesis was rejected and the research hypothesis ( $H_1$ ) was accepted. This provides compelling evidence that the audio drama was effective in enhancing both knowledge and hygienic practices related to menstrual hygiene management among visually challenged adolescent girls. The study thus highlights the efficacy of audio-based educational interventions as a viable and impactful strategy for improving reproductive health awareness and practices in populations with visual impairment.

Gadiya, P., and Prakasam, A. (2023) conducted a study to evaluate the effectiveness of audio drama on knowledge of menstrual hygiene among visually challenged adolescent girls in selected schools of Gujarat. The intervention was designed to provide health education in an accessible format suited for visually impaired students. Findings of the study revealed that audio drama significantly improved participants' knowledge regarding menstrual hygiene compared to their baseline scores. The authors concluded that innovative, inclusive teaching strategies such as audio drama are effective tools for promoting awareness and menstrual hygiene practices among visually challenged adolescents<sup>4</sup>.

Anu Malik, Simranjeet Kaur, Poonam Sheoran (2021) conducted a quasi-experimental study to assess the effectiveness of audio drama on menstrual hygiene and reproductive health in terms of knowledge and expressed practices among 60 visually challenged adolescent girls at selected bling schools, Haryana. Findings of the study revealed that the mean posttest knowledge score ( $27.87 \pm 2.01$ ) and expressed practice score ( $13.3 \pm 0.95$ ) in experimental group were significantly higher than mean posttest knowledge score ( $18.27 \pm 3.43$ ) and expressed practice score ( $10.97 \pm 1.12$ ) in comparison group. The study concluded that the audio drama is effective to enhance the knowledge and practice among visually challenged adolescent girls. In this perspective, the present study had been undertaken with the aim of improving the knowledge and practice level of visually challenged adolescent girls regarding menstrual hygiene with the help of audio drama<sup>5</sup>.

### Conclusion

The research findings revealed that audio drama represents a powerful, disability-sensitive, and learner-centred medium for disseminating health information. Such an approach bridges the communication gap and fosters greater autonomy, self-confidence, and positive behavioural change among visually challenged adolescent girls. The study thus contributes valuable insights into the field of reproductive health education, highlighting the need for innovative strategies that are tailored to the unique learning needs of differently-abled populations.

### FINANCIAL SUPPORT AND SPONSORSHIP

Nil

### CONFLICTS OF INTEREST

There are no conflicts of interest.

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