

Effectiveness of Audio Drama on Knowledge And Skill Regarding Menstrual Hygiene Among Visually Challenged Adolescent Girls At Selected School

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Abstract

Background: Menstrual Hygiene (MH) plays a crucial role in the health, dignity and education of adolescent girls. Adolescents with visual impairments tend not to have proper educational tools and, therefore, their menstrual hygiene knowledge is poorly developed and menstrual hygiene practices fall short. This study aimed to evaluate the effectiveness of an audio drama intervention in improving knowledge and skills related to menstrual hygiene among visually challenged adolescent girls.

Methods: The design used was a true experimental pretest-posttest control group design. A sample of sixty visually challenged adolescent girls were randomly split between either the study group (n=30) or the control group (n=30). The baseline knowledge and practical skills on menstrual hygiene were tested with a structured questionnaire and a skill list. The study group was given 20 minutes audio drama and 10 minutes demonstration of hygiene whereas no treatment was done to control group. Same tools were used to do posttests. The SPSS was used to analyze data, and the statistical significance was evaluated using paired, as well as unpaired t-test.

Results: The study group showed a significant improvement in mean knowledge scores from 11.07 ± 3.07 (pretest) to 21.53 ± 3.12 (posttest), with a t-value of 11.399 ($p < 0.001$). Skill scores also improved significantly from 5.90 ± 2.32 to 12.73 ± 2.08 ($t = 11.752$, $p < 0.001$). The control group showed no significant changes. These results confirm the effectiveness of audio drama in enhancing both knowledge and practical skills among the target population. **Conclusion:** Audio drama proved to be an effective and accessible method for enhancing menstrual hygiene knowledge and skills among visually challenged adolescent girls. The study underscores the importance of inclusive, sensory-friendly health education approaches to close information gaps and support the empowerment of marginalized youth.

Keywords: Menstrual hygiene, visually challenged, adolescent girls, audio drama

INTRODUCTION

Menstrual hygiene (MH) is pivotal for the health and well-being of adolescent girls, significantly influencing their educational and social experiences. This issue is particularly profound for visually challenged adolescent girls, who face heightened challenges in understanding and managing their menstrual hygiene due to a lack of accessible information tailored to their needs. Studies indicate that many visually impaired girls have misconceptions about menstruation prior to educational interventions, highlighting a critical gap in knowledge that can affect their overall health and self-advocacy in managing menstruation (Ramadan et al., 2021; Singh & Agarwal 2023; Faheim et al., 2022).

Audio drama as an educational intervention offers a promising approach to bridge this knowledge gap. By utilizing auditory learning methods, such interventions can promote understanding and retention of information regarding menstrual hygiene while also catering to the learning styles of visually challenged individuals. Recent research demonstrates that audio drama facilitates better comprehension and application of menstrual hygiene practices among visually impaired adolescents. For instance, significant knowledge improvements were noted after exposure to audio drama sessions, indicating that this method is effective in enhancing awareness and practices related to menstruation among this demographic (Ramadan et al., 2021; Ghazy & Fathy, 2022).

The significance of MH extends beyond basic hygiene; inadequate understanding can lead to serious health complications, including infections that disproportionately affect adolescents with disabilities. Impediments such as stigma, cultural taboos, and lack of supportive resources further complicate the situation for visually impaired girls, placing them at considerable risk (Dündar & Özsoy, 2020; Parasuraman et al., 2022). Previous interventions in the realm of menstrual health, particularly in low- and middle-income countries, have successfully illustrated that dedicated educational programs significantly improve both knowledge and practices surrounding menstrual hygiene (Evans et al., 2022; Holmes et al., 2021). In emphasizing the importance of tailored educational methods, it becomes evident that audio drama can provide a compelling avenue for disseminating crucial health education to marginalized groups.

While the body of research on visually challenged individuals' menstrual hygiene is growing, there remains a noticeable scarcity in interventions specifically designed for this group. Many studies have highlighted the necessity for comprehensive health education that addresses cultural sensitivities, practical hygiene tips, and the psychological impact of menstruation (Singh & Agarwal, 2023; Kansime et al., 2022; Holmes et al., 2021). The integration of audio drama into these educational frameworks not only presents a viable solution for improving knowledge among visually impaired girls but also aligns with broader goals of promoting equity in health education and personal empowerment (Bagirisano et al., 2024; Ghazy & Fathy, 2022; Randall et al., 2024). Hence, this research article aimed to evaluate the effectiveness of an audio drama intervention in improving knowledge and skills related to menstrual hygiene among visually impaired adolescent girls.

METHODS

Design and sample

The study utilized true experimental pretest-posttest control group design to determine the changes at the level of knowledge and skill on menstrual hygiene. The selection of the samples was carried out by simple random sampling technique and the sample that would meet inclusion criteria. The priori power calculations used a two-sided $\alpha=0.05$. For the continuous primary outcome, this sample provides approximately 80% power to detect a standardized means difference (Cohen's d) of ~ 0.72 between groups (90% power corresponds to $d \sim 0.84$). The study group enrolled 30 and control 30 and in total 60 adolescent girls.

Settings and Participants

Both control and the study group were selected in the blind school at Thiruvanamalai. It was a special school

of this type of learning and both were Government Certified School of the Blind. Each school has 125 children, which includes both boys and girls, among this group adolescents' girls are selected for the study by simple random

sampling technique. The participants were selected based on the inclusive criteria. The participants selected for the study gave the informed consent.

Data Collection

Demographic data were collected from participants, and the feasibility and reliability of the audio drama intervention were assessed, with a reliability index of $r = 0.84$ indicating strong consistency of the tool. Obtaining informed consent from each adolescent girl. The pretest was assessed individually from each participant; per day 10 samples were selected. After pretest knowledge and skill, the following component of menstrual hygiene was taught using audio drama. It includes, menstrual cycle, duration of menstruation, diet, importance of menstrual hygienic and skill to handle the sanitary pad, disposal and proper hand wash for duration of 20 minutes with adequate audio effects to all the participants in study group. Post test knowledge and skill assessed for both the group after two weeks and results were tabulated for analysis. Data analysis was performed using SPSS, applying descriptive statistics for demographic distribution and paired and unpaired t-tests to compare knowledge and skill levels within and between the study and control groups.

Ethical Considerations: Prior written permission was obtained from the College of nursing and the principal of the school and at formal scheduled meetings, the researchers explained the purpose of the study, study procedures and requested the permission of the manager and fixed a time schedule of the visit. All information concerning the goals, significance and methodologies of the present study was discussed to relevant school staff in order to achieve their cooperation and consent to provide the due information in favor of such category of students.

RESULTS

Demographic variables of visually challenged adolescent girls

The most participants in both groups were aged 14–15 years (33.3% study, 50% control) and studying in X standard (36.7% study, 40% control). The majority attained menarche between 11–12 years (53.4% study, 43.3% control) and belonged to nuclear families (46.7% study, 53.3% control). A history of consanguineous marriage was present in 56.7% of the study group, while 56.7% of the control group had no such history. Fathers' education was mostly up to middle school (56.7% study, 53.3% control), and mothers mostly held primary school certificates (43.3% study, 33.4% control). Regarding occupation, 33.3% of fathers (study) and 26.7% (control) were unskilled workers. Among mothers, 50% (study) were unskilled workers, while 50% (control) were unemployed. A monthly income between ₹2,092–₹6,213 was reported by 56.7% (study) and 50% (control), and all participants (100%) in both groups had prior knowledge of menstrual hygiene.

Table 1: Comparison of mean score of knowledge among visually challenged adolescent girls in the study group.
N=30

Knowledge	Mean	S.D	Mean Difference	Paired 't' test & p-value
Pretest	11.07	3.07	10.46	t=11.399 p=0.0001 S***
Post Test	21.53	3.12		

Table 2: Comparison of mean score of Skill among visually challenged adolescent girls in the study group.
N = 30

Skill	Mean	S.D	Mean Difference	Paired 't' test & p-value
Pretest	5.90	2.32		t=11.752

Post Test	12.73	2.08	6.83	p=0.0001 S***
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***p<0.001, S – Significant

Table 1 & 2 reveals that the pretest mean score of knowledge was 11.07 ± 3.07 and the post test mean score of knowledge was 21.53 ± 3.12 . The mean difference score was 10.46. The calculated paired “t” test value of $t = 11.399$ was statistically significant at $p < 0.001$. And the skill score increased from 5.90 ± 2.32 (pretest) to 12.73 ± 2.08 (posttest), with a mean difference of 6.83. The paired t-test value of 11.752 was statistically significant at $p < 0.001$. This demonstrate a significant improvement in menstrual hygiene-related skills among visually challenged adolescent girls, confirming the effectiveness of the audio drama intervention. There is no statistical significance found within control group for both knowledge and skill level of adolescent girls.

Table 3: Pretest and posttest knowledge regarding menstrual hygiene among visually challenged adolescent girls between the Study and control group.

Knowledge	Study		Control		Mean Difference	Unpaired t test
	Mean	S.D	Mean	S.D		
Pretest	11.07	3.07	10.93	3.10	0.133	$t=0.167$ $p=0.868$ N.S
Post Test	21.53	3.12	11.03	3.09	10.50	$t=13.082$ $p=0.0001$ S***

Table 4: Pretest and posttest skill regarding menstrual hygiene among visually challenged adolescent girls between the study and control group

Skill	Study		Control		Mean Difference	Student Independent ‘t’ test & p-value
	Mean	S.D	Mean	S.D		
Pretest	5.90	2.32	5.70	2.26	0.20	$t=0.338$ $p=0.737$ N.S
Post Test	12.73	2.08	5.80	2.23	6.93	$t=12.430$ $p<0.0001$ S***

Table 3 & 4 shows that the mean knowledge score increased from 11.07 ± 3.07 (pretest) to 21.53 ± 3.12 (posttest), with a mean difference of 10.46. The paired t-test value was 11.399, which is statistically significant at $p < 0.001$. The post test mean score of skill between the participants were 6.93, which showed statistical significance. This indicates a significant improvement in knowledge and skill following the administration of the audio drama, confirming its effectiveness in enhancing menstrual hygiene awareness among visually challenged adolescent girls.

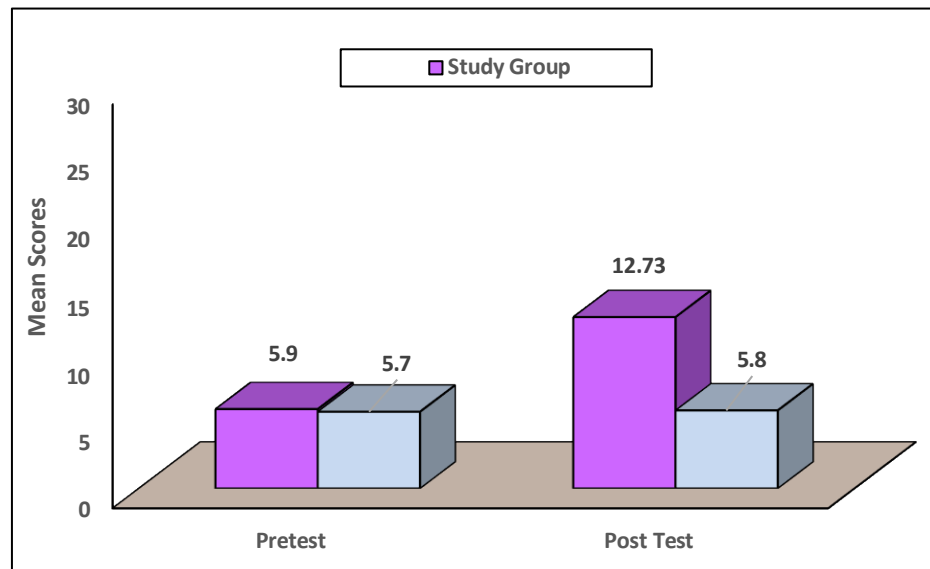


Figure1: Comparison of mean Skill score

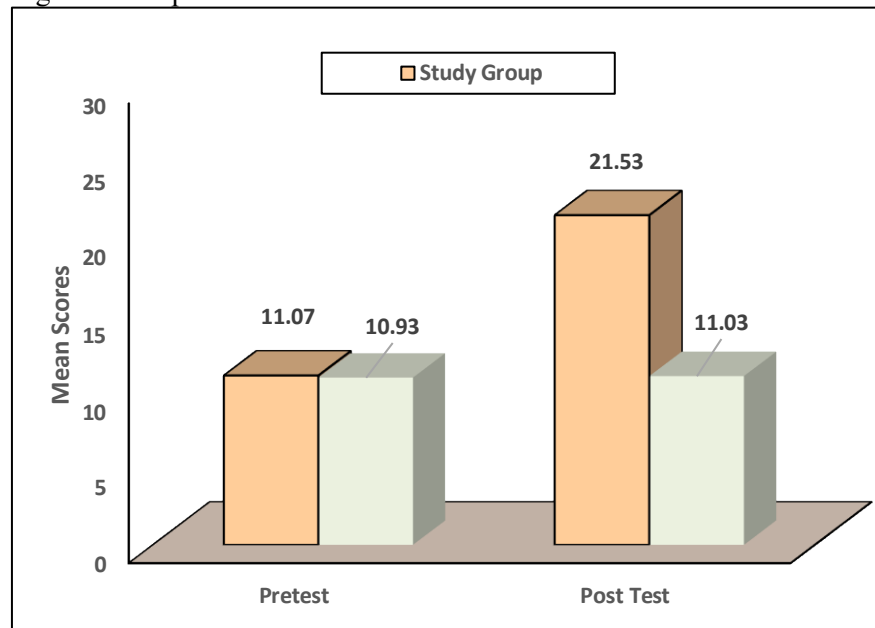


Figure 2 : Comparison of mean knowledge score

DISCUSSION

The results from the study indicating significant improvements in knowledge and skills related to menstrual hygiene among visually challenged adolescent girls following an audio drama intervention provide compelling evidence for the effectiveness of innovative educational methods in health promotion. The baseline knowledge level, as evidenced by a mean score of 11.07 ± 3.07 , showed a pronounced enhancement following the audio drama intervention, reaching a mean posttest score of 21.53 ± 3.12 . This increase, along with the paired t-value of 11.399 ($p < 0.001$), confirms that the audio drama was a determining factor in elevating the participants' understanding of menstrual hygiene practices.

Similarly, for the skills associated with menstrual hygiene, the pretest mean score of 5.90 ± 2.32 showed a remarkable escalation to 12.73 ± 2.08 post-intervention, indicating a mean difference of 6.83. The significant statistical output (t-value of 11.752 and $p < 0.001$) substantiates the critical role that engaging educational tools, such as audio drama, can play in skill development among visually impaired adolescents. These results

align with findings from similar studies, including those by Ramadan et al., which reported significant knowledge gains among visually impaired adolescents after participating in an audio drama-based intervention (Ramadan et al., 2021). Likewise, Heiba et al. observed that structured audio educational sessions led to improved hygienic practices among visually impaired girls, echoing the vital role of auditory learning materials in health education. (Heiba et al., 2023)

The substantial improvement in knowledge and skills is reflective of the audio drama's ability to convey critical information in a format that is accessible and relatable to the participants. Given that traditional visual educational resources may not serve effectively for visually challenged individuals, the use of audio drama addresses this gap by facilitating multisensory engagement that enhances learning retention (Bagirisano et al., 2024). The findings mirror additional literature which suggests that engaging formats like drama enhance comprehension and contextual understanding of complex health topics, particularly in populations facing informational barriers, such as adolescents with disabilities (Mubangizi et al., 2022). Moreover, by utilizing audio drama as a tool for education, the study not only contributes to improving immediate knowledge and skills but also positions the participants to better navigate their menstrual health in real-world contexts. The provision of accurate information can counteract common myths and misconceptions about menstruation prevalent among different communities, as referenced by other studies discussing the knowledge deficits in menstrual hygiene practices among young girls (Naik et al., 2022; Gedam, 2023).

The study's findings further highlight a broader societal need to incorporate tailored educational interventions within existing frameworks of menstrual health management, particularly for marginalized populations. While previous research has identified the necessity of such interventions, the successful results from the audio drama demonstrate the potential for replication in various settings, addressing similar knowledge gaps worldwide. (Ghazy & Fathy, 2022; Faheim et al., 2022). In summary, the significant changes in knowledge and skills observed post-intervention demonstrate the efficacy of audio drama as an educational method for visually challenged adolescent girls. The findings underscore the necessity for innovative educational strategies in health education, especially for populations with specific accessibility needs.

CONCLUSION

The findings of this study affirm the effectiveness of an audio drama intervention in significantly enhancing both knowledge and skills related to menstrual hygiene among visually challenged adolescent girls. The statistical outcomes demonstrate a marked increase in knowledge, reflected in the improvement of pretest and posttest scores, and a comparable enhancement in practical skills, underscoring the importance of innovative educational approaches tailored to the needs of vulnerable populations. The intervention not only addresses the critical issue of menstrual hygiene management but also paves the way for future research exploring similar methodologies in health education for individuals with disabilities.

IMPLICATIONS

The implications of these results extend beyond mere educational improvement; they highlight the potential of auditory learning tools in promoting awareness and skill development in sensitive health topics, thereby fostering a more inclusive environment for education. Such findings underscore the necessity for healthcare educators, policymakers, and practitioners to harness and expand upon these innovative approaches to bridge the knowledge gaps often experienced by marginalized groups. Future studies might build upon these results by exploring longitudinal impacts, participant feedback, and scalability of the audio drama model across other health education topics and diverse demographics.

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