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The Effectiveness of Japin Bakisah on Knowledge of Personal Hygiene During Floods

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ABSTRACT
Background: Floods are hydrometeorological disasters that frequently occur in South Kalimantan, particularly in Banjar Regency, and can increase the risk of health problems such as skin diseases and digestive disorders. These conditions are associated with the practice of personal hygiene. Appropriate health education is needed to improve students' knowledge of personal hygiene during floods. This study aimed to analyze the effectiveness of Japin Bakisah in improving knowledge of personal hygiene during floods among students at SMP Negeri 2 Martapura Timur.
Methods: This study employed a quasi-experimental design using a pretest-posttest control group design approach. The study population consisted of 50 students, with a sample of 30 respondents selected using purposive sampling. All respondents received the same intervention and underwent pretest and posttest assessments. Data were collected by measuring knowledge of personal hygiene before and after the Japin Bakisah intervention. Data analysis was performed using a paired t-test.
Results: The mean knowledge score before the intervention was 23.20 (SD = 1.400), while the mean score after the intervention was 23.10 (SD = 1.918). The Wilcoxon test results showed no significant difference between knowledge scores before and after the intervention ($Z = -0.376$; $p = 0.707$).
Conclusion: Japin Bakisah did not demonstrate a significant effect on improving students' knowledge of personal hygiene during floods. These findings indicate that further development of Japin Bakisah as a health education medium is needed to enhance its effectiveness in improving students' knowledge.

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INTRODUCTION

Floods are hydrometeorological disasters that regularly affect South Kalimantan, particularly Banjar Regency, causing not only infrastructure damage but also a decline in public health. During floods, drastic changes in environmental conditions limit access to clean water, while exposure to pathogen-contaminated water increases (Kementrian Kesehatan RI, 2020; Yang et al., 2024). The most common health problems arising from these conditions are skin diseases and digestive disorders, which are closely associated with personal hygiene practices (Pratama, Adelaide, Nurdiansyah, & Damanik, 2026).

Adolescents' awareness of the importance of personal hygiene during disasters needs to be improved. Education is one of the efforts to increase adolescent knowledge regarding personal hygiene (Muliantino & Sarfika, 2023). Conventional health education methods, such as one-way lectures, are still widely used. However, research has shown that lecture-based methods do not result in significant improvements in knowledge, whereas audiovisual media can significantly improve adolescents' knowledge (Rusnita, Khasanah, & Darlis, 2026). A more culturally adaptive approach can be used to deliver health messages in ways that are more readily accepted by the target audience, including the use of local wisdom and traditional performing arts (Sukma, 2018).

According to the December 2025 Disaster Information published by the National Disaster Management Agency (BNPB), flooding in Banjar Regency affected 14 sub-districts and 152 villages, including 20 villages in East Martapura District. This situation indicates that East Martapura is one of the areas affected by flooding (Badan Nasional Penanggulangan Bencana, 2025). Data from the Ministry of Education and Culture shows that SMP Negeri 2 East Martapura has 434 students, most of whom come from flood-prone areas such as East Martapura.

Previous research shows that the use of traditional arts media has the potential to be a local culture-based health education approach (Febriana, Yunara, Hikmah, Anshari, & Putri, 2025: Hidayat, Widniah, & Gian, 2026). A study on Japin Carita, for example, explained that this traditional oral performance can effectively convey moral and social messages through an entertaining narrative approach (Sukma, 2018). Furthermore, community service activities have shown that incorporating cultural values into educational activities can increase community enthusiasm and participation (Mahendra, Nurdiyana, & Najamudin, 2022). Despite its considerable cultural potential, Japin Bakisah has not previously been specifically used as a health promotion medium for personal hygiene education in this school setting.

During heavy rainfall, school environments and student residences can become flooded, putting students at risk of engaging in activities that involve direct contact with floodwater. Lack of knowledge and inadequate personal hygiene practices can increase the risk of health problems due to exposure to contaminated environments. Flood exposure is known to be associated with an increased risk of digestive disorders, particularly diarrhea, in children (Wang, Asare, Pitzer, Dubrow, & Chen, 2023). In Indonesia, post-flood illnesses that can arise include skin diseases and diarrhea, making the adoption of clean and healthy living behaviors a crucial effort in preventing them (Pratita et al., 2023). The relationship between personal hygiene and diarrhea incidence also demonstrates the importance of hygiene behaviors in preventing health problems (Rasma, Nirwana, Murlan, & Susilawati, 2023). Therefore, health education is needed to help students understand and implement appropriate personal hygiene behaviors during floods.

One potential medium for delivering health education is Japin Bakisah, a traditional Banjarese narrative theater that combines storytelling, Japin dance movements, and panting music with a humorous (banyol) style. In this study, existing Japin Bakisah stories were adapted by integrating messages about personal hygiene during floods into the performance's storyline. These messages include the importance of maintaining hand and body hygiene, using clean water, maintaining personal hygiene after exposure to floodwater, and not throwing trash into rivers to maintain environmental cleanliness and reduce water pollution. Direct storytelling and dialogue in the performance have the potential to connect health information to situations close to students' lives, while simultaneously engaging their attention through elements of story, movement, and music.

Previous research by Imanda et al. (2024) examined education using audiovisual media to increase public knowledge about personal hygiene after floods. This research provides the basis for the use of health education to improve personal hygiene after floods. However, studies on personal hygiene education during floods through traditional performing arts still need further development, particularly utilizing Japin Bakisah as a medium for conveying health messages to adolescents. Unlike audiovisual media, Japin Bakisah conveys health messages through a live performance that combines storytelling, dialogue, movement, and music. Therefore, this study aims to analyze the effectiveness of Japin Bakisah on students' knowledge of personal hygiene during floods at SMP Negeri 2 Martapura Timur.

METHODS

This quantitative study used a quasi-experimental design using a one-group pretest-posttest design. The study was conducted at SMP Negeri 2 Martapura Timur in September 2026. The study population consisted of 50 students, with a sample of 30 students selected using purposive sampling based on predetermined inclusion and exclusion criteria. The sample size of 30 respondents was determined based on the Central Limit Theorem, taking into account that the adequacy of the sample size depends on the characteristics of the data distribution (Shook-Sa et al., 2026). Given that respondents were aged 14–17, participation in the study was based on parental consent. This study adhered to ethical research principles, including informed consent, confidentiality of respondents' identities through the use of codes, voluntary participation, parental consent, and the right of respondents to withdraw at any time without consequences or sanctions.

This study aimed to analyze the effectiveness of Japin Bakisah on students' knowledge of personal hygiene during floods at SMP Negeri 2 Martapura Timur. The research instrument was a questionnaire adapted from Imanda (2024) study, consisting of 25 questions. Each correct answer was given a score of 1 and an incorrect answer a score of 0. The validity test results showed an average score of 0.629, with all questions declared valid. While the reliability test yielded a coefficient of 0.937, indicating that the research instrument was reliable. The educational intervention was delivered through a 30-minute live performance of Japin Bakisah. The educational material was developed by the researchers and delivered by the IB Production team through the live performance. During the performance, there was occasional improvisation, so the performance did not fully adhere to the planned material. The material on the importance of cleansing the body after sweating to prevent body odor and skin infections, as well as the use of footwear in flood-affected areas to help prevent skin infections on the feet, was presented in a humorous manner. This presentation could potentially lead to students' misreading of the health message. The initial measurement (pretest) was conducted before the intervention, with the questionnaire taking approximately 10–15 minutes to complete. The final measurement (posttest) was conducted one week after the intervention using the same questionnaire.

Data were analyzed univariately and bivariately. Bivariate analysis was performed using the Wilcoxon Signed-Rank Test to determine differences in knowledge scores before (pretest) and after (posttest) the intervention for the same respondents. The Wilcoxon test was chosen because the results of the normality test for the difference in pretest and posttest scores showed a significance value of 0.000 ($p < 0.05$), indicating that the data were not normally distributed and did not meet the assumptions of normality for the paired t-test. The statistical significance level was set at $\alpha = 0.05$, with data processing using SPSS version 26.

RESULTS

This study involved 30 respondents, all of whom were students at SMP Negeri 2 Martapura Timur. The following describes the results:

Table 1. Characteristics of Respondents Based on Age and Gender

Characteristic	n	%
Gender		
Male	20	66.7
Female	10	33.3
Age (years)		
14	19	63.3
15	9	30
16	1	3.3
17	1	3.3

Source: Primary data, 2026.

Based on the data in table 1, the majority of respondents were male, totaling 20 individuals (66.7%), and were 14 years old, totaling 19 individuals (63.3%).

Table 2. Wilcoxon Signed Rank Test Data Analysis

Knowledge Variable	N	Mean	SD	SE	P value
Male	30	23.20	1.400	0.256	0.707
Female	30	23.10	1.918	0.350	

Source: Primary data, 2026.

Based on table 2, the mean knowledge score before the intervention was 23.20, while after the intervention it was 23.10. The results showed no statistically significant difference in knowledge before and after the intervention (p=0.707), indicating that the intervention did not significantly improve respondents' knowledge.

DISCUSSION

The characteristics of the respondents in this study indicate that the majority were male and in the 14-year-old age group. These characteristics indicate that the respondents were in early adolescence, a developmental period characterized by an increased ability to receive and understand health information. Knowledge measurements before and after the intervention showed a decrease in scores after the education. Statistical tests showed that this change was not significant, suggesting that education using the Japin Bakisah media has not been proven effective in improving students' knowledge about personal hygiene during floods. This study has several limitations, including a limited sample size, a study location restricted to a single school, and the use of purposive sampling, which limits the generalizability of the findings. Furthermore, the incomplete delivery of the Japin Bakisah intervention material as planned limited the implementation of the educational program. This condition may have affected the completeness of the health messages received by students; however, its influence on the study outcomes was not directly evaluated.

The results of this study differ from those of Siswati et al. (2022) and Elisa et al. (2022), which reported an increase in knowledge after health education using audiovisual media. These differences in results may be related to differences in health education topics, respondent characteristics, and intervention implementation. Previous studies used videos to deliver health materials, while this study used a live Japin Bakisah performance to convey personal hygiene messages during floods. Furthermore, the material in the Japin Bakisah performance was not fully delivered as planned. However, the contribution of differences in delivery methods or incomplete materials to the insignificant results cannot be confirmed because their effects were not directly evaluated.

The inconsistency between the planned materials and their delivery during the intervention may have resulted in health messages about personal hygiene during floods not being fully conveyed to the respondents. With adequate understanding, adolescents will be more motivated to adopt clean and healthy habits (Rahmi, Husna, & Ramli, 2026). Consistency between the designed material and the intervention implementation is a crucial element in health education, as discrepancies in the quantity and quality of intervention delivery can impact the outcomes achieved (Lovan et al., 2024). However, the contribution of incomplete materials to the lack of significant changes in knowledge cannot be ascertained because this aspect was not directly evaluated. Therefore, these findings need to be interpreted taking into account the limitations of the intervention implementation.

The use of Japin Bakisah has distinct characteristics because it not only conveys health information but also combines elements of storytelling, entertainment, language, and local culture. This approach can be an engaging form of edutainment in conveying health messages. Research by Muthmainnah et al. (2025) and Lestiyana & Maulida (2025) shows that the edutainment approach can be used as a strategy in health education for students. These elements of entertainment and local culture can be a potential advantage of Japin Bakisah in increasing the appeal and appropriateness of health messages to the target cultural context, although these aspects were not directly measured in this study.

Utilizing local culture in health education can also provide a context that is closer to students' lives. Research by Rahmiwati et al. (2023) shows that local culture-based health education can influence adolescents' knowledge and attitudes. Heryyanoor et al. (2026) also showed that integrating Banjarese local wisdom into health interventions for adolescents can improve knowledge, attitudes, and behaviors related to physical activity. Furthermore, Hardiyanti et al. (2024) showed that the Banjarese people's knowledge and experience in addressing health issues are related to health practices influenced by local culture. This suggests that the local cultural context can be considered in delivering health messages to better align with the characteristics and environment of the target community. The use of local cultural elements in Japin Bakisah (Bakisah for Children) offers potential for development in health education media. However, these cultural elements need to be accompanied by systematic health materials tailored to the needs of the target audience so that messages about personal hygiene during floods are well understood.

In future implementations of Japin Bakisah, it is important to ensure that all prepared health materials are delivered comprehensively, in line with educational objectives. Before use, the content, storyline, duration, and health messages need to be reviewed to ensure a match between the planned material and the material delivered to respondents. Media development also needs to maintain the local storytelling and cultural elements that characterize Japin Bakisah, along with systematic delivery of health messages tailored to students' needs. These steps are expected to improve the achievement of health education goals through Japin Bakisah media.

CONCLUSION

This study did not find a statistically significant difference in knowledge scores after providing education using Japin Bakisah regarding personal hygiene during floods. These results indicate that knowledge gains were not statistically evident under the tested intervention conditions, and therefore, the effectiveness of Japin Bakisah cannot be concluded. The development of Japin Bakisah as a local culture-based health education medium requires further evaluation, including review by health experts and Banjar arts and culture experts to ensure the accuracy of health messages and cultural relevance. Furthermore, the intervention implementation needs to be standardized to ensure complete and clear delivery of all materials.

For educational institutions, the results of this study can serve as a reference in developing health education regarding personal hygiene during floods, considering the suitability of educational media to student characteristics. For SMP Negeri 2 Martapura Timur, education regarding personal hygiene during floods needs to continue to be provided through methods tailored to student needs, ensuring complete and clear health messages are conveyed. Future researchers are advised to refine the material and flow of the Japin Bakisah performance through expert review and to ensure the intervention's implementation as designed. Further research with a larger sample size and a comparison group is needed to evaluate changes in knowledge and compare the results of Japin Bakisah with other educational methods before concluding its comparative value.

This study offers several recommendations. For educational institutions, the results are expected to serve as reading material and references in developing health education, particularly regarding personal hygiene during floods and the use of educational media based on local culture. For SMP Negeri 2 Martapura Timur, it is hoped that it can improve education about personal hygiene during floods for students through engaging media that is appropriate to student characteristics. The use of Japin Bakisah can be further developed by ensuring that all health materials are delivered comprehensively, clearly, and aligned with health education objectives. Future researchers are advised to develop Japin Bakisah with more structured material and storylines, and to ensure all materials are completed before the intervention is implemented. Further research could also involve a larger number of respondents and a comparison group to obtain stronger results regarding the effectiveness of Japin Bakisah as a health education medium.

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