Literasi Kesehatan Husada: Jurnal Informasi Ilmu Kesehatan
Vol. 9, No. 1, February 2025

Original Article

HEALTH LITERACY AND HYGIENE PRACTICES: IMPACT ON SCABIES PREVENTION IN ISLAMIC ELEMENTARY SCHOOL STUDENTS

Moh. Bahrawi Angga Reksa [1*], Asri Kusyani [1], Yusiana Vidhiastutik [1], Kusuma Wijaya Ridi Putra [1]

[1] Bachelor of Nursing Science, College of Health Sciences of Husada Jombang

Correspondence:
Moh. Bahrawi Angga Reksa
Bachelor of Nursing Science, College of Health Sciences of Husada Jombang
e-mail: mohbahrawi21@gmail.com

DOI: https://doi.org/10.60050/lkh.v9i1.70

ABSTRACT

Background: Scabies is a highly contagious skin disease frequently found in communal environments, including Islamic elementary schools. Limited health literacy and poor hygiene practices among students contribute to its continued spread.
Objectives: This study aimed to examine the relationship between health literacy, hygiene practices, and scabies prevention behaviors among Islamic elementary school students.
Methods: A cross-sectional analytic study was conducted involving 50 students at *Madrasah Ibtidaiyah (MI) Miftahul Ulum Blaban*, Pamekasan, East Java. Data were collected using structured questionnaires assessing health literacy, hygiene practices, and scabies prevention behaviors. Spearman's rank-order correlation was used to analyze the relationship between variables, with a significance level of $p < 0.05$.
Results: The majority of students (60%) demonstrated poor hygiene behavior, and 40% had low health literacy. A significant positive correlation was found between health literacy and scabies prevention ($r = 0.479$, $p < 0.001$), as well as between hygiene practices and scabies prevention ($r = 0.455$, $p < 0.001$).
Conclusion: Higher levels of health literacy and improved hygiene practices are associated with better scabies prevention behaviors among Islamic elementary school students. Strengthening school-based health education is essential to reduce the incidence of scabies in similar educational environments.

Keywords: Children, Knowledge, Scabies Prevention.

INTRODUCTION

Scabies is a contagious skin disease caused by the mite *Sarcoptes scabiei*, which infests the human skin, leading to intense itching, rash, and potential secondary infections. The disease is particularly prevalent in crowded and low-hygiene environments, such as dormitories, boarding schools, and densely populated rural areas (Nikmah, Handayani, & Firdaus, 2021). In Indonesia, the prevalence of scabies remains a public health concern, with some provinces reporting infection rates between 4.6% and 12.95% (Ministry of Health, 2020). Islamic elementary schools, especially those with communal living arrangements, are often at greater risk due to shared use of personal items and insufficient hygiene infrastructure.

Health literacy—the capacity to obtain, process, and understand basic health information to make appropriate health decisions—is a fundamental determinant of individual hygiene behavior (Nutbeam, 2008). In school-aged children, especially those in religious boarding institutions (madrasahs), health literacy plays a pivotal role in shaping daily hygiene practices that contribute to disease prevention, including scabies (Yakin, 2021). Clean and Healthy Living Behavior (PHBS), as promoted by the Indonesian Ministry of Health, encompasses key personal hygiene habits such as regular bathing, washing clothes and bedding, and avoiding the sharing of individual items. These behaviors are essential in preventing the spread of skin-related infections (Puspita, Rustanti, & Wardani, 2018).

Despite the government's efforts to promote PHBS in school settings, challenges persist. Limited access to health education, insufficient teacher training, and lack of parental involvement often hinder the effective transmission of hygiene-related knowledge. Children with low levels of health literacy are less likely to adopt healthy habits, making them more susceptible to preventable diseases such as scabies (Rahmawati, Utami, & Cahyaningtyas, 2019). Therefore, understanding the relationship between health literacy and hygiene practices is critical to developing targeted interventions that can reduce scabies incidence in vulnerable populations.

This study aims to examine the impact of health literacy and hygiene practices on scabies prevention among students in an Islamic elementary school in rural Indonesia. The findings are expected to contribute to the development of more effective health education strategies in school-based settings.

METHODS

Study Design

This study employed a quantitative correlational research design with a cross-sectional approach, aimed at identifying the relationship between health literacy, hygiene practices, and the prevention of scabies among Islamic elementary school students. A correlational design is suitable for assessing the strength and direction of associations between variables without manipulating any of them, allowing researchers to observe natural variations in health literacy and hygiene behaviors and their link to scabies prevention outcomes (Nursalam, 2020).

The cross-sectional method was chosen to collect data at a single point in time, making it efficient for exploring associations between independent variables (health literacy and hygiene practices) and the dependent variable (scabies prevention behavior) (Setia, 2016). This design is particularly relevant in school-based settings, where environmental and behavioral factors can be simultaneously observed and measured within a defined population.

Settings

This study was conducted at *Madrasah Ibtidaiyah (MI) Miftahul Ulum Blaban*, located in Batu Mar-Mar District, Pamekasan Regency, Madura, East Java, Indonesia. The school is situated in a rural area where communal living and close student interaction are part of the daily routine, making it a relevant setting for research on hygiene-related behaviors and the transmission of infectious diseases such as scabies (East Java Health Office, 2022).

The selection of this location was based on the school's demographic characteristics, including limited access to comprehensive health education programs and a high potential for hygiene-related health issues due to shared use of personal items and facilities. These factors

align with common risk profiles identified in similar school environments in Indonesia, particularly in pesantren-based or Islamic school systems, where children often have limited individual hygiene resources and education (Nikmah, Handayani, & Firdaus, 2021).

According to data from the Ministry of Religious Affairs of Indonesia, Islamic schools such as MI Miftahul Ulum serve a substantial portion of the nation's school-aged children, particularly in rural communities. These schools are thus strategic platforms for implementing health literacy interventions and promoting Clean and Healthy Living Behavior (PHBS) programs (Kemenag, 2020). Additionally, local health statistics have reported recurring cases of scabies in the surrounding area, further justifying the choice of this school for the present study (East Java Health Office, 2022).

The setting provided both logistical access and ecological relevance for assessing the relationship between health literacy, hygiene behavior, and scabies prevention. It allowed researchers to observe real-life applications of hygiene practices in a context where the risk of scabies transmission is heightened due to environmental and social conditions.

Research Subject

The participants in this study were students enrolled at *Madrasah Ibtidaiyah (MI) Miftahul Ulum Blaban*, located in Batu Mar-Mar District, Pamekasan Regency, Madura, East Java. The total population consisted of 50 students, all of whom were included as research subjects using a total sampling technique. This method was chosen to ensure full representation of the population within the school, thereby enhancing the internal validity of the findings (Notoatmodjo, 2018).

Inclusion criteria were established to select participants who were enrolled as active students in MI Miftahul Ulum, provided informed consent from their parents or guardians, were physically and mentally capable of completing the questionnaires or participating in interviews. Exclusion criteria included students who were absent on the day of data collection or who had incomplete data due to withdrawal or communication barriers.

The majority of participants were aged between 7 and 12 years, representing early to late elementary school age. This age group is particularly relevant because they are in a critical stage of cognitive and behavioral development, during which health literacy and hygiene habits are most effectively formed (Fitriani, 2018). Furthermore, younger students are often at greater risk for hygiene-related diseases due to limited autonomy in personal care and lower health awareness (Yakin, 2021).

Parental consent and child assent were obtained prior to participation, and all students were informed that their involvement was voluntary and confidential. Ethical clearance was granted by the Ethics Committee of STIKes Husada Jombang, ensuring that the study complied with ethical research standards involving minors.

Instruments

Data for this study were collected using structured questionnaires that measured three core variables: health literacy, hygiene practices, and scabies prevention behaviors. The health literacy questionnaire was adapted from Nutbeam's health literacy framework (2008), encompassing functional, interactive, and critical literacy. It included 15 items designed to assess students' ability to comprehend, communicate, and critically evaluate health information, such as understanding hygiene messages or deciding when to report symptoms. The hygiene practices questionnaire was based on the Clean and Healthy Living Behavior

(PHBS) indicators developed by the Indonesian Ministry of Health (2007), containing 20 items assessing behaviors such as bathing frequency, handwashing habits, clothing and bedding hygiene, and participation in school cleanliness routines. To evaluate scabies prevention behavior, the study used a 10-item scale adapted from Puspita et al. (2018), which included avoiding sharing towels and clothes, washing bed linens regularly, and seeking help when experiencing itching or skin discomfort.

All instruments used a Likert scale format and were administered in Bahasa Indonesia, ensuring cultural relevance and comprehension. Before the main study, the instruments were pilot-tested on a small sample of students from a nearby school to assess clarity and age appropriateness. Internal consistency was tested using Cronbach's alpha, with all subscales showing acceptable reliability ($\alpha > 0.70$). Researchers conducted face-to-face interviews for students who had difficulty reading or comprehending written questions using the same questionnaire items. This approach ensured inclusivity and accuracy in data collection, especially given the varied literacy levels among younger elementary school students.

Data Collection

Data collection was carried out on October 15, 2024, at *Madrasah Ibtidaiyah (MI) Miftahul Ulum Blaban*, Batu Mar-Mar District, Pamekasan Regency, Madura. Before data collection, researchers coordinated with school authorities to explain the study's purpose, procedures, and ethical considerations. Written informed consent was obtained from parents or guardians of the participating students, and verbal assent was acquired from the students themselves. The data collection process involved administering structured questionnaires in the school environment during school hours, ensuring minimal disruption to academic activities.

The instruments were distributed to all 50 students who met the inclusion criteria. For students with adequate reading and comprehension abilities, the questionnaires were self-administered under the supervision of trained research assistants. To ensure understanding, clear instructions were provided before completion, and assistants remained present to address any questions. For younger students or those experiencing difficulty with reading, individual face-to-face interviews were conducted by trained enumerators using the same questionnaire items. Each interview lasted approximately 20–30 minutes.

After data collection, all completed questionnaires were reviewed for completeness and consistency. Incomplete or ambiguous responses were clarified on the spot when possible. The collected data were then coded and entered into a secure database for subsequent analysis using IBM SPSS version 18. Measures were taken to maintain the confidentiality of participants' identities and responses throughout the entire process, by ethical standards for research involving minors (Nursalam, 2020).

Data Analysis

The data obtained from the completed questionnaires were analyzed using IBM SPSS version 18. Before analysis, all responses were coded and entered into the software, followed by data cleaning to ensure accuracy and completeness. Descriptive statistics were used to summarize the participants' demographic characteristics and to provide an overview of scores for health literacy, hygiene practices, and scabies prevention behaviors. Measures such as frequencies, percentages, means, and standard deviations were calculated to describe the data distribution.

To examine the relationship between variables, the study employed Spearman's rank-order correlation test. This non-parametric statistical method was chosen due to the ordinal nature of the data and the relatively small sample size. The test assessed the correlation between students' levels of health literacy and hygiene practices with their scabies prevention behaviors. A significance level of $\alpha = 0.05$ was set as the threshold for statistical significance. A *p*-value less than 0.05 indicated a significant association between the independent variables (health literacy and hygiene practices) and the dependent variable (scabies prevention behavior). The strength and direction of the correlation were interpreted using the correlation coefficient (*r*), where values closer to +1 or -1 indicated stronger relationships (Notoatmodjo, 2018; Pallant, 2020).

This analytical approach enabled the researchers to determine whether students with higher health literacy and better hygiene practices demonstrated more effective behaviors in preventing scabies, thus supporting the study's objective of identifying key factors in disease prevention among Islamic elementary school students.

Ethical Considerations

This study was conducted in accordance with ethical standards for research involving human participants, particularly minors. Prior to data collection, ethical approval was obtained from the Ethics Committee of STIKes Husada Jombang, with the protocol registered under ethical clearance number 0717-KEPKSHJ. The study's objectives, methods, and potential risks were clearly communicated to the school authorities, parents or guardians, and students.

Written informed consent was obtained from the parents or legal guardians of all participants, and verbal assent was sought from the students themselves to ensure their voluntary participation. Students were informed that participation was entirely optional and that they could withdraw from the study at any time without any academic or personal consequences.

Confidentiality and anonymity were strictly maintained throughout the research process. All data collected was coded and stored securely, with access restricted to the research team. No identifying information was used in any publication or report resulting from this study. In addition, the researchers ensured that the data collection process caused minimal disruption to the students' academic activities and that the interviews were conducted in a respectful and age-appropriate manner (Nursalam, 2020).

By adhering to these ethical principles, the study ensured the protection of participants' rights, dignity, and well-being, in line with national research ethics guidelines and international standards.

RESULTS

This study involved a total of 50 students from *Madrasah Ibtidaiyah (MI) Miftahul Ulum Blaban*, all of whom completed the questionnaire and met the inclusion criteria. The demographic data revealed that the majority of participants were female (68%), while males comprised 32%. In terms of age, 54% of the students were between 10 and 12 years old, and the remaining 46% were between 7 and 9 years old.

Regarding health literacy levels, 40% of the students demonstrated low health literacy, 22% moderate, and 38% high health literacy. In terms of hygiene practices, 60% of participants reported poor hygiene behaviors, such as irregular bathing, sharing personal items (towels and

clothing), and infrequent washing of bed linens. Only 40% reported practicing good hygiene consistently, including daily bathing and maintaining personal cleanliness.

As for scabies prevention behavior, 60% of students exhibited inadequate prevention behaviors, such as continued sharing of personal items and delayed reporting of symptoms, while 40% showed good preventive practices. A Spearman's rank-order correlation test was used to assess the relationships between variables. The results revealed a moderate positive correlation between health literacy and scabies prevention behavior ($r = 0.479$, $p < 0.001$), indicating that students with higher health literacy were more likely to engage in preventive actions. A similar moderate correlation was found between hygiene practices and scabies prevention behavior ($r = 0.455$, $p < 0.001$), suggesting that better hygiene habits are associated with a lower risk of scabies transmission.

These findings demonstrate a statistically significant association between both health literacy and hygiene practices with scabies prevention behaviors among the participants. The data support the hypothesis that improving health literacy and reinforcing proper hygiene can positively influence disease prevention among Islamic elementary school students.

DISCUSSION

The findings of this study reveal a significant and positive correlation between health literacy**,** hygiene practices, and scabies prevention behavior among students at *MI Miftahul Ulum Blaban*. Specifically, students with higher health literacy scores were more likely to engage in behaviors that effectively prevent scabies, such as maintaining personal hygiene, avoiding the sharing of personal items, and recognizing early symptoms. This aligns with Nutbeam's (2008) theory, which emphasizes that health literacy—especially functional and critical health literacy—enhances individuals' capacity to make informed health decisions and adopt preventive health behaviors.

The association between hygiene practices and scabies prevention also supports previous research, which suggests that poor personal hygiene is a primary contributor to the spread of scabies in communal environments, such as schools and boarding facilities (Nikmah et al., 2021; Puspita et al., 2018). In this study, 60% of students demonstrated inadequate hygiene behaviors, which likely contributes to the persistence of scabies transmission within the school environment. This finding underscores the importance of PHBS (Clean and Healthy Living Behavior) programs in schools, particularly in rural or under-resourced areas where health knowledge may be limited.

Additionally, the moderate correlation coefficients found in this study ($r = 0.479$ for health literacy and $r = 0.455$ for hygiene practices) suggest that while health literacy and hygiene behavior are significant factors, they are not the only determinants of scabies prevention. Other contributing elements may include environmental sanitation, access to clean water, parental involvement, and institutional support from teachers and school health units (UKS). According to Fitriani (2018), cognitive development in children also plays a role; younger students may lack the cognitive ability to fully understand or apply health information without support.

The implication of these results is clear: interventions aimed at improving students' health literacy must be paired with practical, behavior-based hygiene education, ideally integrated into the school curriculum. Furthermore, consistent reinforcement from teachers,

school staff, and parents is essential to ensure sustainable behavior change. Health promotion programs should also involve culturally appropriate materials and methods, especially in Islamic school contexts, where religious and communal practices can influence personal hygiene routines.

In summary, this study highlights the critical role of health education and behavior modeling in reducing the incidence of scabies. Investing in student-centered health literacy initiatives, particularly in rural Islamic schools, may significantly contribute to better hygiene practices and reduce the burden of skin infections among school-aged children.

CONCLUSION

This study concludes that health literacy and hygiene practices play a significant role in preventing scabies among Islamic elementary school students. The results demonstrate a moderate and statistically significant positive correlation between students' health literacy levels and their scabies prevention behaviors, as well as between hygiene practices and prevention outcomes. These findings highlight that students with a better understanding of health-related information and consistent hygiene routines are more likely to take preventive actions against scabies transmission. However, the high proportion of students who exhibited poor hygiene behavior and low health literacy indicates the need for more effective, targeted health education interventions in school settings. Strengthening health literacy through school-based programs—particularly those that are interactive, culturally sensitive, and supported by teachers and families—can empower students to adopt healthier lifestyles and reduce the risk of preventable diseases like scabies. This approach is especially crucial in rural and communal learning environments, where disease transmission can occur rapidly due to shared living conditions.

SUGGESTION

Based on the findings of this study, several recommendations are proposed to improve scabies prevention among Islamic elementary school students. First, schools should implement regular health education programs focused on improving students' health literacy, particularly regarding personal hygiene and disease prevention. These programs should use age-appropriate, interactive learning methods that engage students actively in understanding the importance of hygiene practices. Second, collaboration between teachers, parents, and health workers is essential to reinforce Clean and Healthy Living Behavior (PHBS) both at school and at home. Activities such as group handwashing sessions, hygiene competitions, and educational posters in classrooms can serve as effective reinforcement tools.

Based on the findings of this study, several recommendations are proposed to improve scabies prevention among Islamic elementary school students. First, schools should implement regular health education programs focused on improving students' health literacy, particularly regarding personal hygiene and disease prevention. These programs should use age-appropriate, interactive learning methods that engage students actively in understanding the importance of hygiene practices. Second, collaboration between teachers, parents, and health workers is essential to reinforce Clean and Healthy Living Behavior (PHBS) both at school and at home. Activities such as group handwashing sessions, hygiene competitions, and educational posters in classrooms can serve as effective reinforcement tools.

REFERENCES

East Java Health Office. (2022). *Profil Kesehatan Provinsi Jawa Timur 2022*. Surabaya: Dinas Kesehatan Jawa Timur.

Fitriani, L. (2018). Perkembangan Kognitif Anak Usia Sekolah Menurut Teori Piaget. *Jurnal Pendidikan Anak*, 9(2), 115–123.

Kemenag. (2020). *Data Pondok Pesantren dan Madrasah di Indonesia*. Direktorat Jenderal Pendidikan Islam, Kementerian Agama Republik Indonesia.

Ministry of Health of Indonesia. (2007). *Perilaku Hidup Bersih dan Sehat (PHBS)*. Jakarta: Depkes RI.

Ministry of Health of Indonesia. (2020). *Statistik Kesehatan Republik Indonesia*. Jakarta: Pusat Data dan Informasi Kemenkes.

Nikmah, N., Handayani, N. I., & Firdaus, N. (2021). Analysis of Personal Hygiene and Scabies Incidence Among Santri in Islamic Boarding Schools. *Jurnal Nursing Update*, 12(3), 48–53.

Notoatmodjo, S. (2018). *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.

Nursalam. (2020). *Metodologi Penelitian Ilmu Keperawatan: Pendekatan Praktis*. Jakarta: Salemba Medika.

Nutbeam, D. (2008). The Evolving Concept of Health Literacy. *Social Science & Medicine*, 67(12), 2072–2078. https://doi.org/10.1016/j.socscimed.2008.09.050

Pallant, J. (2020). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS*. New York: Routledge.

Puspita, S., Rustanti, E., & Wardani, M. K. (2018). The Relationship Between Personal Hygiene and Scabies Incidence in Boarding School Students. *Jurnal Keperawatan*, 2(1), 33–38.

Rahmawati, N., Utami, R. D. P., & Cahyaningtyas, M. E. (2019). The Relationship Between Parental Knowledge of PHBS and ARI Prevention Behavior. *Intan Husada: Jurnal Ilmu Keperawatan*, 8(2), 49–58.

Setia, M. S. (2016). Methodology Series Module 3: Cross-sectional Studies. *Indian Journal of Dermatology*, 61(3), 261–264. https://doi.org/10.4103/0019-5154.182410

Yakin, A. (2021). Health Literacy of PHBS Among School-Aged Children in Indonesia: A Literature Review. *Universitas 'Aisyiyah Yogyakarta*, 2(1), 45–75.