RELATIONSHIP BETWEEN KNOWLEDGE AND CLEAN AND HEALTHY LIVING BEHAVIOR AMONG BOARDING STUDENTS

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Abstract

The implementation of healthy living practices among students living in boarding houses is often influenced by factors such as knowledge, habits, and living conditions. Low implementation of healthy living practices can increase the risk of health problems such as diarrhea, skin infections, and environmental disturbances. Students' level of knowledge about healthy living practices is considered to be related to their daily behavior. This study aims to determine the relationship between the level of knowledge about PHBS among boarding house residents in Pekanbaru City. This study used a cross-sectional design and was conducted in the RT01/RW02 student boarding house area, Labuh Baru Timur, Payung Sekaki. Data were collected through a structured questionnaire (n = 45) and using the chi-square test. The results showed a relationship between the level of knowledge about clean and healthy living behaviors among boarding house residents in Pekanbaru City, with a p-value of 0.000 < 0.05 and an odds ratio (OR) of 87.75. It is hoped that boarding house residents will increase their awareness and personal responsibility for maintaining clean and healthy living environments.

Keywords: PHBS, Knowledge, Boarding House Children, Health Behavior

INTRODUCTION

Clean and Healthy Living Behaviors (PHBS) include basic practices such as hand washing and proper waste disposal, which play an important role in improving public health. Medical services are not the only factor that plays a role in improving health quality; the community must also participate in protecting the environment and themselves, because health and illness depend on biological and behavioral factors (Zahara et al., 2024). The WHO 2020 report states that habits related to personal hygiene, such as using soap to wash hands, can reduce the likelihood of infectious diseases by 40% (WHO, 2020). However, data from UNICEF and WHO in 2021 shows that only 29% of the world's population has access to essential handwashing facilities, while around 2.3 billion people do not have adequate access (World Health Organization & UNICEF, 2021).

According to the Indonesian Ministry of Health 2023, PHBS practices in Indonesian society are still below optimal levels, especially in households and communities. For example, only 76.4% of households practice effective hand washing with soap, and only 63% of households have access to clean water (Kementrian Kesehatan, 2023). A study by Alfiyah that examined 64 adolescents aged 12–21 years in Tuban Regency found that 73.4% of respondents had good knowledge, while 53.1% demonstrated good PHBS behavior. This indicates a significant relationship between the level of knowledge and clean and healthy living behaviors. The difference in the proportion between knowledge and PHBS practices indicates that not all adolescents with good knowledge can optimally apply PHBS in their daily lives (Alfiyah et al., 2022).

Based on the 2023 Riau Province Health Profile, only 37.59% of households in Riau have implemented PHBS in their households (Riau, 2023). This small number indicates that there are still many people who have not implemented clean living practices, especially in

densely populated areas such as boarding houses, dormitories, and Islamic boarding schools, which have high population densities and limited sanitation facilities (Julianingsih et al., 2020). Densely populated areas can increase the risk of transmission of environmental diseases, especially diarrhea and skin diseases such as scabies and fungal infections. Low implementation of healthy living practices is closely related to an increase in diarrhea and skin diseases in densely populated areas, including among students living in boarding houses (Rosdiana, 2025).

Several studies have found that good knowledge is not always followed by good behavioral change. Mohamed's study of students in the United Arab Emirates reported moderate knowledge (62%) but high practice (86.8%), with differences according to gender and field of study ($p < 0.001$), indicating the influence of contextual factors and direct experience in shaping practices (Mohamed et al., 2024). This is in line with the Health Belief Model (HBM) theory proposed by Rosenstock (1996) in Irnawati & Rahmawati (2022), which states that personal health behavior is shaped by perceptions of disease risk, the benefits of taking action, barriers, and triggers for action. This theory states that someone who has good knowledge about health will not necessarily apply healthy living behaviors if their perception of the benefits is low or if there are environmental barriers (Irnawati & Rahmawati, 2022). Meanwhile, the COM-B model shows that health behavior is influenced by three key elements: capability, opportunity, and motivation. Knowledge is part of the capability component, but without the support of opportunity and motivation, healthy behavior cannot be formed in the long term (West & Michie, 2021).

Initial observations conducted by researchers through interviews with five boarding house residents in RT01/RW02, Labuh Baru Timur, Payung Sekaki, Pekanbaru City, show that boarding house residents have not fully implemented clean and healthy living behaviors (PHBS) in their daily lives. Some of the habits found include leaving piles of trash in front of boarding rooms, not changing clothes after returning from campus, and leaving dirty clothes hanging in rooms, which can potentially become breeding grounds for germs. This situation reinforces the urgency of research examining the relationship between knowledge and practice of PHBS in dormitories among vulnerable groups due to environmental adaptation processes, low levels of independence from parents, and limited facilities.

This study aims to determine the relationship between the level of knowledge and PHBS behavior among boarding house children in Pekanbaru City. The results of this study are expected to provide a basis for the development of health education programs and the improvement of sanitation facilities in boarding houses as part of disease prevention efforts.

RESEARCH METHODS

This study used a cross-sectional design, which aims to measure the relationship between variables at a single point in time without intervention. Data were collected using a questionnaire with 17 positive and negative statements on the variables of knowledge and PHBS. Before filling out the questionnaire, respondents were asked to sign an informed consent form. All questionnaires were created in Google Forms and collected through direct completion in Google Forms.

The questionnaire on PHBS knowledge level used a Likert scale with the following options: Always, Often, Sometimes, Never, and the results were measured if the value was ≤ mean and if the value was > mean. The Clean and Healthy Living Behavior questionnaire used a closed questionnaire (17 “True/False” statements), with the measurement results being ≤ mean and > mean.

The research location was in the student boarding house area of RT01/RW02, Labuh Baru Timur, Payung Sekaki District, Pekanbaru City. The research sample was the entire population that met the inclusion criteria in that area (total sampling, n = 45). Data processing was carried out through the stages of editing, coding, entry, and cleaning. Univariate analysis was used to describe the distribution of each variable in the form of frequency and percentage. Bivariate analysis was performed using the Chi-Square test to assess the relationship between knowledge level and PHBS behavior, with a significance level of $p < 0.05$. Statistical analysis was performed using SPSS version 26.

RESEARCH RESULTS

Table 1. Frequency Characteristics of Clean and Healthy Living Behaviors (PHBS) among Boarding House Children in Pekanbaru City in 2025

Characteristic	N	%
Clean and Healthy Living Behavior (PHBS)		
Good Category (> 57,20)	31	68,9
Low Category (≤ 57,20)	14	31,1
Total	45	100,0

(Source: Primary Data Analysis 2025)

Of the 45 respondents, it was found that the majority of respondents had high levels of clean and healthy living behaviors (PHBS). Table 1 shows that 31 people (68.9%) were in the high category and 14 people (31.1%) were in the low category.

Table 2. Frequency Characteristics of PHBS Knowledge Levels among Boarding House Children in Pekanbaru City in 2025

Characteristic	N	%
Level of Knowledge PHBS		
High Category (> 13,07)	28	62,2
Low Category (≤ 13,07)	17	37,8
Total	45	100,0

(Source: Primary Data Analysis 2025)

The distribution of PHBS knowledge levels was conducted with 45 respondents. The majority of respondents had a good level of knowledge about PHBS. There were 28 respondents (62.2%) with a good level of knowledge and 17 respondents (37.8%) with a low level of knowledge.

Table 3. Relationship Between Knowledge Level and Clean and Healthy Living Behaviors (PHBS) Among Boarding House Children in Pekanbaru City 2025

No	Level of Knowledge	Clean and Healthy Living Behavior				Total		*P Value*	OR 95% CI
		Good		Low					
		N	%	N	%	N	%		
1.	High	27	96,4	1	3,6	28	100,0		
2.	Low	4	23,5	13	76,5	17	100,0	0,000	87,75
	Total	31	68,9	14	31,5	45	100,0		

(Source: Primary Data Analysis 2025)

A chi-square test was conducted to examine the relationship between knowledge levels and clean and healthy living behaviors (PHBS) among boarding house children in Pekanbaru City. Of the 45 respondents, 27 respondents (96.4%) with high knowledge levels practiced good PHBS, while 4 respondents (23.5%) had low knowledge levels but still practiced good PHBS. Meanwhile, 1 respondent (3.6%) had a high level of knowledge but poor PHBS, and 13 respondents (76.5%) had a low level of knowledge and poor PHBS. The chi-square test yielded a p-value of 0.000 < 0.05, thus rejecting Ho. It can therefore be concluded that there is a relationship between the level of knowledge and clean living behavior among boarding house residents in Pekanbaru City. The Odds Ratio (OR) value of 87.75 indicates that respondents with a high level of knowledge are much more likely to practice good PHBS than respondents with a low level of knowledge.

DISCUSSION

This study shows a correlation between the level of knowledge and clean and healthy living behaviors (PHBS) among boarding house residents in Pekanbaru City (p = 0.000; OR = 87.75). These findings confirm that health knowledge is closely related to clean and healthy living behaviors (PHBS), with respondents who possess a high level of knowledge tending to practice PHBS more effectively than those with a low level of knowledge. These results are relevant to the research objective of assessing the level of knowledge as a determinant of health behavior in the population of boarding house residents.

These findings are in line with previous research by Febrianty, which reported that individuals with extensive knowledge tend to be more involved in clean and healthy living behaviors, including washing hands, wearing masks, and maintaining environmental hygiene. Good knowledge of individuals can shape positive attitudes towards health, which are ultimately reflected in actual behavior (Febrianty et al., 2023).

Theoretically, these results can be interpreted through the Health Belief Model and the COM-B behavior model, which emphasize that capability, motivation, and opportunity come together to determine behavior (West & Michie, 2021). Knowledge functions as a component of capability that increases understanding of the risks and benefits of preventive measures, thereby increasing the probability of implementing PHBS. However, without the support of motivation and environment, increased knowledge is not always followed by consistent behavioral change.

There were several respondents who had high knowledge but low PHBS, indicating the influence of environmental and social factors. Factors such as limited sanitation facilities (clean water, hand washing facilities, waste management), housing density, and boarding house environmental hygiene norms can hinder the implementation of practices even though individuals understand the importance of PHBS (Nwadi et al., 2023). Research findings and

local studies show that boarding house facility conditions are a real constraint affecting residents' behavior, so educational interventions alone are ineffective if not accompanied by improvements to the physical environment of the boarding house (Aramdani et al., 2023).

The condition of hygiene management in boarding houses has a direct impact on the risk of environmentally transmitted infectious diseases, such as diarrhea and skin infections. Poor sanitation facilities, inadequate waste management, poor food hygiene practices, and not changing clothes after returning from campus can increase exposure to infectious agents that cause digestive and skin disorders (Theresiana et al., 2023).

Limited supervision and busy academic schedules can also influence students' attitudes toward maintaining clean and healthy living behaviors (PHBS). Students who live in boarding houses with a positive mindset are usually able to balance their busy schedules while maintaining personal and environmental hygiene. On the other hand, individuals with negative attitudes often prioritize short-term comfort and neglect the cleanliness of their surroundings. The findings of this study indicate that a positive mindset is an important psychological factor in fostering clean and healthy living habits. Initiatives to improve attitudes can be carried out through health education, social approaches, and the formation of group norms in dormitory environments to ensure that clean and healthy living behaviors develop into shared habits.

CONCLUSION

This study confirms the existence of a relationship between the level of knowledge and clean and healthy living behaviors (PHBS) among boarding house children in Labuh Baru Timur, Payung Sekaki District, Pekanbaru City ($n = 45$; $p < 0.05$), where respondents with high knowledge have a much greater chance of implementing good PHBS compared to respondents with low knowledge. It is hoped that boarding house residents can increase their self-awareness and personal responsibility towards PHBS. The implementation of PHBS can start with simple things so as to create a clean, comfortable environment that is free from the risk of disease.

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