

Clean and Healthy Living Behavior (CHLB) Health Education to Prevent Pediculosis Capitis in Students

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ABSTRACT

Pediculosis capitis is a common parasitic infestation caused by *Pediculus humanus capitis*, often found among school-aged children and adolescents, particularly in communal environments such as Islamic boarding schools. The prevalence of this condition is closely linked to poor personal hygiene and inadequate implementation of clean and healthy living behavior (CHLB). This study aimed to determine the effectiveness of health education on CHLB in preventing pediculosis capitis among female students. The research used a quasi-experimental pre-test and post-test design involving 51 respondents selected through simple random sampling. Data were analyzed using the Wilcoxon Signed Rank Test. Results showed a significant improvement in CHLB ($p = 0.000 < 0.05$), with 53% of respondents demonstrating better hygiene behavior after health education. These findings indicate that health education effectively enhances knowledge and preventive behavior against pediculosis capitis. Continuous CHLB promotion is essential to reduce infestation rates in boarding schools.

Keywords: Clean and Healthy Living Behavior, Health Education, Islamic Boarding School, Pediculosis Capitis

BACKGROUND

Pediculosis capitis is a scalp disease caused by infestation with *Pediculus humanus capitis*, an ectoparasite that feeds on human blood. This condition can lead to itching, irritation, and secondary infections due to scratching. The infestation is commonly transmitted through direct head-to-head contact or indirectly via shared personal items such as combs, towels, and headscarves (Rosa et al. 2021).

The prevalence of pediculosis remains high in developing countries, particularly among children and adolescents in communal living environments such as boarding schools. Studies have shown that prevalence rates range from 16% to 80% globally (Burkhart et al. 2021). In Indonesia, around 15% of children are estimated to experience head lice infestation (Pramadena et al. 2021).

Santri (students) in Islamic boarding schools often live in close quarters, sharing bedding, towels, and grooming tools, which facilitates the rapid spread of infestation (Rosdiana et al. 2021). Furthermore, limited awareness and practice of CHLB contribute to the persistence of this problem. Clean and Healthy Living Behavior, as promoted by the Indonesian Ministry of Health, includes practices such as regular hair washing, proper hand hygiene, maintaining clean surroundings, and avoiding the sharing of personal items (Kemenkes RI 2021).

Previous studies suggest that health education interventions are effective in improving personal hygiene knowledge and reducing lice infestation rates (Ernyasih and Sari 2020; Alvi et al. 2023).

Therefore, this study aimed to evaluate the effect of CHLB education on improving preventive behavior toward pediculosis capitis among female students.

METHODS

This study utilized a quantitative quasi-experimental design with a one-group pre-test and post-test approach. This design was selected to measure changes in Clean and Healthy Living Behavior (CHLB) and preventive practices related to pediculosis capitis following the intervention. The absence of a control group was based on practical considerations within the boarding school environment, where all students were expected to receive the same educational benefits. Despite this limitation, the design allowed for a clear comparison of respondents' scores before and after the implementation of the intervention.

The study population consisted of all female students residing at Al-Huda Islamic Boarding School. From this population, a total of 51 respondents were selected using a simple random sampling technique. This sampling method ensured that each student had an equal probability of being selected, reducing selection bias and increasing the representativeness of the sample for the broader student population. Eligibility criteria included active enrollment at the boarding school and willingness to participate throughout the study duration.

The intervention was carried out through structured health education sessions focused on CHLB principles and the prevention of pediculosis capitis. These sessions were designed to be interactive and participatory, encouraging students to engage in discussions about personal hygiene and the risks associated with head lice infestation. Visual media tools such as posters, illustrated slides, and demonstrative videos were incorporated to improve comprehension and retention of key messages. Each session lasted approximately 45–60 minutes and was facilitated by trained health educators.

Data collection was conducted using a structured questionnaire administered both before and after the intervention. The questionnaire consisted of items measuring CHLB habits, personal hygiene routines, and specific preventive behaviors related to pediculosis capitis. Respondents completed the pre-test shortly before the educational session and the post-test approximately one week after the intervention. This time frame was intended to allow students the opportunity to apply and reflect on the knowledge gained from the sessions.

For data analysis, the Wilcoxon Signed Rank Test was employed to determine the significance of differences between pre-test and post-test scores. This nonparametric statistical method was chosen because the data were ordinal in nature and did not assume a normal distribution. The level of significance was set at $p < 0.05$, meaning that any p-value below this threshold was considered statistically meaningful. The statistical analysis was carried out using appropriate software to ensure accuracy and reliability of the results.

Ethical considerations were strictly followed throughout the research process. Ethical approval was obtained from the Ethics Committee of the Faculty of Nursing and Midwifery, IIK STRADA Indonesia. All participants were informed about the study objectives, procedures, and their rights, including voluntary participation and the confidentiality of their responses. Written informed consent was obtained from respondents, and additional approval from the boarding school administration was secured to ensure compliance with institutional policies.

RESULTS

The pre-intervention assessment revealed that more than half of the respondents exhibited only a moderate level of Clean and Healthy Living Behavior (CHLB). Specifically, 53% of participants fell within the moderate category, suggesting that many students had not yet fully adopted

consistent hygiene practices related to preventing pediculosis capitis. Similarly, preventive behaviors against head lice infestation were also moderate, with 57% of respondents showing only partial adherence to recommended practices.

Following the educational intervention, a notable improvement was observed in both CHLB and preventive behavior. Post-test data showed that 63% of respondents achieved a good level of CHLB, indicating a meaningful shift from moderate to more optimal hygiene practices. This change reflects the effectiveness of the intervention in increasing awareness and motivating healthier behavioral choices among the participants.

The results of the Wilcoxon test further supported these findings. The statistical analysis demonstrated a significant difference between pre-test and post-test scores ($p = 0.000$), confirming that the intervention had a measurable and positive effect. A p-value this low strongly suggests that the improvements did not occur by chance but were a direct result of the CHLB educational program.

Observational data also reinforced the quantitative results. After the intervention, students were more consistent in practicing proper daily hygiene behaviors. These included washing their hair at least three times per week, drying hair thoroughly after washing, avoiding the sharing of personal items such as combs and scarves, and ensuring that their bedding and sleeping areas remained clean and well-maintained.

Overall, the combination of statistical evidence and observational findings highlights the success of the CHLB intervention in promoting healthier behaviors related to pediculosis capitis prevention. The improvement in both knowledge and practice underscores the importance of continuous health education to sustain these positive outcomes and further reduce the risk of head lice infestation in school-age populations.

Table 1. Comparison of CHLB and Preventive Behavior Before and After Intervention

Category	Before Intervention	After Intervention
CHLB Level	53% Moderate	63% Good
Preventive Behavior Level	57% Moderate	Increased (Good)
Statistical Result (Wilcoxon Test)	$p = 0.000$ (Significant)	—
Hygiene Practices	Inconsistent	Improved and consistent

DISCUSSION

The findings of this study demonstrate that health education significantly improves CHLB and preventive behavior against pediculosis capitis. Similar results were found by Sudarsono and Miguna (2019), who reported that personal hygiene education effectively reduced lice infestation rates among students in boarding schools.

Health education encourages awareness, motivation, and behavioral change by transforming knowledge into practice (Notoatmodjo 2014). The improvement in CHLB observed in this study aligns with previous findings by Sulistyanningtyas et al. (2020), who highlighted that increased knowledge leads to better hygiene practices and reduced infestation rates.

Environmental factors also play a role; overcrowded dormitories and shared facilities contribute to rapid lice transmission (Hardiyanti et al. 2019). Therefore, CHLB education must be integrated into school-based health programs, with consistent reinforcement and supervision by school health units (UKS).

CONCLUSION

Health education on Clean and Healthy Living Behavior (CHLB) significantly enhances personal hygiene and preventive behavior against pediculosis capitis among boarding school students. Sustainable health promotion efforts should be implemented in all Islamic boarding schools to maintain a hygienic environment and reduce infestation rates.

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