



Evaluation of the Islamic Boarding School Health Post Program (Poskestren) Based on the CIPP (Context, Input, Process, Product) Theory: A Scoping Review

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Abstract

Background: Indonesia hosts 39,551 Islamic boarding schools (pesantren) with approximately 4.9 million students, many of which experience limited access to health services. The Islamic Boarding School Health Post (Poskestren) program was designed to strengthen promotive and preventive health services in pesantren, yet systematic evaluation of its implementation remains limited. **Objective:** This study analyzes the implementation of the Poskestren program in Indonesia using the Context, Input, Process, and Product (CIPP) evaluation model. **Methods:** A scoping review was conducted using Google Scholar with the keyword “implementation of pesantren health post (Poskestren).” Inclusion criteria comprised full-text, open-access articles published between 2020 and 2025 that explicitly evaluated Poskestren. Six relevant articles met the criteria and were synthesized. **Results:** The Poskestren program demonstrates strategic relevance and potential benefits for student health; however, multiple implementation gaps persist. CIPP-based analysis and comparison with the Minister of Health Regulation No. 1 of 2013 indicate that standards are not fully achieved. Major constraints include inadequate health facilities, limited medical equipment, insufficient training and competency of health cadres, weak supervision mechanisms, and low student participation in health activities. **Conclusion:** Poskestren is a vital school-based health initiative, but its effectiveness depends on improved resource allocation, structured cadre capacity building, stronger coordination, and comprehensive monitoring and evaluation systems to improve health outcomes among pesantren students.

Keywords: Implementation; Poskestren; CIPP; Health Program Evaluation; Islamic Boarding School.

Introduction

The United Nations has agreed upon the third Sustainable Development Goal (SDG): to ensure healthy lives and promote well-being for all at all ages¹. Achieving this goal requires maintaining and improving the health status of individuals, groups, and communities. The application of the SDGs is crucial for developing health promotion with the aim of enhancing societal well-being. A key pillar in improving public health quality is health

education and promotion across all sectors, including educational institutions². One unique educational institution in Indonesia is the Islamic boarding school, or *pesantren*. Pesantren are not merely religious education institutions but also serve as centers for character building and social life for their students, known as *santri*³. A defining feature of pesantren is the residential system where santri live in dormitories⁴.

Data from the Indonesian Ministry of Religious Affairs (2024) indicates there are

39,551 pesantren in Indonesia, with a total of 4.9 million santri⁵. Santri living in pesantren environments, especially in boarding schools, face a high risk of various communicable and non-communicable diseases due to environmental factors, sanitation, lifestyle patterns, and limited health facilities^{6,7}. The high density and shared living spaces can facilitate the rapid spread of infectious diseases, such as scabies, respiratory infections, and COVID-19⁸. Furthermore, limited access to clean water and inadequate sanitation infrastructure exacerbate these health risks, making pesantren a critical setting for public health intervention⁹.

The government, through the Ministry of Health in collaboration with the Ministry of Religious Affairs, initiated the Islamic Boarding School Health Post (Poskestren) program. This policy is an effort to realize the first strategy in health promotion: healthy public policy¹⁰. Healthy public policy can be achieved when there is a supportive environment. The primary objective of Poskestren is to comprehensively improve the health status of santri and the pesantren community through a community-based and sustainable health education approach¹¹. Poskestren functions as a basic health service managed by and for the pesantren community, with support from health workers from local public health centers (puskesmas)¹². The implementation of Poskestren is expected to foster awareness of the importance of clean and healthy living behaviors (PHBS), enhance early disease detection, and promote the formation of a responsive health service network tailored to the unique needs of pesantren¹³.

Despite its potential, the implementation of Poskestren across Indonesia is not uniform and faces numerous challenges. Previous studies have highlighted issues such as a lack of standardized facilities, insufficient training for health cadres (*kader*), and weak integration

with the formal health system^{14,15}. Many evaluations focus on a single case or specific aspects of the program, lacking a comprehensive framework to assess its overall effectiveness. This study addresses the gap by employing the CIPP (Context, Input, Process, Product) model, which offers a holistic approach to program evaluation¹⁶. The novelty of this research lies in its application of the CIPP model to systematically analyze the multifaceted dimensions of Poskestren implementation on a national scale through a scoping review, providing a broader understanding than single-site studies.

This study is guided by the main research question: How is the Poskestren program implemented in Indonesia when evaluated using the CIPP (Context, Input, Process, Product) model? The objectives are: 1) To analyze the contextual factors influencing Poskestren implementation; 2) To evaluate the input resources, including human resources, facilities, and funding; 3) To assess the process of program execution and management; and 4) To determine the products or outcomes of the Poskestren program in relation to its stated goals. By answering these questions, this research aims to provide a comprehensive map of the program's strengths and weaknesses.

The findings of this study have significant implications for academia, healthcare policy, and practice. For academia, it contributes a structured evaluation framework that can be adapted for other community-based health programs in unique settings. For policymakers, the results provide evidence-based recommendations for refining the Poskestren policy, improving resource allocation, and strengthening regulatory oversight. For public health practitioners and pesantren managers, this study offers practical insights for enhancing program management, cadre training, and student engagement, ultimately

leading to a healthier and more productive pesantren environment¹⁷.

Materials and Methods

Study Design

This research employed a scoping review design. The purpose of this design is to map the key concepts and types of evidence available on a specific topic, particularly when the topic is complex or has not been extensively reviewed¹⁸. This design was chosen because it is suitable for identifying and analyzing the nature, extent, and range of research on the implementation of the Poskestren program in Indonesia, without being limited by strict study design inclusion criteria as in a systematic review.

Sample

The population of this study was all publicly available literature discussing the implementation of the Poskestren program in Indonesia. The research sample was selected from the Google Scholar database using the main keyword "implementation of pesantren health post (POSKESTREN)". The inclusion criteria were: (1) full-text articles; (2) freely accessible; (3) published in the last five years (2020-2025); and (4) focused on the evaluation, analysis, or implementation of the Poskestren program. Exclusion criteria included articles not in English or Indonesian, conference abstracts without full text, and studies that did not directly address Poskestren implementation. The initial search yielded 12,900 articles, which were systematically screened down to 6 articles that met all criteria for the final review.

Data Collection Technique

Data was collected through a systematic literature search in the Google Scholar

database. The search process was documented to ensure transparency and replicability. The screening process involved three stages: (1) screening titles and abstracts based on the inclusion and exclusion criteria, which reduced the number of articles from 12,900 to 488; (2) reviewing the full texts of these 488 articles for relevance and clarity, which further narrowed the selection to 8 articles; and (3) a final full-text review of the 8 articles to confirm their suitability for the scoping review, resulting in the inclusion of 6 articles. The data extracted from each article included author, year, research purpose, methods, and key findings related to the CIPP components.

Data Analysis Technique

The collected data was analyzed using a thematic analysis approach aligned with the CIPP evaluation framework¹⁹. The findings from the 6 included articles were systematically categorized into the four CIPP components: Context, Input, Process, and Product. Within each component, recurring themes, patterns, and gaps were identified and synthesized. This qualitative synthesis allowed for a comprehensive understanding of the factors influencing Poskestren implementation across different contexts in Indonesia. The analysis was conducted manually by the research team to ensure accuracy and depth in interpreting the data.

Ethical Consideration

This scoping review synthesizes information from publicly available literature and does not involve direct human subjects. Therefore, it did not require formal ethical clearance from an Institutional Review Board (IRB) or Ethics Committee. However, the research was conducted by adhering to the principles of academic integrity, ensuring that all sources

were properly cited and that the analysis was objective and unbiased²⁰.

Results

Characteristics of Included Studies

The scoping review identified six articles that met the inclusion criteria. These studies

employed various methodologies, primarily qualitative descriptive and case study approaches, to evaluate the Poskestren program in different locations across Indonesia. The studies were published between 2021 and 2023, indicating recent academic interest in this topic. The characteristics of the included studies are summarized in Table 1

Table 1. Characteristics of Included Studies on Poskestren Implementation

No.	Author, Year	Study Design	Location	Focus of Evaluation
1	Hulaila et al., 2021 ¹⁵	Qualitative Descriptive	Semarang, Central Java	Program implementation, management functions
2	Achmad et al., 2022 ²¹	Qualitative Descriptive	Polman, West Sulawesi	Management of Poskestren
3	Mardiyah et al., 2023 ²²	Qualitative	Rembang, Central Java	Implementation of "Santri Husada" Program (Poskestren model)
4	Fadila, 2022 ²³	Qualitative	Jambi	Program implementation vs. regulations
5	Lesmana et al., 2023 ²⁴	Cross-sectional	Makassar, South Sulawesi	Role in dental health promotion
6	Lesmana et al., 2023 ²⁵	Qualitative Descriptive	Bantul, Yogyakarta	Management functions and achievement indicators

Source: Primary Data, 2025

Descriptive Analysis of Research Variables (CIPP Components)

The findings from the six articles were synthesized according to the CIPP model. In the Context component, studies consistently highlighted that pesantren are often located in areas with limited access to primary healthcare facilities, making Poskestren a crucial initiative^{5,23}. However, the implementation is heavily influenced by local policies, the support of the pesantren leader (*kiai*), and the socio-economic conditions of the surrounding community²¹.

For the Input component, the availability of resources was a major theme. While some pesantren, like Pesantren Al-Ikhlash, had established policies and sufficient equipment²¹, others, such as Pesantren Durrotu Aswaja, were still in the process of building dedicated health post buildings despite having adequate medical supplies¹⁵. A common finding across studies

was the shortage of trained health cadres and the lack of sustainable funding mechanisms, with many programs relying on inconsistent external donations^{22,24}.

The Process component revealed variations in program execution. Most pesantren conducted basic health promotion and preventive care activities. However, studies pointed to a significant weakness in program supervision and monitoring^{23,25}. There was often a lack of systematic documentation and infrequent collaboration with the local puskesmas, which is supposed to be the primary technical partner¹⁵. This weak supervision hindered the ability to track progress and make necessary adjustments.

Finally, the Product component showed mixed results. Some pesantren reported positive outcomes, such as improved student health awareness and an increase in student enrollment, branding the institution as a

"healthy pesantren"²². However, other studies found low student engagement with Poskestren services and minimal impact on specific health behaviors, such as oral hygiene, indicating that the program's potential was not fully realized²⁴.

The scoping review process is visualized in Figure 1, illustrating the systematic steps from identification to the final inclusion of the six studies.

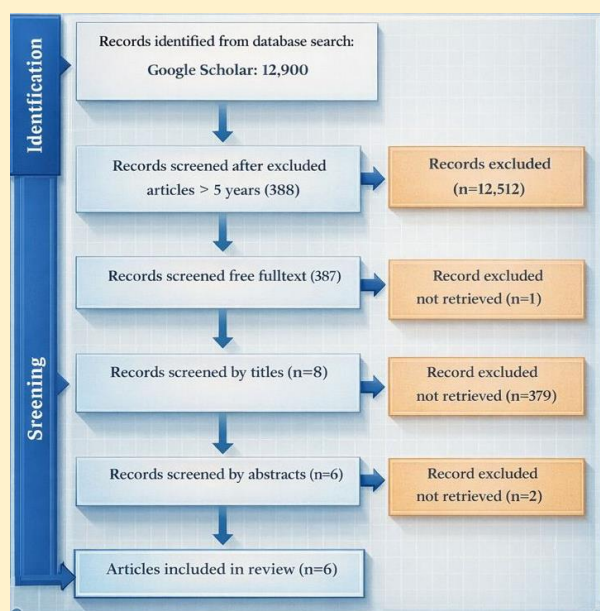


Figure 1. Scoping Review Process

The research results indicate that the implementation of the Poskestren program in Indonesia is still suboptimal. While the program has a strong conceptual foundation and the potential to significantly improve health outcomes in pesantren communities, its effectiveness is hampered by challenges in all four CIPP dimensions. Key issues include inadequate infrastructure (Input), weak program management and supervision (Process), and inconsistent health outcomes (Product), all within a challenging contextual environment (Context) that includes limited access to external health services.

Discussion

This scoping review reveals that the implementation of the Poskestren program in Indonesia, when evaluated through the CIPP framework, shows a significant gap between policy and practice. The findings indicate that while the program is conceptually sound and addresses a critical need, its operationalization faces persistent challenges. The results are consistent with the initial hypothesis that resource limitations and weak management structures are primary barriers to success. For instance, the finding that many pesantren lack dedicated health facilities¹⁵ directly impacts their ability to provide services, which is a core component of the "Product" dimension of the CIPP model. Similarly, the low student engagement reported in some studies²⁴ suggests a failure in the "Process" dimension, where health education and promotion activities may not be engaging or accessible enough.

The findings of this review align with previous research on community-based health programs in low- and middle-income countries, which often highlight the critical role of context and resources²⁶. For example, a study on school health programs in rural India found that infrastructure and teacher training were pivotal determinants of success, mirroring the "Input" challenges identified in Poskestren²⁷. However, our findings contrast with some evaluations of faith-based health initiatives in Africa, where strong community leadership and integration with religious structures have led to more successful outcomes²⁸. This difference may be attributed to the varying levels of institutional support and the degree of integration with the national health system. In Indonesia, the collaboration between the Ministry of Health and Ministry of Religious Affairs, while well-intentioned, appears to face challenges in decentralized implementation, a finding also noted in other multi-sectoral health initiatives²⁹.

The findings have significant implications for public health policy and practice. The

persistent challenges in the "Input" and "Process" dimensions suggest that current policies require refinement. Policymakers should focus on developing clearer, more enforceable standards for Poskestren facilities and cadre training, potentially linking funding to compliance with these standards. For public health practitioners, the results underscore the need for a more supportive and supervisory role for puskesmas. Establishing a structured partnership, including regular monitoring visits and technical assistance, could significantly strengthen the "Process" component^{30,31,32}. Furthermore, the low student engagement highlights the need for more innovative, youth-friendly health promotion strategies that leverage peer educators and digital technology to increase the "Product" or impact of the program.

The strength of this scoping review lies in its comprehensive use of the CIPP framework, which allowed for a structured and multi-dimensional analysis of the Poskestren program. By synthesizing findings from various locations and contexts, it provides a broader overview than single-case studies. However, the study has limitations. First, it relies solely on the Google Scholar database and may have missed relevant studies from other databases like Scopus, Web of Science, or PubMed. Second, the quality of the included studies was not formally appraised, and the reliance on qualitative and descriptive studies means the findings are not generalizable in a quantitative sense. Finally, the scoping review design does not allow for an in-depth exploration of the "why" behind the identified challenges, which would require a qualitative meta-synthesis.

Future research should address the limitations of this study. First, a systematic review with a quality appraisal of the evidence is needed to provide a more robust conclusion. Second, quantitative studies are recommended

to measure the impact of Poskestren on specific health indicators (e.g., vaccination rates, nutritional status, incidence of scabies) to provide stronger evidence for the "Product" dimension. Third, qualitative studies employing in-depth interviews and focus group discussions with various stakeholders (santri, kader, kiai, puskesmas staff) are crucial to uncover the nuanced barriers and facilitators to program success. Finally, longitudinal studies are recommended to track the development of Poskestren over time and evaluate the long-term impact of interventions aimed at strengthening the program.

Conclusion

The results of this study show that the implementation of the Poskestren program in Indonesia is still facing significant challenges across all CIPP dimensions: Context, Input, Process, and Product. While the program holds great promise for improving the health of millions of santri, its potential is undermined by inadequate facilities, insufficiently trained cadres, weak supervision, and low student engagement. These findings highlight the urgent need for a more supportive policy environment, sustainable resource allocation, and stronger collaboration between pesantren and the formal health system. Although this scoping review has limitations, particularly in its search strategy and lack of quality appraisal, its results provide a foundational basis for future, more focused research and for policymakers to design more effective strategies to ensure the success of the Poskestren program.

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Conflict of Interest Statement

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