Kesmas

Volume 20
Issue 5 *Special Issue 1, July*

Article 10

7-31-2025

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Recommended Citation

Umaroh A , Setiyadi NA , Werdani KE , et al. Determinants of School Health Unit Program Implementation in Junior High Schools of Boyolali District, Indonesia. *Kesmas*. 2025; 20(5): 83-90
DOI: 10.7454/kesmas.v20isp1.2125
Available at: https://scholarhub.ui.ac.id/kesmas/vol20/iss5/10

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Umaroh *et al. Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)*. 2025; 20 (Special Issue 1): 83-90
DOI: 10.7454/kesmas.v20isp1.2125

Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)

Determinants of School Health Unit Program Implementation in Junior High Schools of Boyolali District, Indonesia

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Abstract

Adolescent health problems such as stunting, attempted suicide, and tobacco use in Indonesia require attention. To address these challenges, the School Health Unit Program, a school-based health initiative, aims to improve student health and academic achievement. This study examined the relationship between human resources, teachers' knowledge, facilities and infrastructure, financial resources, and the planning process for implementing the School Health Unit Program in junior high schools in Boyolali District, Indonesia. A cross-sectional design was utilized, involving 50 junior high school teachers responsible for the School Health Unit as respondents, with data collected through structured questionnaires. Multivariate logistic regression analysis revealed that financial resources (p-value = 0.001; Exp(B) = 12.93; CI = 2.878–58.060) and teachers' knowledge (p-value = 0.028; Exp(B) = 6.67; CI = 1.230–36.117) were related to School Health Unit implementation. Schools with poor financial resources were over 12 times more likely, and teachers with a poor level of knowledge were approximately 6 times more likely, to implement the School Health Unit Program suboptimally. It is recommended that teachers participate in training programs, effective financial planning, and resource management to improve their capacity to manage the program more effectively.

Keywords: health budgeting, school health unit program, teachers' knowledge

Introduction

Indonesian students face a myriad of health challenges.[1] Junior high school students aged about 13-15 years were severely stunted (7.2%), stunted (18.5%), underweight (6.8%), and obese (4.8%).[2] Malnutrition can cause organ function to be disrupted,[3] while obesity in children can trigger non-communicable diseases in adulthood.[4] Another challenge based on the results of the Global School Health Survey (GSHS) is that the percentage of attempted suicide increased from 5.54% in 2015[5] to 10.7% in 2023[6] among junior high school students.

Health is fundamental to education; therefore, poor health can have detrimental effects on students' school and academic achievement. Schools offer students opportunities to acquire knowledge in various fields of education and maintain good health throughout their lives.[7] Schools are also increasingly seen as important places not only to promote long-term educational attainment but also to support the health and well-being of students.[8]

Schools are a strategic place to provide education and health initiatives to students.[9] Indonesia has a program called the School Health Unit that became a health initiative in schools. The three core components of the School Health Unit Program are health education, health services, and fostering a healthy school environment. These are supplemented by the School Health Unit management.[10] Several studies have shown that School Health Unit activities can improve the health level of students,[11] and play a role in delivering reproductive health information[12,13] and obesity control.[14] Healthy school models can improve student health and well-being as well as academic achievement.[15] Unfortunately, the evaluation and monitoring of the implementation of this program are still weak.[16] The evaluation conducted to assess this program is called *Sistem Stratifikasi UKS*, and evaluates how the three core components of the School Health Unit Program and their management are implemented periodically.[17]

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Received : September 23, 2024
Accepted : May 8, 2025
Published: July 31, 2025

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Variations in the implementation of the School Health Unit across different regions in Indonesia highlight disparities in quality and effectiveness. For instance, a study in a junior high school in Banyuwangi District, Indonesia, reported an overall implementation score is 54%, categorized as sufficient, with health services scoring particularly low at 38.6%.[18] In contrast, schools in Bandar Lampung City, Indonesia, demonstrated relatively better School Health Unit management, though further coaching was needed to enhance program effectiveness.[19]

The implementation of the School Health Unit in Indonesia faces several significant obstacles that hinder its effectiveness, including inadequate infrastructure, insufficient training, and insufficient financial support. For example, areas such as libraries and bathrooms often fail to meet health standards, which affects overall school hygiene.[20] Additionally, teachers and school administrators frequently lack sufficient knowledge of School Health Unit management, and training programs for the personnel are often inadequate, resulting in poor preparedness for emergency health situations.[21] Financial constraints also play a major role, limiting schools' ability to enhance the facilities and services.[22] A previous study has highlighted the impact of well-structured policies and planning on the overall effectiveness of this program, underscoring the importance of strategic planning in enhancing children's health outcomes through schools.[23]

A preliminary survey conducted by the authors at nine junior high schools in Boyolali District, Indonesia, found that 6 out of 9 teachers were unfamiliar with the evaluation of this program and had never participated in the training. Given that *Sistem Stratifikasi UKS* serves as a key measurement tool for evaluating the program's implementation, this lack of awareness suggests that many schools do not fully understand the extent to which they have implemented the program. Initial findings also revealed that only 2 out of 9 schools actively managed the School Health Unit by empowering students as health cadres. Some schools also reported that their budget planning was inadequate, although they expressed support for the program’s sustainability. Although the data was not part of a formal, large-scale study, it serves as an early indication of the current challenges in implementing this program. Additionally, the information from the Boyolali District Health Office indicated that the implementation of this program is still not optimal.

Although the School Health Unit program has been implemented in Boyolali District as a part of the school initiative, there remains a lack of quantitative research examining the factors influencing its implementation. This study aimed to address this gap by analyzing the relationship between human resources, teachers’ knowledge, facilities and infrastructure, financial resources, and the planning process as determinants in the implementation of the School Health Unit in junior high schools of Boyolali District, Indonesia.

Method

This study employed a quantitative cross-sectional study design, where independent and dependent variables were measured simultaneously at a single point in time. Quantitative research analyzed independent variables (human resources, teachers’ knowledge, facilities and infrastructure, financial resources, and program planning) concerning the dependent variable (implementation of the School Health Unit program). This study was conducted in Boyolali District, Indonesia, from December 2023 to February 2024.

The target population consisted of 100 junior high school teachers, because they represented a critical intervention period for adolescent health, aligned with the School Health Unit Program priorities, and allowed for a more feasible and focused study. The sample population consisted of those responsible for the School Health Unit. The minimum sample size was calculated using the Sample Size 2.0 software from the World Health Organization (WHO), with a 95% confidence level, a 10% margin of error, and a proportion of 0.5. Based on these calculations, the minimum sample size obtained for this study was 50. Simple random sampling was used. This study did not require ethical approval beforehand, as it was observational and did not involve direct interventions or risks to participants. However, the study adhered to ethical principles by obtaining informed consent from the respondents, maintaining anonymity, and obtaining permission from the Boyolali District Education Office and the Faculty of Public Health, Universitas Muhammadiyah Surakarta.

The questionnaire used to measure independent variables includes items such as human resources, teachers’ knowledge, facilities and infrastructure, financial resources, and program planning. Human resources were evaluated based on the presence of teachers, active health cadres, and the involvement of parents in implementing the School Health Unit Program. Human resources scores greater than 3 were categorized as "good" (coded as 1), and lower scores were categorized as "not enough" (coded as 2). Teachers' knowledge was measured based on their understanding of the main aspects of the program (health education, health services, and fostering a healthy school environment). Teachers’

knowledge scores greater than 5 were categorized as "good" (coded as 1), and lower scores were categorized as "not enough" (coded as 2). Facilities and infrastructure were assessed using indicators such as a dedicated School Health Unit room, first aid medical equipment, administrative documents, sinks, separate beds for male and female students, and health education materials. Facilities and infrastructure scores greater than 5 were categorized as "good" (coded as 1), and lower scores were categorized as "not enough" (coded as 2). Financial resources refer to operational budgeting, including sources of funds from the school and outside sources, adequacy, and whether budgets meet the needs. Financial resources scores greater than 3 were categorized as "good" (coded as 1), and lower scores were categorized as "not enough" (coded as 2). Program planning refers to the processes and steps taken by schools to compile, organize, and implement School Health Unit activities. Program planning scores greater than 3 were categorized as "good" (coded as 1), and lower scores were categorized as "not enough" (coded as 2).

The implementation of the School Health Unit Program was measured based on the *Sistem Stratifikasi UKS* measurement provided by the Indonesian Ministry of Health, including the implementation of health education, health services, fostering a healthy school environment, and School Health Unit management. The questionnaire used to measure the dependent variable (School Health Unit implementation) includes items such as the existence and use of School Health Unit rooms, the availability of medical equipment, administrative documents, health counseling programs, and student involvement as health cadres. Respondents were asked a series of yes/no questions. For each variable, the individual item scores were summed to create an overall score for that variable. A higher sum of scores indicated a higher level of knowledge, better financial resources, or a better planning process. The implementation of the School Health Unit Program consisted of health education scores greater than 7.5, health service scores greater than 4.5, environmental health scores greater than 12.5, and health management scores greater than 8 were categorized as "good" (coded as 1), and lower scores were categorized as "not enough" (coded as 2). The results of good implementation are evident in the success of carrying out all the main components of this program.

The validity test refers to the correlation table value of 0.361, with 47 valid questions out of the 57 questions posed. Four questions were found to be invalid and were subsequently removed. In contrast, six invalid questions were retained after rewording, as they were deemed relevant and important to ask. The reliability coefficient was 0.900 (>0.6), indicating that the questionnaire is reliable. Data analysis used a multivariate logistic regression test with a 95% confidence interval, and the data analysis tool used was IBM SPSS Statistics Version 30.0 (full version trial).

Results

Table 1 presents the demographic characteristics of the respondents, including age, working period, and managing the School Health Unit period. Most respondents were teachers from public junior high schools in Boyolali District, Indonesia, with an average age of 33 years. The respondents had less than seven years of work experience and less than three years of experience in managing the School Health Unit. Most respondents had relatively recent tenure, both at the school and in managing the School Health Unit. This indicated a significant potential for capacity development or more targeted training opportunities.

Table 1. Respondents' Characteristics

Numeric Characteristic	Min-Max	Mean ± SD
Age	22–59 years	33.64 ± 10.79
Characteristic Category	**N**	**%**
Working period	12	24.0
≥7 years	38	76.0
<7 years		
Managing the School Health Unit period	12	24.0
≥ 3 years	38	76.0
< 3 years		
Type of school		
Public	29	58.0
Private	21	42.0

Table 2. Distribution of Independent and Dependent Variables

Variable	n	%
Human resources		
There is an assignment letter for the teacher responsible for SHU	45	90.0
The teacher responsible for SHU receives an allowance	6	12.0
The teacher responsible for SHU receives a reward	2	4.0
The teacher responsible for SHU receives the same academic workload as other teachers	41	82.0
Teachers' knowledge		
Have read SHU guidelines	18	36.0
Know three core components of SHU	20	40.0
Know health education	43	86.0
Know health services	49	98.0
Know the development of a healthy environment	33	66.0
Facilities and infrastructure		
Dedicated SHU room	43	86.0
First aid medical equipment	50	100.0
Administrative documents	32	64.0
Sinks	17	34.0
Separate beds for male and female students	38	76.0
Health education media	28	56.0
Financial resources		
Operational budgeting of SHU	44	88.0
Funding sources of SHU from school	38	76.0
Funding sources of SHU from outside	14	28.0
Budget adequate for SHU program	24	48.0
Funding sources can facilitate the development of the UKS program	23	46.0
Program planning		
Create an activity plan	34	68.0
The teacher in charge receives SHU training	30	60.0
Cadres receive SHU training	25	50.0
Getting assistance from the Primary Health Care	50	100.0
Getting assistance from universities	12	24.0
Getting assistance from other institutions	12	24.0
The implementation of SHU		
Health education	33	66.0
Health service	41	82.0
Environmental development	34	68.0
SHU management	32	64.0

Notes: SHU = school health unit

The analysis indicated that the implementation of the School Health Unit was well-established, particularly in terms of facilities such as the availability of rooms (86%) and first aid equipment, as well as support from the primary health care (100%). However, several aspects required further attention. Most respondents had official assignments and basic knowledge of health services; however, their understanding of School Health Unit guidelines requires improvement, as only 36% of teachers have read the guidelines. Operational funding, although available in most schools, was perceived as insufficient by nearly half of the respondents. Furthermore, the low level of collaboration with universities and other institutions presented an opportunity to strengthen the program.

Table 3. Bivariate Analysis Among Independent Variables and Dependent Variables

Variable	The Implementation of the School Health Unit						p-value
	Good		Not enough		Total		
	n	%	n	%	n	%	
Human resources							
Good	19	51.4	18	48.6	37	100.0	0.633
Not enough	5	38.5	8	61.5	13	100.0	
Teachers' knowledge							
Good	21	61.8	13	38.2	34	100.0	0.011*
Not enough	3	18.8	13	81.2	16	100.0	
Facilities and infrastructure							
Good	9	75.0	3	25.0	12	100.0	0.069
Not enough	15	39.5	23	60.5	38	100.0	
Financial resources							
Good	17	81.0	4	19.0	21	100.0	<0.001*
Not enough	7	24.1	22	75.9	29	100.0	
Program planning							
Good	14	66.7	7	33.3	21	100.0	0.050*
Not enough	10	34.5	19	65.5	29	100.0	

The results of the bivariate analysis indicated that several independent variables had a statistically significant relationship with the implementation of the School Health Unit. Teachers' knowledge, financial resources, and program planning have been shown to significantly contribute to effective implementation. Teachers with a high level of knowledge support the effectiveness of this program's implementation (61.8%), in contrast to teachers with less knowledge (18.8%). Schools with good financial resources relate to good School Health Unit implementation (81.0%), in contrast to those with insufficient financial support (24.1%). Thorough planning also increases the likelihood of good implementation of this program. Schools that have good planning implement this program well (66.7%) in contrast to those with insufficient planning (34.5%). Although human resources, as well as facilities and infrastructure, were considered important, neither of these variables showed a significant relationship in this analysis.

Table 4. The Last Model of Multivariate Logistic Regression

Variable	Sig.	Exp(B)	CI (95%)
Financial resources	0.001	12.927	2.878 – 58.060
Teachers' knowledge	0.028	6.665	1.230 – 36.117

Reference Category: First (Good)

The results of the multivariate analysis showed that financial resources and teachers' knowledge were related to the implementation of the School Health Unit. The financial resources variable had the greatest influence, with an Exp(B) value of 12.927, indicating that schools with poor financial resources are over 12 times more likely to have suboptimal implementation of the School Health Unit compared to schools with good financial resources. The teachers' knowledge was also a significant determinant, with an Exp(B) value of 6.665, indicating that teachers with a poor level of knowledge were approximately six times more likely to experience suboptimal implementation than schools with good teacher knowledge. These findings emphasized the importance of investing in both aspects to strengthen the implementation of the School Health Unit in schools.

Discussion

This study revealed that the variable most related to the implementation of the School Health Unit in junior high schools in Boyolali District, Indonesia, was financial resources. Schools with poor financial resources had a 12.9 times greater chance of having suboptimal implementation of the program. This study aligns with a previous study, which states that the availability of financial resources is crucial for the successful implementation of the School Health Unit. Financial resources allow school management to address both clinical and administrative requirements.[24] A study conducted in elementary schools in Jepara City, Indonesia, found that financial resources play a significant role in the implementation of the School Health Unit. Schools receive funds from the government through the School Operational Assistance Fund,[25] supplemented by contributions from parent committees, which are used for basic program activities such as initial medical treatment. However, the funds are often insufficient, especially in suburban schools, where additional community support is necessary.[26]

A comprehensive approach to the School Health Unit Program is also described in the Whole School, Whole Community, Whole Child (WSCC) framework.[27] This framework emphasizes the importance of synergy between financial policies, school leadership, and community partnerships in creating a school environment that supports both health and learning.[27] Thus, adequate financial support not only enhances the availability of resources but also fosters essential cross-sector collaboration that is critical to the success of school health programs.[28] Prioritizing the budget based on needs can help allocate resources more efficiently. Schools with limited financial resources must maximize the available funds to achieve the greatest health impact for their students.[29] In the context of school health programs, urgent needs can be based on the current health issues in the school and what actions the school can take to address those health problems. Utilizing technology is another way to achieve budget efficiency. Despite limited funding, technology can lead to optimal health outcomes. For example, the eLearning initiative demonstrates that an online health education program not only expands the reach of knowledge to parents and students in public schools but also results in cost efficiency, as it is considered more practical and economical for the community.[30]

This study also highlighted that teachers' knowledge is related to the implementation of the School Health Unit. Schools with poor teachers' knowledge had a 6.6 times greater chance of having suboptimal implementation of this program. A previous study also found that a higher level of knowledge among teachers correlates with enhanced quality and responsiveness of school health services.[31] Similarly, another study emphasizes that teachers' understanding of school health policies is instrumental in implementing these programs and influences the overall efficacy of health

services provided in schools.[32] Teachers play a crucial role in the success of school health program implementation by providing information, and by assessing and guiding students in health practices.[33] A study in India illustrated that when teachers possess robust awareness regarding topics such as oral health, they can better relay critical preventive measures to students, thereby aligning with national policies that call for comprehensive teacher training in health promotion.[34] Teachers who understand the concepts of healthy lifestyles and relevant health issues can integrate this knowledge into the learning process, providing students with practical guidance on adopting healthy habits.[35]

A study conducted among public elementary school teachers indicated that teachers with more than one qualification (particularly those with two qualifications) were found to have significantly better knowledge of school health programs compared to those with fewer qualifications. Teachers aged 40 years and above demonstrated a significantly better understanding of school health programs compared to their younger counterparts, possibly due to their greater life and work experience.[36] Also, teachers who are motivated to learn and implement health programs will be more successful in integrating health topics into daily learning activities.[37] To enhance school health program implementation, it is recommended that training programs focusing on teachers' roles in promoting health within the school community should be provided by the government and other stakeholders.[38] For example, the “Choose Health by Avoiding Tobacco” (CHAT) program, as implemented by Kankane *et al.*, effectively educated teachers about the dangers of tobacco use and encouraged them to adopt a tobacco-free lifestyle. The program included interactive training sessions, motivational talks, and the promotion of tobacco-free school policies. It significantly improved teachers' knowledge of tobacco control and motivated them to adopt a tobacco-free lifestyle.[39]

An earlier study found that teachers who received online training, or a combination of online and in-person training, demonstrated higher implementation fidelity, conducting more sessions and core activities than those with no training. Higher implementation fidelity was associated with improved student outcomes, including reproductive health skills, self-efficacy, and intention. Teacher training and coordinator monitoring were identified as key strategies for supporting school-based interventions, even during public health emergencies and natural disasters.[40] Schools with less effective programs might face policy-related obstacles, such as unclear guidelines or insufficient enforcement mechanisms, which could hinder program implementation. Regional cultural attitudes towards health promotion and education also play a significant role, with communities that prioritize health more likely to develop and sustain successful health programs.

Furthermore, there may be unexamined factors, such as the leadership styles of school administrators or the level of parental involvement, that could influence the outcomes of this program. These aspects offer interesting avenues for further investigation, and the authors suggested that future studies explore these potential variables to provide a more comprehensive understanding of the factors influencing program effectiveness. This study provided valuable insights into the determinants of implementing the School Health Unit, but several limitations should be noted. The cross-sectional design, with a limited ability to establish causal relationships between variables, as data were collected concurrently, makes it impossible to trace the temporal sequence of events. The limited sample size may affect the generalizability of the findings to a broader population. To minimize bias and ensure the sample accurately reflects the broader population, this study employed simple random sampling. This technique provided every individual with an equal chance of selection, minimizing selection bias and preventing researcher preferences from influencing the sample, thereby enhancing objectivity and fairness. Future studies should consider increasing the sample size to enhance statistical power and provide more reliable and generalizable results. Adopting advanced sampling techniques, such as stratified random sampling, could help ensure greater representativeness across different school types and contexts. In addition, reliance on self-reported data could introduce response bias and compromise the accuracy of the results, as it depends solely on the respondents' recollection. To address this issue, the questionnaire provided specific instructions to focus on events within the past 12 months, thereby offering a clear timeframe to facilitate respondents' memory recall.

Conclusion

Schools with insufficient financial resources and inadequate teacher knowledge contribute to the suboptimal implementation of the School Health Unit Program. Financial constraints often hinder schools from optimizing their health initiatives. Improving teachers’ understanding of the School Health Unit Program guidelines is essential to ensure the program is executed as intended. Training and capacity-building efforts must be consistently provided to

teachers responsible for health-related activities in schools. Effective planning and budgeting should be institutionalized at the school level to support sustainable implementation. Schools should also establish partnerships with local health centers, universities, and other relevant institutions to enhance resources and technical support. Stakeholder collaboration plays a vital role in strengthening school-based health interventions. Future policy development should emphasize structured monitoring, clear evaluation tools, and dedicated budget lines for the School Health Unit. Overall, a comprehensive approach involving financial, human, and institutional support is essential for improving the health environment in schools.

Abbreviations

Not applicable.

Ethics Approval and Consent to Participate

This study did not obtain ethical approval beforehand because it was observational and did not involve direct interventions or risks to participants. However, the study has adhered to ethical principles by obtaining informed consent from the respondents, maintaining anonymity, and obtaining permission from the Education Office of Boyolali Regency and the Faculty of Public Health at UMS.

Competing Interests

There are no conflicts of interest.

Availability of Data and Materials

There is no supplementary material.

Authors' Contribution

AKU, NAS, KEW, and TAIK contributed to the design and implementation of the research. AKU conducted the data analysis, supervised by NAS and PSN. AKU, NAS, KEW, TAIK, and PSN were involved in manuscript preparation, content, and administration. All the authors discussed the results and contributed to the final manuscript.

Acknowledgment

This research work is funded by the Institute of Research and Innovation (Lembaga Riset dan Inovasi), Universitas Muhammadiyah Surakarta.

References

1. United Nation Children's Fund. Indonesia Adolescent Health Profile 2024. Jakarta: United Nation Children's Fund; 2024.
2. Kementerian Kesehatan Republik Indonesia. Laporan Riset Kesehatan Dasar 2018. Jakarta: Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan (LPB); 2019.
3. Morales F, Paz SM, Leon MJ, et al. Effects of malnutrition on the immune system and infection and the role of nutritional strategies regarding improvements in children's health status: A literature review. Nutrients. 2023; 16 (1): 1. DOI: 10.3390/nu16010001.
4. Balasundaram P, Krishna S. Obesity effects on child health (archived). StatPerls [Internet]; 2023.
5. World Health Organization. Global School-based Student Health Survey Indonesia 2015 fact sheet. Indonesia: World Health Organization; 2015.
6. World Health Organization. Global School-based Student Health Survey Indonesia 2023 fact sheet. Indonesia: World Health Organization; 2023.
7. Jourdan D, Gray NJ, Barry, MM, et al. Supporting every school to become a foundation for healthy lives. Lancet Child Adolesc Health. 2021; 5 (4): 295–303. DOI: 10.1016/S2352-4642(20)30316-3.
8. Frazier T, Fosco SLD. Nurturing positive mental health and wellbeing in educational settings - the PRICES model. Front Public Health. 2024; 11: 1287532. DOI: 10.3389/fpubh.2023.1287532.
9. Cenedesi RTF, Malta AdMM, Guimarães PA, et al. Health education in the school environment: Interdisciplinary practices, constitutional guarantees, and full development of the individual. Revista Observatorio De La Economia Latinoamericana. 2024; 22 (2): 1–25. DOI: 0.55905/oelv22n2-086.
10. Kementerian Pendidikan dan Kebudayaan Republik Indonesia. Buku Pedoman Pembinaan dan Pengembangan UKS. Jakarta: Direktorat Jenderal Pendidikan Dasar dan Menengah; 2019.
11. Vilian MT, Minsih. Budaya sekolah dalam mewujudkan sekolah sehat nasional di SD Muhammadiyah 1 Ketelan Surakarta. J Pendidik Dasar. 2021; 2 (1): 152–161. DOI: 10.51494/jpdf.v2i1.419.
12. Sari EP, Utami RD. Applying sexual education to elementary school children in the digital native era. J Pendidik Guru Sekol Dasar. 2023; 10 (2): 223–240. DOI: 10.30997/dt.v10i2.9779.
13. Widananda C, Arifah I. The effect of premarital sex prevention education modifying the Cublak-Cublak Suweng Game on knowledge and attitudes. J Kesehat. 2024; 17 (1): 70–79. DOI: 10.23917/jk.v17i1.2933.
14. Fridayanti DV, Prameswari GN. Peran UKS (Usaha Kesehatan Sekolah) dalam upaya penanggulangan obesitas pada anak usia sekolah. J Health Education. 2016; 1 (2): 8–14.
15. Langford R, Bonell C, Jones H, et al. The World Health Organization's health promoting schools framework: A cochrane systematic review and meta-analysis. BMC Public Health. 2015; 12 (15): 130. DOI: 10.1186/s12889-015-1360-y.
16. World Health Organization. Making every school a health-promoting school: Country case studies. World Health Organization and the United Nations Educational, Scientific and Cultural Organization; 2021.

17. Kementerian Kesehatan RI. Petunjuk Teknis Pembinaan Penerapan Sekolah/Madrasah Sehat. Jakarta: Kementerian Kesehatan RI; 2021
18. Putri FA, Rahayu IP, Febriawan W, et al. Penilaian pelaksanaan Trias UKS di SMP Negeri 1 Giri Banyuwangi berdasarkan Pedoman Pelaksanaan UKS. J Kesmas Untika Luwuk: Public Health J. 2018; 9 (2): 18–26. DOI : 10.51888/phj.v9i2.10.
19. Novariana N, Hermawan NSA. Analisis pengelolaan Trias Usaha Kesehatan Sekolah (UKS) di tingkat SMP Se-Kota Bandar Lampung (studi kualitatif). J Kesehat. 2018; 9 (1). DOI: 10.26630/jk.v9i1.720.
20. Putra SIM, Fitri IZ, Alfiyani D, et al. Peran UKS dalam meningkatkan kesehatan lingkungan sekolah di SDN Cipondoh 06 Kota Tangerang. J Penelit Guru Indonesia. 2024; 4 (5): 3615–3625. DOI: 10.58578/tsaqofah.v4i5.3395.
21. Salam LON, Abdullah R, Kasim E, et al. Pentingnya pengetahuan pengelolaan dan fungsi manajamen UKS untuk kondisi darurat siswa di SMA Bawakaraeng. Aspirasi: Publ Has Pengabdi Kegiat Masy. 2023; 1 (4): 48–53. DOI: 10.61132/aspirasi.v1i4.400.
22. Schiff M, Jha A, Walker, et al. Collectively achieving primary health care and educational goals through school-based platforms: financing solutions for intersectoral collaboration. Front Public Health. 2023; 11. DOI: 10.3389/fpubh.2023.1241594.
23. Sulistyowati M, Soedirham O. Analysing the Healthy Public Policy's impact on the school health program: Usaha Kesehatan Sekolah (UKS). Proc Annu Meet Indonesian Health Econ Association (INAHEA 2017). 2017; 5–9. DOI: 10.5220/0007022500050009.
24. Medeiros ERd, Holanda LMdSLd, Pinto ESG, et al. Structure of services and material health resources associated with the School Health Program. Rev Bras Enferm. 2020; 73 (6): e20190073. DOI: 10.1590/0034-7167-2019-0073.
25. Halimah L, Muslihin HY, Asphar FQ, et al. Efektivitas penyaluran dana Bantuan Operasional Sekolah (BOS) di SD. Manaj Pendidik. 2023; 18 (1): 11–25. DOI: 10.23917/jmp.v18i1.21711.
26. Lathifah U, Woro O, Handayani K, et al. Analysis of program implementation health business school (UKS) in Primary and Sub-Urban Urban in The District Jepara. Public Health Perspec J. 2019; 4 (3): 188–95.
27. Rasberry CN, Slade S, Lohrmann DK, et al. Lessons learned from the whole child and coordinated school health approaches. J Sch Health. 2015; 85 (11): 759–765. DOI: 10.1111/josh.12307.
28. Hunt P, Barrios L, Telljohann SK, et al. A whole school approach: Collaborative development of school health policies, processes, and practices. J Sch Health. 2015; 85 (11): 802–809. DOI: 10.1111/josh.12305.
29. Bagepally BS, Kumar SS, Sasidharan A. Is State-Wise Healthcare Budget Allocation Consistent With the Disease Burden in India? A Quinquennial Account (2015-2019). Front Public Health. 2022; 10. DOI: 10.3389/fpubh.2022.893257.
30. Gulzar S, Saeed S, Kirmani ST, et al. Enhancing the knowledge of parents on child health using eLearning in a government school in the semi-rural community of Karachi, Pakistan. Plos Glob Public Health. 2022; 2 (6): e0000500. DOI: 10.1371/journal.pgph.0000500.
31. Ranga A, Majra JP. Status of knowledge regarding school health services among school teachers: A cross sectional study from a northern Indian state. Int J Community Med Public Health. 2021; 8 (1): 359–365. DOI: 10.18203/2394-6040.ijcmph20205722.
32. Opoku JA, Brenyah JK, Mohammed A, et al. Assessment of school health policy in Ghana; Perspective of teachers in second cycle institutions in the Kwadaso Municipal Area, Kumasi. Int J Educational Dev Africa. 2023; 8 (1): 24. DOI: 10.25159/2312-3540/13890.
33. Lisu ES, Takaeb AEL, Ndun HJN. Study on Implementation of School Health Program (UKS). J Health Behavioral Sci. 2022; 4 (3): 379–394. DOI: 10.35508/jhbs.v4i3.5312.
34. John JR, Raghavelu R, Selvakumar R, et al. Oral health awareness among school teachers in Thiruvallur District of Tamilnadu. J Oral Health Community Dentistry. 2016; 10(1):26-29. DOI:10.5005/johcd-10-1-26.
35. Cheng NYI, Wong MYE. Knowledge and attitude of school teachers towards promoting healthy lifestyle to students. Health. 2015; 7(1): 119–126. DOI: 10.4236/health.2015.71014,
36. Adebayo AM, Onadeko MO. Knowledge of school health programme among public primary school teachers in Oyo State, South-West Nigeria: A Rural-Urban comparative study. Afr J Reprod Health. 2015; 19 (3): 55–60.
37. Husseini MN, Zwas DR, Donchin M. Teacher training and engagement in health promotion mediates health behavior outcomes. Int J Environ Res Public Health. 2022;19 (5): 3128. DOI: 10.3390/ijerph19053128.
38. Bosede AO, Obembe TA, Adebayo AM. Knowledge of school teachers and the associating factors in the effective delivery of the school health programme in Nigeria. Pan Afr Med J. 2022; 43 (4). DOI: 10.11604/pamj.2022.43.4.30838.
39. Kankane N, Gupta VK, Mishra G, Singh SK, Malhotra S. Effectiveness of teacher's training program for tobacco control in schools of Lucknow: A quasi-experimental study. Natl J Maxillofac Surg. 2024;15 (3):505–512. DOI: 10.4103/njms.njms_117_23.
40. Deveaux L, Schieber E, Cottrell L, et al. Implementing a school-based HIV prevention program during public health emergencies: Lessons learned in The Bahamas. Implement Sci. 2022; 17 (68). DOI: 10.1186/s13012-022-01240-5.