Volume 10, Issue 7, July– 2025 International Journal of Innovative Science and Research Technology
ISSN No: -2456-2165 https://doi.org/10.38124/ijisrt/25jul1503

E-PHBS Website Innovation as an Effort to Improve the Quality and Governance of Clean and Healthy Living Behavior in the Junior High School Environment

Muh. Taufiq Seftiadi[1]; Dr. Supriyana[2]; Dr. Ednah Aryati Eko Ningtyas[3]

[1;2;3]Ministry of Health Polytechnic Health Semarang Jl. Tirto Agung, Pedalangan, Banyumanik, Semarang

Publication Date: 2025/08/02

Abstract: This study addresses the enhancement of quality and governance within the Clean and Healthy Living Behavior (PHBS) program. Program quality is evaluated based on observable changes in students' health-related behaviors, while governance encompasses structured planning, execution, supervision, and evaluation. Traditional manual processes often hinder effectiveness due to inefficient monitoring, limited information access, fragmented data, dependence on conventional methods, and challenges in evaluating program outcomes. Objective: This research aims to develop an effective and practical E-PHBS innovation to enhance both the quality and governance of PHBS implementation in junior high schools.

➢ ***Method:***

The study employed a Research and Development (R&D) approach, consisting of five stages: needs assessment, design, expert validation, first-stage feasibility testing, and second-stage feasibility testing. A one-group pretest-posttest design was used, involving purposive sampling. Participants underwent a 10-day intervention. Results: Validation findings confirmed the "E-PHBS" model as a viable approach for dental health education (p = 0.002). It significantly improved students' toothbrushing skills (p = 0.000), as reflected by an increase in the average score from 63.15 (pretest) to 70.65 (posttest). The second feasibility test demonstrated that the model could be independently applied by teachers, healthcare professionals, and students (p = 0.000). Conclusion: The "E-PHBS" model proves to be both effective and feasible, contributing to improved quality and governance of PHBS programs in junior high school setting.

Keywords: *E-PHBS, Quality and Governance, Junior High School.*

How to Cite: Muh. Taufiq Seftiadi; Dr. Supriyana; Dr. Ednah Aryati Eko Ningtyas (2025), E-PHBS Website Innovation as an Effort to Improve the Quality and Governance of Clean and Healthy Living Behavior in the Junior High School Environment. *International Journal of Innovative Science and Research Technology*, 10(7), 2723-2727. https://doi.org/10.38124/ijisrt/25jul1503

I. INTRODUCTION

Health development serves as a crucial component in building a progressive and self-reliant nation that is both physically and mentally well. Its core purpose is to enhance the level of public health by fostering individual awareness, motivation, and capacity to adopt healthy lifestyles, ultimately aiming to achieve the highest possible standard of public well-being. To achieve this goal, the government organizes various health efforts and approaches to health maintenance, health improvement (promotive), disease prevention (preventive), healing (curative), and health recovery (rehabilitative). Implemented in a comprehensive, integrated, and sustainable manner (1) Based on the 2018 Riskesdas data, the prevalence of diarrheal disease in primary school-aged children who do not practice clean and healthy living behavior reached 14.2%. This figure decreased compared to 2013, where the prevalence reached 16.5%. This decrease is attributed to the increased implementation of PHBS programs, especially through education in the school environment3. The lack of implementation of PHBS among students can increase the risk of infectious diseases such as diarrhea, ARI and helminthiasis (2)

A conducive and healthy school environment plays a vital role in supporting the success of educational objectives. To realize these objectives, it is essential to promote and disseminate three key programs—health education, health services, and the creation of a healthy school setting—so that all stakeholders in schools and madrasahs are well-informed and motivated to actively support initiatives such as PHBS (3) Clean and Healthy Living Behavior (PHBS) refers to a collection of conscious actions developed through educational experiences, enabling individuals, families, groups, or

ISSN No: -2456-2165 https://doi.org/10.38124/ijisrt/25jul1503

communities to take independent initiative in maintaining and improving their health. PHBS contributes significantly to the achievement of public health goals, as it encompasses a wide range of daily behaviors that support the attainment of optimal health standards (4)

The background of focusing on the quality and governance of the (PHBS) program in schools arises from the importance of creating an educational environment that supports student health. The implementation of PHBS requires a structured approach to ensure healthy behaviors become sustainable habits in schools. The main factors in PHBS governance include planning, implementation, evaluation, and collaboration between the school, family, and community.

The quality of the PHBS website program in schools can be measured from several aspects such as content quality, interactivity, accessibility and impact measurement through daily monitoring analysis in the form of behavior charts with categories (5). In addition, the sustainability of the program quality can be strengthened through systematic evaluation, such as needs analysis and involvement of all relevant parties, including parents and communities (6) Governance in the context of the program (PHBS) refers to the systems and processes used to manage and direct the program in order to achieve the desired goals. This includes decision making, planning, implementation, monitoring, and evaluation of activities related to PHBS, without clear governance several problems will arise such as lack of coordination without a clear organizational structure, various parties (teachers, students, health workers) may not be able to collaborate effectively in running the program, ineffective evaluation without a good monitoring and evaluation mechanism, it is difficult to know whether the program is successful or not.

This can result in wasted resources and inability to make future improvements, low user engagement, and poorly managed websites may not be attractive to users, reducing student and teacher participation in PHBS activities (7). A social determinants of health (SDOH) based approach is also needed to understand external factors such as access to health information, sanitation infrastructure, and environmental support (8)

II. RESEARCH METHODS AND SAMPLE

This research uses the Research and Development (R&D) method of the ADDIE model. The ADDIE model was developed by Dick and Carry in 1996 to develop learning systems. There are 5 main steps in the procedure of Research and Devolopment (R&D) ADDIE model, namely: 1) Needs identification, 2) Design, 3) Expert validation, 4) Feasibility test 1, and 5) Feasibility test 2/ End user. The samples in this study were teachers of SMP Negeri 21 Semarang and health workers of SRONDOL health center.

III. RESULTS

➢ *Expert Validation*

Expert validity amounted to 3 people, namely teachers (Education Office junior high school supervisors), (health promotion experts), (IT experts).

- *Validity Test*

Tabel 1 Expert Validation

Validator	n	F (%)	Average (%)	*p* *
V1	21	85%	94,05%	0,031
V2		98%		
V3		98%		

The assessment results from expert validators; the average feasibility value is 94.05% with a very feasible category. The results of expert validity showed that the p value <0.05, which means that the "E-PHBS" model is feasible as an effort to improve the quality and governance of the PHBS program at SMP Negeri 21 Semarang.

➢ *Univariat Analysis*

Univariate analysis in this study was conducted on 20 research subjects consisting of 15 teachers and 5 health workers who work at SMPN 21 Semarang and SRONDOL

- *PUSKESMAS. The Description of the Respondents is Presented in the Following Table:*

Table 2 Frequency Distribution of Teacher Respondent Characteristics

NO	VARIABEL	SMPN 21 Semarang	
		N	(%)
1	Wali kelas	3	20
2	Guru mata pelajaran	11	73,33
3	Penanggung jawab UKS	1	6,67

Table 2 shows the frequency distribution data of the characteristics of teacher respondents with the position of homeroom teacher as many as 3 people, 11 subject teachers, and the person in charge of UKS 1 person.

ISSN No: -2456-2165 https://doi.org/10.38124/ijisrt/25jul1503

Table 3 Frequency Distribution of Respondent Characteristics of Health Workers

NO	VARIABEL	SMPN 21 semarang	
		N	(%)
1	Promkes	2	40
2	kesling	2	40
3	Penanggung jawab UKS	1	20

Based on the table 3 above, the frequency distribution data of the characteristics of respondents of health workers with the position of promkes as many as 2 people, kesling 2, and the person in charge of UKS 1 person.

➢ *Normality Test*

Table 4 Normality Test

Variabel	*p-value*	
	(T0)	(T1)
Mutu dan tata kelola	0,015	0,000

Based on table 4, the results of the normality test for the quality and governance variables of teachers and health workers p-value <0.05 means that it is not normally distributed so that the effectiveness test is analyzed using non-parametric tests.

➢ *Bivariat Analisys*

Table 5 "E-PHBS" Effectiveness Test on Quality and Governance"

Variabel	Mean ± SD (T0)	Mean ± SD (T1)	Delta (Δ) ± SD	*P-Value*
Quality and Governance	63,15±6,098	70,65±1,785	7,5 ± 6.07	0,000

Table 5 shows that the results of the effectiveness test of quality and governance paired data with a p-value of 0.000 (p <0.05), meaning that the "E-PHBS" model is effective in improving the quality and governance of the PHBS program. There was an increase in quality and governance before and after treatment, where before treatment the average value of 63.15 which was included in the "GOOD" category increased to 70.65 which was included in the "VERY GOOD" category. The difference between the initial data (T0) and the final data (T1) of quality and governance amounted to 7.5

➢ *Feasibility Test 2 End User Use of Model*

Table 6 Feasibility Test Results 2 Independent use by Teachers and Health Workers

SUBJEK	N	F (%)	Average	ICC	*P-VALUE*
Teacher 1	20	100	85%	0,951	0,000
Teacher 2		82			
Teacher 3		94			
Teacher 4		88			
Teacher 5		88			
Teacher 6		76			
Teacher 7		76			
Teacher 8		76			
Teacher 9		76			
Teacher 10		88			
Teacher 11		88			
Teacher 12		88			
Teacher 13		94			
Teacher 14		76			
Teacher 15		88			
Health Workers 1		76			
Health Workers 2		88			
Health Workers 3		94			
Health Workers 4		88			
Health Workers 5		76			

Based on the assessment results from 15 teachers and 5 health workers, the average feasibility score was 85%. The feasibility test results show that the p-value = 0.000 which means that the model is declared feasible to be used independently by teachers and health workers as endusers. This is in accordance with the results of observations made

ISSN No: -2456-2165 https://doi.org/10.38124/ijisrt/25jul1503

objectively during the application of the "E-PHBS" model. Based on the results of the average measure of the interclass corelation Coefisient test, the result is 0.951 with the excellent Reability category.

IV. DISCUSSION

➢ *Validity Test*

Through this assessment, the validator will provide comments and suggestions to improve the development of the model so that it is suitable for field trials. Feasibility is proven through statistical calculations with the Interclass Correlation Coefisient test which shows the results of the assessment that the average feasibility value is 94.05% with a very feasible category. The results of expert validation show that the p value <0.05, which means that the "E-PHBS" model is feasible as an effort to improve the quality and governance of the PHBS program.

➢ *Effectiveness of the "E-PHBS" Model in Improving Quality and Governance*

The effectiveness test on quality and governance using paired data analysis yielded a p-value of 0.000 ($p < 0.05$), indicating that the "E-PHBS" model significantly enhances the quality and governance of PHBS implementation. There was a notable improvement observed, with the mean score rising from 63.15 prior to intervention—categorized as "GOOD"—to 70.65 after intervention, which falls into the "VERY GOOD" category. This reflects a positive difference of 7.5 points between the pretest (T0) and posttest (T1) scores related to quality and governance.

Improved quality and governance in the PHBS program is due to the implementation of "E-PHBS" which is a website-based digitization system for recording, monitoring, and reporting clean and healthy living behaviors. By implementing digitalization in the current era, there are several advantages, among others: improved accessibility and reach of information, more systematic monitoring and evaluation, encouraging multi-stakeholder involvement, flexibility and comprehensibility, efficiency of time, cost, and resources.

➢ *Feasibility of the "E-PHBS" Model for Independent Use by Teachers and Health Workers*

After the implementation of the "E-PHBS" Model for a period of 10 days, a feasibility test of the model was conducted to be used independently by teachers, health workers and students as endusers. The assessment is seen from the level of difficulty in implementing the "E-PHBS" Model based on the preparation aspect, implementation aspect, and evaluation aspect.

Based on evaluations involving 15 teachers and 5 health professionals, the E-PHBS model obtained an average feasibility rating of 72%. Statistical analysis from the feasibility test showed a p-value of 0.000, indicating that the model is considered appropriate for independent use by educators and health personnel. This finding aligns with objective observational data collected during the model's implementation. Furthermore, the Interclass Correlation Coefficient (ICC) analysis produced a value of 0.951, which falls into the category of excellent reliability

Teachers function as educators, facilitators, and role models in instilling PHBS values to students. They not only deliver the material, but also provide real examples in daily behavior. Research by Praditya and N (2017) emphasized that teachers have an important role in health education in schools through the School Health Effort (UKS) program (9), Health workers, such as UKS officers or nurses, play a role in providing health services, education, and monitoring students' health conditions. They work closely with the school to ensure a healthy environment and provide medical intervention if needed (10)

Collaboration between teachers, health workers, and students is essential for the successful implementation of PHBS programs in schools. Each party has a specific role that supports each other in creating a healthy school environment and supporting students' optimal development. Teachers and health workers are first educated on how to use the "E-PHBS" model so that teachers and health workers can implement the "E-PHBS" program independently.

V. CONCLUSION

The "E-PHBS" model is effective and feasible for implementation as a model in an effort to improve the quality and governance of the PHBS program in junior high schools.

➢ *This is Evidenced by the Following Research Results:*

- The E-PHBS model is feasible in supporting the implementation of Clean and Healthy Living Behavior (PHBS) at the Junior High School (SMP) level. The existence of this digital system provides a solution to challenges in the implementation of PHBS, such as limited supervision time by teachers and low frequency of evaluation by health workers. By facilitating self-recording, monitoring, and active involvement of students, E-PHBS is able to improve the consistency of PHBS program implementation in schools.

- The implementation of the E-PHBS model has proven to be effective in enhancing both the quality and governance of PHBS program execution, as indicated by the Wilcoxon test results showing a p-value of 0.000. This signifies that the model contributes significantly to program improvement. Through this system, the monitoring and evaluation processes become more structured, data-driven, and continuous. Moreover, the model fosters active collaboration among school communities—including teachers, students, and health personnel—in building a culture rooted in clean and healthy living practices.

- The E-PHBS model is effective and feasible to be used independently by teachers, health workers, and students. Based on the results of the feasibility test assessment, the p-value is 0.000, which means that the model is declared feasible for independent use by health workers, teachers, and students as endusers. Because of its simple interface,

ISSN No: -2456-2165 https://doi.org/10.38124/ijisrt/25jul1503

good accessibility, and features that support efficient reporting and monitoring. Thus, the E-PHBS model is an innovative approach that is not only relevant but also able to strengthen the implementation of PHBS in the school environment as a whole.

REFERENCES

[1]. Depkes, RI., 2009, Sistem Kesehatan Nasional (SKN), Depkes RI, Jakarta

[2]. Irianty, H., Hayati, R., & Riza, Y. (2018). Hubungan Perilaku Hidup Bersih dan Sehat (PHBS) dengan Kejadian Diare pada Balita. Promotif: Jurnal Kesehatan Masyarakat, 8(1). https://DOI.org/10.56338/pjkm.v8i1.224

[3]. Candrawati, E., & Widiani, E. 2015. Pelaksanaan Program UKS dengan Perilaku Hidup Bersih dan Sehat (PHBS) Murid Sekolah Dasar di Kecamatan Kedung Kandang Kota Malang. Care: Jurnal Ilmiah Ilmu Kesehatan, 3(1), 15–23, DOI: 10.33366/jc.v3i1.299

[4]. KEMENKES RI, 2011. ”pedoman pembinaan perilaku hidup bersih dan sehat (PHBS)”

[5]. Aini, N. 2024. Gambaran Perilaku Hidup Bersih Dan Sehat Tatanan Sekolah Di Indonesia : LITERATURE REVIEW jurnal kesehatan tambusai, Volume 5, Nomor 2, Juni 2024, 2774-5848, DOI https://DOI.org/10.31004/jkt.v5i2.29169

[6]. Healthy People 2030, U.S. Department of Health and Human Services. Social Determinants of Health. Link. DOI DOI: 10.1097/PHH.0000000000001297

[7]. Kementerian Kesehatan Republik Indonesia. (2011). Manajemen Program Perilaku Hidup Bersih dan Sehat (PHBS). Jurnal Kesehatan Masyarakat.

[8]. Islahuddin, Tolla, I., & Mansyur (2016). A Holistic Model of Partnership in Education. International Journal of Environmental and Science Education, 11(13), 5915-5924. https://eric.ed.gov/?id=EJ1115524&utm_source

[9]. Praditya, D. K., & N, J. D. H. (2017). Survei Pelaksanaan Usaha Kesehatan Sekolah (UKS) dan Peran Guru PJOK dalam Pendidikan Kesehatan di SMP Negeri Se Kecamatan Gempol Kabupaten Pasuruan. Jurnal Pendidikan Olahraga dan Kesehatan, 5(2), 224–231. DOI: 10.31004/obsesi.v1i1.26

[10]. Johnson, S. L., Wang, X., & Xiong, K. (2023). Community Health Workers' Perspectives on Integrating into School Settings to Support Student Health. Frontiers in Public Health, 11, 10320159. DOI: 10.3389/fpubh.2023.1187855