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Effectiveness of a Health Belief Model–Based "Smart Social Media" Module in Reducing Social Media Addiction Among Indonesian Adolescents: A Quasi-Experimental Study

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Abstract

Background: Adolescent social media addiction has become a growing public health concern in Indonesia, particularly in semi-urban areas, and is linked to negative mental health and academic outcomes. Previous intervention studies often lacked rigorous control designs and contextual relevance, limiting their generalizability.
Objective: This study evaluated the effectiveness of a structured Health Belief Model (HBM)–based "Smart Social Media" module in reducing social media addiction and improving knowledge among Indonesian adolescents.
Methods: A quasi-experimental non-equivalent control group design was conducted among 70 senior high school students in Sukoharjo, Indonesia. Participants were assigned to an intervention group (n = 35) or control group (n = 35). The intervention consisted of a single 45-minute session including an educational presentation, interactive HBM-based discussion with a Kahoot quiz, and completion of a social media diary worksheet. Social media addiction and knowledge were measured using a validated 20-item questionnaire (Cronbach's $\alpha = 0.927$). Data were analyzed using Wilcoxon signed-rank and Mann–Whitney U tests ($\alpha < 0.05$).
Results: The intervention group showed a significant increase in knowledge (median change +16.0, $p < 0.001$) and a significant reduction in social media addiction scores (median change −4.0, $p < 0.001$), with large effect sizes. The control group showed minimal changes. Between-group post-test differences were statistically significant for both outcomes.
Conclusion: The HBM-based "Smart Social Media" module was effective in reducing social media addiction and improving knowledge among adolescents. Larger multi-site and longitudinal studies are recommended to assess sustained behavioral effects.

Keywords: Adolescents; Health education; Social media addiction; School-based intervention; Quasi-experimental design

INTRODUCTION

Social media addiction is a behavioral disorder characterized by excessive and uncontrolled use of social networking platforms, leading individuals to engage continuously despite negative consequences. Social media enables users to interact, build virtual relationships, and express themselves; however, excessive use has increasingly been associated with mental health

problems, particularly among adolescents (1). Numerous studies have reported that problematic social media use contributes to anxiety, depression, behavioral disturbances, and impaired academic performance during adolescence, a developmental stage marked by emotional vulnerability and identity formation (2).

The rapid development of internet technology has significantly increased social media use, especially among Generation Z, who were born and raised in the digital era (3). In Indonesia, internet users reached 73.7% of the total population, equivalent to approximately 196.71 million people during the 2019–2020 period (4). For many adolescents, social media activity is closely linked to social status, self-image, and peer acceptance, where being active online is often perceived as a marker of being "cool" or socially relevant, while inactivity may lead to social exclusion (5). Although social media may offer benefits such as stress reduction and emotional expression (6), excessive engagement can disrupt daily functioning, increase dependence, and contribute to psychological imbalance (7).

Excessive social media use among adolescents has been associated with reduced physical activity, social withdrawal, and increased emotional distress (8). Internet and social media addiction have been shown to elevate anxiety levels, trigger depressive symptoms, impair interpersonal relationships, and reduce both physical and mental health outcomes (2). Psychological factors such as loneliness, low self-esteem, social comparison, performance pressure, and exposure to cyberbullying further exacerbate adolescents' vulnerability to problematic social media use (9). In addition, the phenomenon of *fear of missing out* (FoMO)—defined as anxiety arising from the perceived need to remain constantly connected to online activities—has been identified as a key driver of compulsive social media behavior among adolescents (10,11).

Recent large-scale studies further confirm that problematic social media use among adolescents is closely associated with impaired self-regulation capacity and increased psychological distress. Longitudinal evidence indicates that adolescents with lower self-control and higher emotional dysregulation are significantly more likely to develop compulsive social media behaviors over time, which in turn exacerbate anxiety and depressive symptoms (12,13). In addition, school-related stress and peer-driven online norms have been identified as contextual factors that intensify adolescents' reliance on social media as a coping mechanism, particularly in collectivist cultures where peer acceptance plays a central role in identity development. These findings highlight the importance of preventive, school-based interventions that strengthen cognitive awareness, emotional regulation, and behavioral self-control in adolescents.

Despite growing evidence on the negative psychosocial impacts of social media addiction, previous studies have notable methodological limitations. Many lack control groups and pre-intervention measurements, resulting in limited internal validity and weak causal inference (14). In addition, studies conducted in single regions with small sample sizes and reliance on self-report measures reduce generalizability and accuracy in assessing actual social media use patterns (1). These limitations highlight the need for more rigorous, controlled, and context-specific interventions targeting adolescent social media addiction.

Health education has been identified as a promising strategy for improving adolescents' knowledge and preventing addictive behaviors. Previous research demonstrated that structured health education interventions significantly increased adolescents' knowledge levels, with mean scores improving from 76.59 to 95.68 following educational seminars (15). However, evidence remains limited regarding the effectiveness of theory-based, school-delivered health education interventions that incorporate control groups and address problematic social media use in semi-urban Indonesian settings. To address these research gaps, the present study implemented a school-based mental health promotion program using a structured *Smart Social Media* module grounded in the Health Belief Model (HBM). The intervention was designed to reduce problematic social media use and improve adolescents' knowledge by targeting cognitive appraisal, perceived susceptibility, perceived severity, and self-regulation related to social media behavior. By employing a quasi-experimental pretest–posttest control group design with validated instruments, baseline homogeneity testing, and effect size reporting, this study provides novel evidence on the effectiveness of nurse-led, theory-driven digital wellbeing interventions for preventing

social media addiction among Indonesian adolescents in semi-urban school settings.

METHODS

Study Design

This study employed a quasi-experimental pretest–posttest design with a non-equivalent control group. Two intact classes with comparable academic performance were selected and assigned as the intervention group (Class XI-A) and the control group (Class XI-B) using non-random allocation. This design was chosen to maintain instructional continuity and feasibility within the school setting.

Population and Sample

This study employed a quasi-experimental pretest–posttest design with a non-equivalent control group. Two intact second-year classes were selected purposively based on academic comparability and school scheduling feasibility. One class was assigned as the intervention group and the other as the control group using non-random allocation. Within each selected class, eligible students were randomly selected according to predefined inclusion criteria. This approach ensured feasibility in the school setting while maintaining internal consistency with a quasi-experimental design.

Intervention

The intervention was a structured health education program titled *"Smart Social Media"*, based on the Health Belief Model (HBM), delivered in a single 45-minute classroom session. The program consisted of three components: (1) a didactic session (15 minutes) addressing six dimensions of social media addiction according to Young (1998); (2) an interactive discussion and Kahoot-based quiz (20 minutes) focusing on perceived risk, FoMO, and cyberbullying using local contextual data; and (3) a practical activity (10 minutes) involving a take-home *"My Social Media Diary"* worksheet to support self-monitoring and goal setting. The intervention was delivered by trained nursing students under supervision.

Instruments

In this study, the term "knowledge" refers to adolescents' cognitive understanding and beliefs related to social media addiction rather than factual knowledge alone. This construct was assessed using the General Addiction Beliefs Scale–Short Form (GABS-SF), which captures cognitive perceptions regarding addiction, personal control, and behavioral consequences. The use of this instrument aligns with the theoretical framework of the Health Belief Model, which emphasizes cognitive appraisal and belief-based determinants of behavior change.

Data Collection Procedure

Participant recruitment was conducted by random selection of eligible students within previously selected intact classes. The classes themselves were chosen using purposive sampling based on academic feasibility and school scheduling constraints, while group allocation followed non-random assignment, consistent with the quasi-experimental design. Prior to data collection, the researcher explained the study objectives and procedures, and informed consent was obtained from all participants. Data were collected at two measurement points (pre-test and post-test) over a 7-day interval, during which participants completed the social media addiction questionnaires under supervised conditions.

Data Analysis

The types of analysis in this study included univariate and bivariate analysis. Univariate analysis was used to present the frequency distribution, mean, and data distribution on the variables of knowledge and social media addiction in both the treatment and control groups. Furthermore, bivariate analysis was performed to see the difference in pre-test and post-test scores in the group using the Wilcoxon test and the difference between groups using the Mann-Whitney U test, because the data were not normally distributed based on the Shapiro-Wilk test. All tests used a significance level of 95% ($\alpha < 0.05$), with results considered statistically significant if the p-value was < 0.05. Statistical analysis was performed using computer analysis.

Ethical Consideration

Study was approved by the health research ethics committee (No. 5687/B.1/KEPK-FKUMS/V/2025). Informed consent was obtained from all participants aged 15-19 years, with minors under 18 years requiring both parental/guardian written consent and adolescent assent, while those 18 years and older provided independent consent. The researchers explained the objectives, benefits, and potential disadvantages during the research process, after which all respondents voluntarily signed consent

forms. Data confidentiality was maintained through anonymized coding and secure storage with no personal identifiers, and school administration approval was secured prior to data collection.

RESULTS

The results of this study present respondent characteristics, baseline homogeneity testing, data normality testing, and within- and between-group statistical comparisons. Table 1. shows that most respondents were 16 years old (72.9%) and female (57.1%). Homogeneity testing indicated no significant difference between the intervention and control groups for gender (p = 0.053). Because several cells had expected counts <5, the Likelihood Ratio test was applied for age, yielding p = 0.102, indicating comparable age distributions between groups. Levene's test showed homogeneous pre-test variances for knowledge (p = 0.399) and social media addiction (p = 0.638).

Before conducting the hypothesis test, a data normality test was first performed using the Shapiro-Wilk test to determine the data distribution. Normality testing using the Shapiro–Wilk test (Table 2) indicated non-normal distributions for several variables, particularly post-test knowledge (p = 0.017) and post-test social media addiction (p = 0.007) in the intervention group. Therefore, non-parametric statistical tests were used for subsequent analyses.

The frequency distribution of knowledge and social media addiction levels before and after the intervention is presented in Table 3. In the intervention group, the proportion of respondents categorized as having insufficient knowledge decreased from 82.9% at pre-test to 11.4% at post-test, while the proportion categorized as sufficient increased to 88.6%. In the control group, most respondents remained in the insufficient knowledge category at both measurement points. Regarding social media addiction, the intervention group showed changes in category distribution between pre-test and post-test, whereas the control group showed an increased proportion of respondents classified as having moderate addiction.

Table 4 presents the results of the Wilcoxon signed-rank test. In the intervention group, statistically significant differences were observed between pre-test and post-test scores for both knowledge and social media addiction. In the control group, a statistically significant change was observed in knowledge scores, whereas no significant difference was found for social media addiction scores.

Between-group comparisons using the Mann–Whitney U test (Table 5) showed statistically significant differences in post-test scores between the intervention and control groups for knowledge (p = 0.001) and social media addiction (p = 0.004).

Table 1. Frequency distribution of respondent characteristics and homogeneity test

Characteristics	Category	Treatment group n (%)	Control group n (%)	Total n (%)	*P value*
Gender	Male	19 (54.3%)	11 (31.4%)	30 (42.9%)	0.053
	Female	16 (45.7%)	24 (68.6%)	40 (57.1%)	
Age	15 years	2 (5.7%)	8 (22.9%)	10 (14.3%)	0.102
	16	29 (82.9%)	22 (62.9%)	51 (72.9%)	
	17 years	4 (11.4%)	4 (11.4%)	8 (11.4%)	
	19 years		1 (2.9%)	1 (1.4%)	

Table 2. Normality test for both groups

Group		*P-value* (knowledge)	*P-value* (social media addiction)
Intervention	Pre-test	0.105	0.602
	Post-test	0.017	0.007
Control	Pre-test	0.352	0.841
	Post-test	0.089	0.367

Table 3. Frequency distribution of knowledge and social media addiction *pre-test* and *post-test* intervention in both groups

Variable	Group	Category	Pre-test		Post-test	
			Total	%	Total	%
Knowledge	**Intervention**	Insufficient				
		Sufficient	29	82.9	4	11.4
		Good	6	17.1	31	88.6
		Very good				
	Control	Insufficient				
		Sufficient	35	100.0	33	94.3
		Good			2	5.7
		Very good				
Social Media Addiction	**Intervemtion**	Mild	9	25.7	14	40.0
		Moderate	24	68.6	21	60.0
		Severe	2	5.7		
	Control	Mild	14	40.0	8	22.9
		Moderate	21	60.0	27	77.1
		Severe				

Table 4. Wilcoxon test results

Variable	Group	Median pre	Median post	Negative Ranks (n)	Positive Ranks (n)	Ties (n)	Z	*p-value*	r
Knowledge	Intervention	54.0	70.0	1	35	0	-5.105	<0,001	0,81
	Control	40.0	36.0	28	3	4	-4.500	<0,001	0,71
Social media addiction	Intervention	52.0	53.0	0	20	15	-3.944	<0,001	0,79
	Control	39.0	40.0	14	17	4	-1.178	0,239	0,19

Table 5. Results of the Mann-Whitney U test

Variable	Group		N	Mean Rank	*P value*
Knowledge	Intervention	Post-test	35	68.34	0.001
	Control		35	53.77	
Social media addiction	Intervention	Post-test	35	32.77	0.004
	Control		35	39.71	

DISCUSSION

The main findings of this study indicate that adolescents who received the Smart Social Media module showed higher knowledge scores and lower levels of problematic social media use (PSMU) compared with those in the control group. These differences were supported by significant within-group changes in the intervention group and significant between-group differences at post-test, with moderate to large effect sizes. Rather than merely reflecting statistical significance, these effect sizes suggest that the intervention was associated with meaningful behavioral and cognitive changes. This pattern is particularly relevant in the context of the high global prevalence of problematic social media use among adolescents reported in systematic reviews (16). Taken together, the findings indicate that structured, nurse-led health education is associated with improved digital health outcomes in school settings (15), (17).

When compared with previous studies, the results of this research are consistent with

evidence from digital wellbeing education, media literacy interventions, and self-regulation–based programs. A meta-analysis of digital wellbeing education interventions reported moderate to large pooled effects in improving healthy digital behaviors and reducing problematic technology use (18). Similarly, Health Belief Model–based educational interventions have been shown to significantly reduce smartphone addiction among adolescents, particularly within quasi-experimental designs (19). Interventions that emphasize self-regulation skills also demonstrate comparable outcomes; Ahn and Shin (20) reported significant reductions in problematic smartphone use among adolescents receiving structured self-regulation training, while control groups exhibited weaker or no improvements. In addition, a meta-analysis of school-based media literacy programs confirmed their effectiveness in reducing maladaptive media-related outcomes, including excessive engagement and fear of missing out (FoMO) (21). Collectively, these findings reinforce the effectiveness of educational approaches that integrate digital wellbeing, media literacy, and self-regulation components in addressing PSMU among adolescents (22,23).

From a broader contextual perspective, school-based interventions provide a strategic platform for influencing adolescents' digital behaviors, as they operate within adolescents' daily social environments. Previous studies have demonstrated that structured health education delivered in classroom settings can strengthen self-regulation skills and reduce problematic social media use (24). In this context, fear of missing out (FoMO) represents a key psychological driver that links social comparison, emotional distress, and excessive engagement with social media (25). By explicitly addressing FoMO, emotional awareness, and peer norms, the intervention aligns with evidence showing that preventive education is most effective when it targets both cognitive and social determinants of behavior (26).

The effectiveness of the intervention can be explained through several behavioral and cognitive mechanisms. Through the application of the Health Belief Model, the module enhanced adolescents' perceived severity of problematic social media use and encouraged critical cognitive appraisal of associated risks. Peer-based discussions contributed to the strengthening of subjective norms, while reflective activities improved self-efficacy in regulating screen time. The inclusion of self-monitoring and goal-setting activities supported the development of self-control strategies, which are central to self-regulation theory (20). Addressing FoMO enabled adolescents to recognize emotional triggers linked to excessive social media engagement and withdrawal symptoms, a mechanism that has also been emphasized in media literacy research (21). These processes align with mental health nursing approaches that focus on cognitive restructuring, emotional awareness, self-regulation, and time management as essential components of sustainable behavior change (1).

It is also important to acknowledge that changes in adolescents' social media behavior are influenced not only by individual-level education but also by external contextual factors. Family supervision, parental modeling of digital behavior, peer norms, and unrestricted access to smartphones may moderate the effectiveness of school-based interventions. Previous studies suggest that adolescents who receive consistent guidance at home and supportive peer environments are more likely to sustain healthy digital behaviors (27). Therefore, the observed effects should be interpreted within a broader ecological framework, in which school-based education serves as an important but not exclusive protective factor.

From a nursing and school health perspective, these findings have important practical implications. The **Smart Social Media** module demonstrates strong feasibility as a school-based intervention due to its brief duration, low cost, and interactive format, making it suitable for integration into school health services (*Unit Kesehatan Sekolah*). Considering the widespread prevalence of problematic social media use among adolescents globally (16), early preventive education delivered by nurses has the potential to mitigate longer-term mental health risks. Nurse-led health education may be incorporated into routine counseling activities and universal school health services as a preventive mental health strategy. Furthermore, collaboration among nurses, school counselors, teachers, and parents—such as through digital parenting education—may enhance adolescents' capacity to manage social media use across both school and home environments (24).

Several limitations should be considered when interpreting the results of this study. The quasi-

experimental design with non-random group allocation may introduce selection bias. Conducting the study in a single school limits the generalizability of the findings to broader adolescent populations. In addition, the short follow-up period restricts the assessment of long-term intervention effects. Reliance on self-report instruments may also introduce reporting bias, particularly in relation to digital behaviors, where objective screen-time measures would provide greater accuracy. The potential for contamination between classes cannot be entirely excluded, as has been noted in similar non-equivalent control group studies (14,26).

Future research should address these limitations by employing cluster randomized controlled trial designs across multiple schools, with larger sample sizes and longer follow-up periods to evaluate the sustainability of intervention effects. The integration of objective screen-time tracking applications is recommended to complement self-report measures, as suggested in previous digital wellbeing research (18). Additionally, mixed-methods approaches incorporating qualitative process evaluations, such as focus group discussions with students and teachers—would provide deeper insight into intervention mechanisms and contextual factors influencing effectiveness, thereby strengthening the evidence base for nursing-led interventions in adolescent digital mental health.

Clinical Implications

The findings of this study have important implications for nursing practice and school health services. The Health Belief Model–based Smart Social Media module demonstrates strong feasibility as a brief, low-cost, and interactive school-based intervention that can be delivered by nurses or nursing students. Integration of this module into routine school health programs (Unit Kesehatan Sekolah) may support early prevention of problematic social media use and related mental health problems among adolescents. The results support the role of mental health nurses in promoting digital wellbeing, enhancing adolescents' self-regulation skills, and addressing psychosocial risk factors such as fear of missing out (FoMO) through structured health education.

Study Limitations

Several limitations should be acknowledged. First, the quasi-experimental design with non-random group allocation limits causal inference and may introduce selection bias. Second, the study was conducted in a single senior high school, which restricts the generalizability of the findings to broader adolescent populations. Third, the short follow-up period does not allow evaluation of long-term sustainability of behavioral change. Fourth, reliance on self-report questionnaires may be subject to recall and social desirability bias, and objective measures of screen time were not included. Finally, potential contamination between intervention and control groups cannot be fully excluded. These limitations should be considered when interpreting the study findings.

CONCLUSION

The findings of this study indicate that participation in the Health Belief Model–based Smart Social Media module was associated with higher levels of addiction-related knowledge and lower levels of problematic social media use among adolescents in the intervention group compared with the control group. Given the quasi-experimental design and non-random group allocation, these findings should be interpreted as observed associations rather than definitive causal effects.

Several limitations should be considered when interpreting these results. The quasi-experimental design with non-random group allocation limits causal inference, and the single-school setting restricts generalizability. In addition, the short follow-up period and reliance on self-report instruments may not fully capture long-term behavioral changes. External influences such as family environment, peer relationships, and access to digital technology may also have affected outcomes.

Future research is recommended to employ larger, multi-site, and longitudinal designs, including cluster randomized controlled trials and objective measures of digital behavior. Integrating family-based and peer-supported components may further enhance the effectiveness and sustainability of school-based digital health education programs.

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Author Contributions

AS contributed to the study conception and design, data collection, intervention implementation, data analysis, and drafting of the original manuscript.

AW contributed to research supervision, methodological guidance, statistical interpretation, critical manuscript revision, and final approval of the version to be published.

Conflict of Interest

The author declares that they have no conflict of interest with any party related to this research or its publication. The Conflict of Interest section should begin with a general statement indicating whether the author has any financial, personal, or professional relationships that could be considered to influence the work.

Data Availability Statement

The datasets generated and analyzed during the current study are not publicly available due to ethical considerations and protection of adolescent participants' confidentiality but are available from the corresponding author upon reasonable request and with permission from the affiliated institution

REFERENCES

1. Brand C, Fochesatto CF, Gaya AR, Schuch FB, López-Gil JF. Scrolling through adolescence: unveiling the relationship of the use of social networks and its addictive behavior with psychosocial health. Child and Adolescent Psychiatry and Mental Health. 2024;18(1):1–11.
2. Putri ACAS, Matulessy A, Pratitis N. Dukungan sosial dan kecenderungan kecanduan media sosial pada Gen Z. SUKMA : Jurnal Penelitian Psikologi. 2024;4(2):186–95.
3. Khansa SD, Putri KYS. Pengaruh Sosial Media Tiktok Terhadap Gaya Hidup Remaja. Ekspresi Dan Persepsi : Jurnal Ilmu Komunikasi. 2022;5(1):133–41.
4. Gunawan R, Aulia S, Supeno H, Wijanarko A, Uwiringiyimana JP, Mahayana D. Adiksi Media Sosial dan Gadget bagi Pengguna Internet di Indonesia. Techno-Socio Ekonomika. 2021;14(1):1–14.
5. Sriati A, Hendrawati S, Aprilia R. Tingkat Kecanduan Media Sosial pada Remaja. Journal of Nursing Care. 2020;3(1):41–53.
6. Khairunnisa H, Nanda F, Anggraini D. LITERATURE REVIEW: DAMPAK PENGGUNAAN MEDIA SOSIAL TERHADAP KESEHATAN MENTAL REMAJA Literature Review: The Impact Of Social Media Use On The Mental Health Of Adolescents. Nusantara Hasana Journal. 2024;4(1):Page.
7. Wulandari N, Karneli R, Syukur Y. The Analysis of Social Media Addiction Level on Adolescents. International Journal of Research in Counseling and Education. 2020;04(1):46–50.
8. Arsini Y, Azzahra H, Tarigan KS, Azhari I. Pengaruh Media Sosial Terhadap Kesehatan Mental Remaja. MUDABBIR Journal Reserch and Education Studies. 2023;3(2):50–4.
9. Febriliyani WE, Ni'matuzahroh. Sistematika Literatur : Faktor – Faktor Kesepian pada Usia Remaja. Vitamin : Jurnal ilmu Kesehatan Umum. 2025;3(3):168–88.
10. Nafisa S, Salim IK. Hubungan antara Fear of Missing Out dengan Kecanduan Media Sosial. Journal of Islamic and Contemporary Psychology (JICOP). 2022;2(1):41–8.
11. Hastuti D, Fauziah FS. Application of health belief model (HBM) on sexual behavior in teens in senior high school 3 Pasundan Cimahi: adolescents, health belief model (HBM), sexual behavior. Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal). 2021;7(2).
12. Boer, M., Stevens, G. W. J. M., Finkenauer, C., de Looze, M. E., & van den Eijnden RJJM. Social media use intensity, social media addiction, and mental health among adolescents: The moderating role of self-regulation. Journal of Behavioral Addictions. 2021;3(10):1–3.

13. Marino, C., Gini, G., Vieno, A., & Spada MM. The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. Journal of Affective Disorders. 2018;(226):2740281.
14. Jannah M, Alfiandi R, Novitayani S, Program M, Keperawatan S, Universitas K, et al. Hubungan Kecanduan Media Sosial dengan Fear of Missing Out pada Mahasiswa Keperawatan The Correlation between Social Media Addiction and Fear of Missing Out Among Nursing Students. Jurnal Ilmu Keperawatan. 2023;11(2).
15. Florensa MVA, Paula V, Diannita CG, Fangidae E, Watania LN, Barus NS, et al. Pendidikan Kesehatan Untuk Mencegah Kecanduan Internet Dengan Aktivitas Fisik Pada Remaja. JMM (Jurnal Masyarakat Mandiri). 2023;7(5):4848.
16. Bo A, al. et. Global prevalence of problematic social media use: A systematic review. Addictive Behaviors. 2021;120:107144.
17. Hartiningsih SN, Budiyati GAB, Oktavianto E, Windi ARR. Pendidikan Kesehatan Berpengaruh terhadap Pengetahuan Pencegahan Covid 19. Jurnal Penelitian Perawat Profesional. 2022;4(2):511–22.
18. Vanderhoff H, al. et. Digital wellbeing interventions and outcomes: A meta-analysis. Computers in Human Behavior. 2022;128:107112.
19. Safitri NA, Widodo A. Pengaruh Pendidikan Kesehatan Melalui Audiovisual Terhadap Tingkat Pengetahuan dan Norma Subjektif Remaja Tentang Bullying. 2018;
20. Ahn J, Shin D. Effects of a self-regulation-based smartphone intervention on problematic use. Cyberpsychology. 2021;15(3):101–15.
21. Scharrer E, Ramasubramanian S. Media literacy interventions and youth outcomes: A meta-analysis. Journal of Communication. 2022;72(4):456–78.
22. Nasution AZI, Daulay N. Implementation of Information Services Through Self Control Strategies in Overcoming Smartphone Addiction in Students. Jurnal Ilmiah Sekolah Dasar. 2023;7(3):396–404.
23. Nurcahyanti FD, Nurochim E, Rini SDW, Srimulti S, Setyadi AW. Efektivitas Media Digital Dalam Edukasi Pencegahan Anemia Pada Remaja Putri. JUKEJ : Jurnal Kesehatan Jompa. 2025;4(1):434–40.
24. Annisa, Fitri D, Pahlevi R, Fatimah S, Okta Sari R. Pelatihan Parenting Melalui Pemanfaatan Internet Sehat Sebagai Upaya Mereduksi Kecanduan Media Sosial Pada Remaja. Jurnal AbdiMU (Pengabdian kepada Masyarakat). 2022;2(1):12–8.
25. Nagata JM, Sc M, Domingue BW, Ph D, Darmstadt GL, S M, et al. Gender Norms and Weight Control Behaviors in U . S . Adolescents : A Prospective Cohort Study (1994 e 2002). Journal of Adolescent Health. 2020;66(1):S34–41.
26. Nurlaela ES, Purwanti OS. Pengaruh Stategi Problem Focused Coping Terhadap Distress Pada Penyandang Diabetes Melitus Di Wilayah Kerja Puskesmas Ngoresan Jebres. Jurnal Berita Ilmu Keperawatan. 2020;13(1):31–9.
27. Granlund M, Imms C, King G, Andersson AK, Augustine L, Brooks R, et al. Definitions and Operationalization of Mental Health Problems , Wellbeing and Participation Constructs in Children with NDD : Distinctions and ClarificationsNo Title. International Journal of Environmental Research and Public Health. 2021;4.