

CLICKS AND KNOWLEDGE: EXPLORING THE LINK BETWEEN SOCIAL MEDIA USE AND ADOLESCENT PERCEPTIONS OF REPRODUCTIVE HEALTH

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ABSTRACT

Social media has become an important source of information for adolescents, including reproductive health issues. However, the influence of social media use on adolescents' perceptions remains unclear, since the duration of use does not always reflect the quality of information received. This study aimed to examine the relationship between social media usage and adolescents' perceptions of reproductive health. A quantitative study with a cross-sectional design was conducted involving 50 adolescents from Senior High School Muhammadiyah 1 Bandung. Data were collected using a structured questionnaire and analyzed with the chi-square test. The results showed that 70% of respondents had a good perception and 30% had a poor perception of reproductive health. Most adolescents (88%) reported social media use of less than 3.33 hours per day, while 12% used it for more than 3.33 hours. Statistical analysis indicated no significant relationship between the duration of social media use and perceptions of reproductive health ($p = 0.849$). These findings highlight that adolescents' perceptions are influenced more by the quality and credibility of information than by the length of time spent online. Strengthening digital literacy and providing accurate, youth-friendly content are essential to optimize social media for reproductive health promotion.

Keywords: Adolescent; Reproductive Health; Social Media; Perception.

INTRODUCTION

Globalization has greatly shaped the evolution of Information and Communication Technology, leading to the widespread emergence of social media as a significant product of this development (Annisa Fitrah Nurriszka, 2022). Social media gained widespread attention in the early 1990s following Tim Berners-Lee's introduction of the World Wide Web, which transformed the internet into a global platform for communication, information exchange, and learning (Dobbs, 2024). Social media, as a digital platform, enables users to access a wide range of online information, including ideas, personal messages, and various content types within and beyond their communities. Fueled by rapid information and communication technology advancements, social media continues to evolve with new platforms introducing increasingly innovative features and functionalities (Dobbs, 2024).

The latest report by the Indonesian Internet Service Providers Association (APJII) indicates that, as of early 2024, Indonesia had 221.5 million internet users, representing approximately 79.5% of the total population of 278.69 million (APJII., 2024). Generation Z (born 1997–2012) forms the largest group of internet users at around 34.4%, followed by millennials (born 1981–1996) at 30.6%. In addition, Indonesia ranks fourth globally in terms of Line application users, with over 90 million active accounts (Amalia, 2022). A study by UNICEF in collaboration with Kemenkominfo, the Berkman Center for Internet and Society, and Harvard University reported that approximately 30 million Indonesian adolescents regularly use the internet, highlighting its integral role in their lives across education, entertainment, and communication. The rapid information and communication technology growth has also accelerated social media adoption among adolescents, providing platforms for exchanging information, including topics related to reproductive health (UNICEF, 2024)(Kemenkominfo, 2024)

Adolescence is a transitional period marked by physical, emotional, and social changes, including the emergence of attraction to the opposite sex. However, globalization and easier access to information have influenced adolescents' interpersonal behaviors, exposing them to risks of engaging in sexual behaviors that may not align with social norms or healthy practices (Nugroho, 2021). Data from the National Population and Family Planning Agency (Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN, 2023) show that the average age of adolescents engaging in premarital sexual activity ranges from 15 to 19 years, with 59% of female and 74% of male adolescents reported to have had such experiences. Preliminary interviews at Senior High School Muhammadiyah 1 Bandung revealed that students heavily rely on social media as a primary source of information, including educational videos, articles, and online discussions with influencers or health professionals. However, much of this information remains unverified, creating risks of misinformation. Studies indicate that adolescent sexual behavior is often influenced by limited reproductive health knowledge, while higher knowledge levels correlate with a reduced likelihood of engaging in risky behaviors. Furthermore, social media strongly shapes adolescents' perceptions due to its broad reach and rapid dissemination (Lestari, 2022)

Reproductive health education through social media holds substantial potential but faces challenges such as misinformation, stigma, limited internet access, and low digital literacy. To optimize social media for reproductive health education, strategies must ensure that content is accurate, engaging, and tailored to adolescents' needs, using various formats such as videos, infographics, images, and text. Prior studies have highlighted both the opportunities and limitations of social media in this context. For instance Alexis Wojtowicz, Gillian J. Buckley, 2024 reported that adolescents accessing reproductive health information via social media tend to have broader knowledge but are more vulnerable to misinformation(Alexis Wojtowicz, Gillian J. Buckley, 2024), while Rahmadini Salsabila & Ernawaty, 2024 emphasized the significant role of social media in raising awareness, contingent on information quality(Rahmadini Salsabila & Ernawaty, 2024).

Despite prior research on social media's impact on adolescent behavior, studies focusing specifically on its influence on reproductive health knowledge and perceptions remain limited. The novelty of this study lies in integrating information and communication technology and reproductive health education, examining social media as the primary information source for adolescents in the digital era. The research problem is to determine how social media-based interventions affect adolescents' knowledge and attitudes toward reproductive health. Therefore, this study aims to evaluate the extent to which social media influences adolescents' understanding, perceptions, and behaviors regarding reproductive health and to provide insights into how social media can be effectively utilized as an educational tool to enhance awareness and knowledge among adolescents.

RESEARCH METHODS

This study employed a quantitative approach with a cross-sectional design to examine the relationship between social media usage and adolescents' perceptions of reproductive health. The population included unmarried adolescents aged 15–24 years, consistent with the United Nations classification of adolescence as applied in the Indonesia Demographic and Health Survey for reproductive health. The study sample consisted of adolescents at Senior High School 1 Muhammadiyah Bandung who actively used social media. Using Lemeshow's formula, the minimum required sample size was calculated as 50 respondents. Sampling was conducted through incidental sampling, selecting participants based on availability and willingness to participate. This method was chosen because it allowed efficient data collection in the school setting while ensuring participants met the inclusion criteria. The data collection process was carried out over two weeks in June 2025.

Data were collected using a structured questionnaire that had been adapted and tested for validity and reliability prior to use. Content validity was assessed by three experts in public health and midwifery, while construct validity was examined through pilot testing with 20 adolescents outside the study sample. Cronbach's alpha reliability coefficient was 0.82, indicating good internal consistency. The questionnaire comprised two sections: the first addressed respondents' demographic characteristics, while the second assessed variables related to social media use and reproductive health knowledge and perceptions. Responses were measured using a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

Data analysis was performed using SPSS version 25. Univariate analysis described respondents' characteristics and the distribution of variables, while bivariate analysis using the chi-square test assessed relationships between social media usage and adolescents' reproductive health knowledge and perceptions. Ethical approval for this study was granted by the Ethics Committee of Universitas 'Aisyiyah Bandung (No: 1219/KEP.01/UNISA-BANDUNG/V/2024). All participants were informed about the study objectives and procedures, and written informed consent was obtained prior to participation.

RESULTS AND DISCUSSION

Result

Characteristics of Respondents

Table 1. Characteristics of Respondents

No	Characteristics	Frequency (n)	Percentage (%)
1	Age		
	15	4	8
	16	23	46
	17	18	36
	18	4	8
	19	1	2
2	Sex		
	Female	32	64
	Male	18	36

Source: Primary Data, 2025

Table 1 shows that most respondents were 16 years (46%) and 17 years old (36%), indicating that the majority were in mid-adolescence, while only a small proportion were 15 or 19 years old. Female students constituted 64% of the sample, suggesting greater participation or availability of girls compared to boys (36%)

Table 2. Distribution of Social Media Usage Among Respondents

Social Media	Male	Female	F	%
Facebook	2	4	6	12
Instagram	3	5	8	16
TikTok	11	6	17	34
WhatsApp	6	5	11	22
YouTube	4	4	8	16
Total	26	24	50	100

Table 2 presents the distribution of social media platforms used by adolescents. TikTok was the most frequently used platform (34%), followed by WhatsApp (22%), while Instagram and YouTube each accounted for 16% and Facebook had the lowest usage (12%), reflecting declining interest in older platforms. These findings indicate that TikTok and Instagram are the most strategic channels for adolescent-focused health promotion programs.

Table 3. Distribution of Reproductive Health Topics

Reproductive Health Topic	F	%
Menstruation	32	64
HIV/AIDS	34	68
Growth and Development	30	60
Reproductive Organs	28	56
Pregnancy	25	50
Wet Dreams	20	40
STIs	20	40
Premarital Sex	17	34
Drugs (NAPZA)	7	14

Table 3 describes the reproductive health topics accessed by students. The most frequently selected topics were HIV/AIDS (68%), menstruation (64%), and growth and development (60%), followed by reproductive organs (56%) and pregnancy (50%). Less frequently chosen topics included wet dreams and STIs (40% each), premarital sex (34%), and drugs (14%), suggesting that students prioritize basic reproductive health and infectious disease information over substance use issues.

Table 4. Distribution of Daily Social Media Use Among Adolescents

Duration of Social Media Use	F	%
< 3.33 hours/day	44	88%
> 3.33 hours/day	6	12%
Total	50	100%

Table 4 summarizes daily social media use. Most adolescents (88%) used social media for less than 3.33 hours per day, while only 12% reported higher usage, indicating generally moderate levels of use in this sample.

Table 5. The relationship between social media usage and adolescents' perceptions of reproductive health

Use of Social Media	Adolescents' Perceptions of Reproductive Health						P-value
	Poor		Good		Total		
	F	%	F	%	F	%	
< 3.33 hours/day	13	26	31	62	44	88	0.849
> 3.33 hours/day	2	4	4	8	6	12	
Total	15	30	35	70	50	100	

Table 5 examines the relationship between social media duration and adolescents' reproductive health perceptions. Among those who used social media for less than 3.33 hours per day, 62% had good perceptions and 26% had poor perceptions, whereas among those with higher usage, 8% had good and 4% had poor perceptions. Overall, 70% of adolescents demonstrated good reproductive

health perceptions, but the Chi-square test showed no statistically significant association between duration of social media use and perceptions ($p = 0.849$).

Discussion

The Chi-Square test revealed no statistically significant relationship between the duration of social media use and adolescents' perceptions of reproductive health $p = 0.849$. This finding, observed in a sample where 70% of adolescents reported good perceptions despite moderate usage (88% used social media for less than 3.33 hours/day), suggests that the quantity of exposure time is an inadequate metric for measuring impact. Rather than time spent, this result emphasizes that high social media usage does not guarantee exposure to quality health information¹⁸. The adolescents' perceptions are likely mediated more by the credibility and relevance of the specific content they encounter and choose to engage with, rather than the total time spent online.

High social media usage does not guarantee exposure to quality health information. Ramadhan (2017) found that although 66.7% of Indonesian adolescents in her study were "heavy users" of social media (>80 minutes/day), most did not use these platforms to seek reproductive health (Ramadhan, 2021). This aligns with our finding adolescents might scroll for hours but engage mainly with entertainment or social interactions rather than educational content, thereby gaining little new insight into reproductive health. If social media use is not directed toward health topics, increasing screen time alone would have minimal impact on their health perceptions.

when adolescents do encounter reproductive health content online, its quality and trustworthiness vary widely. Social media provides "easy and interactive access" to sexual health information, but the information is not always accurate or comprehensive (Sabilah et al., 2024)(Hanifa Fitriana, 2018) observed that while platforms like Instagram can effectively disseminate sexual education content and broaden adolescents' understanding, the *accuracy* of content is a concern, prompting teens to verify what they (Sabilah et al., 2024). Thus, a teen could be a frequent social media user yet hold misperceptions if they have absorbed misinformation or superficial messages. In our context, adolescents with poor perceptions despite heavy use might be following unverified sources or sensational content that skews their understanding. This underscores that content quality, relevance, and credibility are more influential than sheer exposure time in shaping adolescents' health perceptions (Sabilah et al., 2024)

Adolescents' engagement with online health information is also mediated by their trust in the source. A recent systematic review by Freeman et al. (2023) found that teens' trust in social media health information is a complex interplay of trust in the platform, trust in the person posting, and trust in the content's credibility. Many youths exhibit *general skepticism toward health info on social media* and tend to trust content only if it comes from credible experts or peers they know. They may also avoid interacting with sensitive health topics online due to fear of judgment or cyberbullying (Freeman et al., 2023). In our study, adolescents who already had good reproductive health perceptions might have been selective about what information they trust and internalize, regardless of time spent. Conversely, those with poor perceptions might not actively seek or believe health advice on social media, limiting any positive influence. In short, if adolescents do not trust or engage with the health-related content they see online, increased exposure will yield little improvement in their perceptions.

Another factor is the role of formal education and prior knowledge. By mid-adolescence (the majority of our sample were 16–17 years old), many have received basic reproductive health education through school curricula or family, which can set their foundational perceptions. Studies indicate that adolescents' sexual behaviors and attitudes are strongly influenced by their level of reproductive health knowledge – higher knowledge correlates with more responsible attitudes and lower risk behaviors. Thus, the 70% with good perceptions in our study likely benefited from adequate baseline knowledge, whether from school-based programs or community health initiatives, and this might overshadow any marginal gains from social media. Meanwhile, the 30% with poor perceptions may reflect gaps in knowledge that social media usage did not fill. If these teens primarily consume non-educational content, their misconceptions persist. In essence, social media use alone cannot compensate for insufficient fundamental knowledge; rather, it serves best as a supplementary source when content is accurate and when the user is receptive.

Our findings concur with some prior studies and diverge from others. Similar to our results, Ramadhan (2017) reported "no significant influence" of social media intensity on adolescents' reproductive health perceptions in Yogyakarta (Ramadhan, 2021). In that study, heavy users had no

better understanding than light users, presumably because, as noted, most were not accessing reproductive health information online (Freeman et al., 2023). On the other hand, research also shows that social media can play a positive role when leveraged properly. For example, Lestari et al. (2024) demonstrated that a targeted intervention using TikTok videos significantly improved adolescents' reproductive health knowledge compared to traditional book-based materials (Lestari et al., 2024). In their quasi-experimental study, the TikTok educated group showed a *marked increase* in knowledge post-intervention ($p = 0.003$), whereas a control group using only printed booklets had no significant. The interactive, audio-visual nature of platforms like TikTok may enhance engagement and recall, as adolescents tend to remember information better when it is presented in multi-sensory formats (video, sound, and action) rather than text alone (Lestari et al., 2024). This suggests that the impact of social media on youth learning is context-dependent – it can be highly effective for delivering health education when content is tailored and engaging, but passive or unguided use yields limited benefit.

International literature over the past five years further highlights the nuanced role of social media in adolescent health education. A scoping review of digital sexual health interventions in low- and middle-income countries noted that *most digital approaches led to increased knowledge of sexual and reproductive health* among youth, but this did not necessarily translate to behavioral (Dowling et al., 2025). In other words, adolescents might learn new facts or develop better awareness through online interventions, yet their attitudes and real-life practices can remain unchanged if not reinforced by other factors. This finding resonates with our focus on “perception” as an outcome: improving perception is a critical first step, but it may require sustained, credible messaging and real-world support to influence actions. It also implies that measuring just the quantity of social media exposure is insufficient – we must assess how adolescents use these platforms and what they learn from them. Indeed, some surveys reveal scenarios where high social media use coexists with low health literacy. For instance, a study among adolescents reported widespread daily social media use alongside alarmingly low HIV/AIDS knowledge and generally negative attitudes toward sexual health matters (Ramadani et al., 2024). In such cases, youth are online but not accessing or absorbing valid health information, highlighting a missed opportunity for education.

Considering the Indonesian context, social media remains a double-edged sword for adolescent reproductive health education. On one side, it offers an unprecedented channel to reach teens with creative educational content, peer discussions, and campaigns that can normalize conversations about puberty, contraception, or STI prevention. There are promising examples from youth friendly Instagram infographics to influencer led Q&A sessions, that have successfully increased awareness or corrected myths among adolescents (Sabilah et al., 2024). Government have also recognized this potential; for example, Indonesia's National Population and Family Planning Board (BKKBN) and related initiatives encourage using popular platforms to disseminate reproductive health messages to young people. On the other side, the challenges are evident mis information and myths can spread as easily as facts, and topics like sexual health are sometimes considered sensitive or taboo, causing adolescents to shy away from openly engaging with or trusting online content (Sabilah et al., 2024). Additionally, not all adolescents have equal digital literacy to discern credible information, and some rural or low-income youth may have limited internet access, reducing the reach of social media interventions (Dowling et al., 2025). These factors may partly explain why increased social media time in our study did not equate to better health perception.

The lack of a significant correlation in our findings should not be interpreted as social media having no role in adolescent reproductive health education, but rather as a call to refine how social media is utilized. Duration of use alone is an inadequate metric of impact; what matters more is delivering accurate, relevant, and engaging content that can capture adolescents' interest and earn their trust. Health authorities, educators, and content creators should collaborate to produce youth-tailored content, for example, short video series on menstrual health or Q&A forums moderated by healthcare professionals to ensure that when adolescents are online, they encounter reliable information that can positively shape their perceptions. Strengthening digital health literacy is also crucial: teaching adolescents how to verify information, recognize credible sources, and think critically about what they see online will empower them to make better use of social media for learning (Sabilah et al., 2024) (Ramadhan, 2021). Lastly, integrating social media efforts with offline education programs could create a reinforcing loop, where online exposure piques interest and offline discussions solidify understanding. By addressing content quality and context, social media's vast reach can be harnessed to improve adolescents' reproductive health knowledge and perceptions, but

without these improvements, mere exposure is unlikely to be effective, as evidenced by our study's result.

CONCLUSIONS

This study concludes that there is no significant association between the duration of social media use and adolescents' perceptions of reproductive health. The findings emphasize that the quality and credibility of content, rather than the quantity of usage, play a more decisive role in shaping adolescents' understanding and attitudes. These results highlight the importance of developing purposeful health communication strategies through social media, supported by credible content creation and strengthened digital literacy. Future research should utilize qualitative or longitudinal designs to measure the impact of content engagement and source credibility.

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