

How Female Adolescents Exposed to Pornography?

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Abstract

Background: The digital era has markedly increased adolescents' exposure to explicit content, including pornography, raising significant concerns regarding its impact on sexual and reproductive health. This is particularly critical among female adolescents in Indonesia, where access to comprehensive sexual education remains limited.

Objective: This study aims to examine the exposure of female adolescents to pornographic content, with a focus on patterns of media consumption and their implications for reproductive health.

Methods: A descriptive cross-sectional study was conducted among 58 female adolescents aged 13 to 18 years in Karanganyar, Indonesia. Data were collected using a validated questionnaire and analyzed through descriptive statistical methods to identify patterns of media usage and exposure to pornography.

Results: The findings indicated that the internet and handheld devices were the predominant sources of media consumption (96.6%), significantly contributing to exposure to pornographic material (86.2% and 96.6%, respectively). Television and print media also played contributory roles, particularly through soap operas and Western films. Exposure to pornography was associated with limited awareness of reproductive health, especially among younger participants. The exposure was further linked to distorted perceptions of sexual behavior, negative body image, and potential psychological consequences such as anxiety and low self-esteem.

Conclusion: This study highlights the urgent need for targeted interventions to enhance critical media literacy and provide comprehensive sexual education for adolescents. Addressing these issues is essential to mitigate the adverse effects of pornography exposure on reproductive health, while taking into account cultural and contextual factors. Future research should investigate the longitudinal effects and gender-specific outcomes to inform the development of tailored preventive strategies.

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Background

The digital age has brought about significant transformations in media consumption habits, especially among adolescents. With the increasing accessibility of the internet, smartphones, and social media platforms, adolescents are now more exposed than ever to various types of content, including pornography. This exposure raises concerns about its potential effects on adolescent sexual development, particularly in the absence of comprehensive sexual education and parental guidance. Adolescents, who are at a crucial stage of developing their sexual identity and values (Branje et al.,

2021; Hegde et al., 2022; Stewart et al., 2019), are vulnerable to the influence of the media, which often provides skewed or unrealistic depictions of sexuality and relationships (Lin et al., 2020; Vangeel et al., 2020).

In Indonesia, where discussions on sexual education remain limited due to cultural taboos, many adolescents are left without adequate guidance to interpret explicit content (Situmorang, 2024; Titisari et al., 2024). The rise of digital platforms has made pornographic content more accessible, with many adolescents encountering such material at an early age, often without their parents' knowledge or consent (Gunnoo & Powell, 2023; Martellozzo et al., 2020). This exposure poses risks to the mental and physical health of adolescents, potentially shaping their perceptions of sex, relationships, and gender roles in ways that may conflict with societal norms and expectations.

The influence of pornography on adolescent development is a growing concern. Studies have shown that exposure to sexually explicit material can lead to distorted sexual expectations, risky sexual behaviors, and problematic relationship dynamics (Ahmed Shallo & Willi Mengesha, 2018; Lin et al., 2020). For Indonesian adolescents, who are socialized within a cultural context that emphasizes modesty and traditional gender roles, exposure to pornography may lead to psychological distress and internal conflicts between societal values and personal experiences. Adolescents often lack the cognitive maturity to critically assess the content they are exposed to (Güroğlu, 2021), leading them to adopt portrayals of sex and relationships found in pornography as accurate representations of reality.

In Karanganyar, like in many other regions, adolescents have widespread access to the internet and mobile phones, which serve as the primary channels for pornographic exposure. Moreover, television and social media are also significant sources of sexually explicit content, further complicating efforts to protect adolescents from such influences (Andrie et al., 2021; Bozzola et al., 2022; Lin et al., 2020; Odgers & Jensen, 2020). Despite the wealth of research on the effects of pornography on adolescent behavior and health, there are still notable gaps in understanding its full impact, particularly in non-Western contexts such as Indonesia. Much of the existing research has been conducted in Western societies, where access to sexual education is more prevalent, allowing adolescents to critically engage with sexually explicit materials. In contrast, Indonesian adolescents often face a lack of comprehensive sexual education, leaving them vulnerable to the potentially harmful effects of pornography without the tools to critically analyze what they are viewing (Mulya, 2023; Pinandari et al., 2023).

While existing studies have examined the psychological and behavioral effects of pornography, limited research has explored its influence on adolescent reproductive health. This study seeks to address this gap by examining (the extent of pornography exposure among adolescents in Karanganyar and its relationship with their knowledge of reproductive health, parental guidance, and environmental influences. Previous research suggests that female adolescents may experience different psychological and social consequences, such as feelings of shame or confusion, which could further complicate their sexual development and reproductive health practices (Campbell et al., 2021; Todesco et al., 2023). These factors can affect their psychological well-being and shape their thinking about interpersonal relationships and sexuality.

In the Karanganyar, female adolescents reported exposure to pornography; however, the ways in which this exposure influenced their sexual behaviors and perceptions varied, with female adolescents more likely to experience negative emotional consequences. This study aims to analyze the types of media and programs that contribute to pornography exposure among female adolescents.

Methods

Research Design

This study employed a cross-sectional descriptive design to explore the factors influencing female adolescents' exposure to pornography. A cross-sectional design was selected, as it allows for the assessment of multiple variables at a single point in time, which is ideal for capturing a snapshot of the current status of these factors (Pérez-Guerrero et al., 2024). By collecting data from respondents at one point in time, this design can provide insight into how common pornography exposure is among adolescent girls.

Participant

The participants consisted of 58 female adolescents aged 13–18 years who had indicated exposure to pornographic material during the last three months, all of whom resides within the catchment area of the Jenawi Health Center, Karanganyar. This number is assumed by the researchers to be sufficient in describing the state of pornography exposure among adolescents in a descriptive and exploratory manner, as in this study. Early and exploratory social research can use a minimum sample size of 30 to roughly estimate parameters (Finsterbusch, 1976; Louangrath, 2014).

Participants were selected through purposive sampling, a technique commonly employed in health research, where the goal is to focus on particular characteristics of a population that are of interest (Moser & Korstjens, 2018). Eligible participants were identified through health records and direct recruitment during routine health checkups at the Jenawi Health Center. Prior to participation, researchers explained the study objectives to both adolescents and their parents or guardians, ensuring informed consent was obtained.

A small sample size may lead to sampling errors, appropriate sample size is a crucial aspect (Hasan Polas, 2024; Mukti, 2025). To ensure an appropriate sample, the following inclusion criteria were established:

- 1) Adolescents between the ages of 13 and 18 undergoing a health check at the Jenawi Health Center.
- 2) Adolescents who provided informed consent (for those over 18 years) or whose parents/guardians consented (for those under 18 years).

The exclusion criteria were as included:

- 1) Adolescents with chronic medical conditions known to affect reproductive health (e.g., endocrine disorders) or sexually transmitted infections, which could influence hormonal balance, sexual behavior, or exposure to pornographic materials.
- 2) Adolescents who refused to participate or withdrew their consent at any stage of the study.

Data Collection

Data were collected using a questionnaire, which simplified the data collection and analysis process. The questionnaire was filled out in a special room provided by the Health Center to ensure comfort for both participants and their companions, enabling them to provide honest answers. It was validated by two healthcare practitioners, to ensure that the items comprehensively covered all relevant domains (Polit & Beck, 2006). Content validity was measured using the Content Validity Index (CVI), which indicated that the items were highly relevant, with a score of 0.85, where 1.00 represents perfect agreement (Lynn, 1986). Reliability testing was conducted using Cronbach's alpha to measure the internal consistency of each section of the questionnaire, particularly focusing on the sections related to media usage and programs that contribute to exposure to pornography. These sections were designed to assess the types of media platforms adolescents engage with and the specific programs or content that may lead to exposure to pornographic material. The reliability analysis confirmed strong internal consistency, with Cronbach's alpha values exceeding 0.7 for both the media usage and pornography exposure sections, indicating good reliability (Morera & Stokes, 2016). The questionnaire was exploring the types of media utilized by adolescents and examines the specific media that contribute to their exposure to pornography.

Data Analysis

Data analysis was conducted using descriptive statistics to summarize the types of media used and the extent of exposure to pornography. Descriptive statistics, such as frequencies and percentages, were calculated to show the proportion of respondents who engaged with different types of media and their corresponding rates of exposure to pornographic content. Specific statistical tests for inferential analysis were not applied, as the focus was on summarizing and describing the dataset.

Ethical Considerations

The study was conducted in strict adherence to ethical standards for research involving human participants and was registered with the Ethical Commission of Sari Mulia University (Number 009/KEP-UNISM/XI/2024). Informed consent was obtained from all participants aged 18 years and above, while for aged 13-17 years, written consent was obtained from their parents or legal guardians. To ensure confidentiality, all participant responses were anonymized, and identifying information was removed before data analysis. Data were stored securely, accessible only to the research team. Given the sensitive nature of the topic, particularly regarding exposure to pornography, special care was taken to handle the data and interactions with participants respectfully. Participants were assured that their responses would remain confidential and would not be shared outside the research team. They were also informed of their right to withdraw from the study at any time without facing any negative consequences. To minimize potential discomfort, the research team provided clear explanations of the study's purpose and ensured that participants understood the voluntary nature of their involvement. The study adhered to the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2013), prioritizing the dignity, rights, and well-being of all participants, particularly minors.

Results

Respondent characteristics

Table 1 shows that the majority of the participants were from junior high schools (44.9%), followed by vocational schools (27.6%). A smaller percentage came from senior high schools (17.2%) and elementary schools (10.3%). These variations indicate that adolescents at different stages of formal education have varying levels of exposure to reproductive health knowledge, with junior high school students forming the largest group in the study.

The participants were divided into two age groups: 13-15 years (51.7%) and 16-18 years (48.3%). The near-equal distribution between these two age groups provides an opportunity to compare reproductive health awareness between

younger and older adolescents. Younger participants are likely to be just beginning to learn about puberty and reproductive health, whereas older participants may already be making decisions about their sexual health.

Table 1. Characteristics of respondent

Characteristics	Frequencies (Respondent)	Percentages (%)
Education levels		
Senior High School	10	17,2
Vocational School	16	27,6
Junior High School	26	44,9
Elementary School	6	10,3
Total	58	100
Age groups (years)		
13-15	30	51,7
16-18	28	48,3
Total	58	100

Media and pornography exposure

Table 2 presents the findings on media consumption and exposure to pornography among adolescents. The data revealed that television was the most frequently consumed medium, with 52 participants (89.66%) reporting regular viewership, followed closely by the Internet and handheld devices, both at 56 respondents (96.55%). Notably, exposure to media displaying pornography was highest among Internet and handphone users, with 50 and 56 respondents (86.21% and 96.55%, respectively), indicating that they encountered such content. Magazines and tabloids also contributed to the exposure, with 17 (29.31%) and 15 (25.86%) participants, respectively. In terms of television shows displaying pornography, soap operas and Western movies were significant contributors, with 41 participants (70.69%) and 40 participants (68.97%), respectively. Indian movies and music show also reflected substantial exposure, with 31 participants (53.45%) and 36 (62.07%) reporting similar encounters. Conversely, comedy shows had the least exposure, with only 12 participants (20.69%) indicating that they encountered pornography in this category. These findings highlight the pervasive nature of pornography in various media, emphasizing the need for targeted educational interventions to mitigate its impact on adolescent sexual health and well-being.

Table 2. Media consumption and exposure to pornography

Category	Media Frequently Read/Used (n)	Media Displaying Pornography (n)	TV Shows Displaying Pornography (n)
Magazine	10 (17.24%)	17 (29.31%)	
Tabloid	5 (8.62%)	15 (25.86%)	
Newspaper	4 (6.90%)	11 (18.97%)	
Television	52 (89.66%)	23 (39.66%)	
Radio	7 (12.07%)	17 (29.31%)	
Internet	56 (96.55%)	50 (86.21%)	
Handphone (WA, FB, IG, dll.)	56 (96.55%)	56 (96.55%)	
Soap Operas			41 (70.69%)
Western Movies			40 (68.97%)
Indian Movies			41 (70.69%)
Telenovela			31 (53.45%)
Musics shows			36 (62.07%)
TV Commercials			33 (56.90%)
Comedy			12 (20.69%)

Discussion

Media consumption patterns

The data revealed that adolescents engage heavily in various media forms, particularly digital platforms. The overwhelming majority of participants reported using the Internet (96.6%) and handheld devices (96.6%) for media consumption. This finding aligns with the existing literature highlighting the increasing reliance on digital media among young individuals (Vogels et al., 2022). The prevalence of Internet use among adolescents raises significant concerns about exposure to pornographic content, which is easily accessible on various online platforms. Additionally, traditional media such as magazines and television remain relevant sources of information for adolescents. For instance, 17.2% of participants frequently read magazines, and 39.7% reported exposure to pornography through television. This finding echoes previous research identifying television as a significant source of sexual content for adolescents (Allison et al., 2024; Meilani et al., 2023). However, the data also suggest that portrayals of sexuality in these media forms often lack context and may contribute to misconceptions about healthy relationships and sexual behavior.

Media consumption patterns are critical in shaping adolescents' perceptions of sexuality and relationships. A study by Landry et al. (2017) found that adolescents exposed to sexually explicit media are more likely to adopt permissive attitudes toward casual sex and exhibit risky sexual behaviors. The findings of this study support this assertion, as high engagement with media displaying pornography correlates with detrimental health outcomes. The prevalence of pornography in contemporary media, especially on platforms frequented by adolescents, underscores the need for comprehensive sexual education that addresses the influence of media on sexual health.

Cultural context plays a significant role in shaping how media messages are perceived and internalized, particularly in Karanganyar with strong traditional values and norms. For instance, societal attitudes toward sensitive topics such as pornography may vary widely, influencing adolescents' access to and engagement with such content. Research by Livingstone and Helsper (2008) highlights that cultural norms and family dynamics significantly mediate adolescents' media use and their exposure to potentially harmful content. Similarly, a study by Khurana et al. (2015) emphasizes that cultural and socioeconomic factors are critical determinants of media consumption patterns among youth.

Exposure to pornography

Findings related to pornography exposure are particularly alarming. The data indicated that a significant proportion of participants encountered pornographic content, with 29.3% of magazine readers and 39.7% of television viewers reporting exposure to pornography. On the other hand, 86.21% of respondents were exposed to pornography through the internet, and 96.55% through mobile phones, highlighting the dominance of digital media as the primary source of such content. Research by Maas (2025) underscores that adolescents are more likely to encounter pornography online than through traditional media, with digital platforms offering easier and more frequent access. Similarly, a study by Peter and Valkenburg (2016) found that internet-based pornography exposure is more prevalent and has a more significant impact on adolescents' attitudes and behaviors compared to traditional media. This exposure can have profound implications for adolescents' understanding of sexual and reproductive health. The literature consistently shows that early exposure to pornography can distort adolescents' perceptions of sex and relationships, leading to unrealistic expectations and potentially harmful behaviors (Jhe et al., 2023).

Adolescents vary significantly in their psychological resilience, coping mechanisms, and social support systems, which can influence how they are affected by media content. For example, some adolescents may possess higher resilience and critical thinking skills, enabling them to process and contextualize explicit content without significant negative outcomes, while others may be more vulnerable due to pre-existing mental health conditions or lack of supportive environments. Individual differences, such as self-esteem and emotional stability, play a crucial role in moderating the effects of pornography exposure on adolescents (Kim et al., 2021; Li et al., 2023). Similarly, a study by Peter and Valkenburg (2016) emphasizes that not all adolescents experience negative outcomes, as some may develop a more nuanced understanding of sexual content over time.

Moreover, this study highlights the need to consider how media portrayals of sexuality can impact adolescent mental health. Exposure to pornography has been linked to increased feelings of anxiety and depression among adolescents, particularly in girls who may feel pressured to conform to unrealistic body standards and sexual norms depicted in the media (Andrie et al., 2021). Research by Brown and L'Engle (2009) found that adolescents exposed to sexual media content, including pornography, were more likely to experience depressive symptoms and anxiety, particularly when they internalized unrealistic body standards and sexual norms. Similarly, a study by Vandenbosch and Eggermont (2012) demonstrated that frequent exposure to sexualized media content was associated with body dissatisfaction and lower self-esteem, especially among adolescent girls. The internalization of these ideals can lead to issues such as body dissatisfaction and low self-esteem, further complicating the landscape of adolescent reproductive health.

The impact of social media

The pervasive influence of social media on adolescents' lives has implications for reproductive health and pornography exposure. With 96.6% of participants utilizing handheld devices for media consumption, social media platforms have become central to adolescents' daily activities (Bozzola et al., 2022; Khalaf et al., 2023). The accessibility of explicit content on social media can normalize sexual behaviors and desensitize adolescents to the potential consequences of engaging in these behaviors. Research by Carnevali et al. (2022) indicates that boys are more likely to seek out pornography intentionally, while girls are more often exposed to it unintentionally through social media and other digital platforms. This difference in exposure patterns can lead to varying impacts on sexual behaviors and perceptions. Boys may develop unrealistic expectations about sexual relationships, whereas girls may experience increased body dissatisfaction and pressure to conform to idealized sexual norms (Barbierik et al., 2023; Plentz et al., 2024). Additionally, a study highlights that gender-specific socialization processes influence how adolescents interpret and respond to sexual content, with boys often viewing it as a source of sexual education and girls perceiving it as a source of anxiety and self-objectification (Cerbara et al., 2023; Endendijk et al., 2022).

Research indicates that adolescents who frequently use social media are more likely to encounter sexual content, which can lead to increased risk-taking behaviors. For instance, Vente et al. (2020) found that adolescents exposed to sexual content on social media were more likely to engage in early sexual activity and risky sexual behaviors, such as unprotected sex. This phenomenon is particularly concerning for young girls, who may experience heightened pressure to conform to sexualized portrayals prevalent on social media. Papageorgiou, Cross, et al. (2022) demonstrated that girls exposed to sexualized images on platforms like Instagram and TikTok often internalize these portrayals, leading to body dissatisfaction and lower self-esteem. Similarly, Papageorgiou, Fisher, et al. (2022) highlighted that such exposure can distort girls' perceptions of healthy relationships, making them more susceptible to coercion and unhealthy sexual dynamics. These findings underscore the need for targeted interventions to promote healthy media consumption practices and critical media literacy skills among adolescents. By equipping adolescents with the tools to critically evaluate media content, educators and policymakers can help mitigate the negative impacts of sexualized media and foster healthier attitudes toward sexuality and relationships.

Research limitations

The cross-sectional design of this study limits the ability to establish causality between media exposure, pornography consumption, and reproductive health outcomes. Data collection relied on self-reports, which may introduce biases such as recall inaccuracy or social desirability bias. This is particularly relevant given the sensitive nature of topics like pornography exposure, where participants may underreport their engagement due to stigma or overreport based on perceived societal expectations. Such biases could skew the findings, leading to either an underestimation or overestimation of the true prevalence and impact of pornography exposure. Furthermore, the sample was drawn exclusively from a specific region, which limits the generalizability of the results to other cultural or geographic contexts. For instance, regional differences in cultural norms, access to media, and societal attitudes toward sexuality could significantly influence media consumption patterns and their effects on reproductive health, making it difficult to extrapolate these findings to broader populations. Additionally, the study did not deeply analyze socio-economic factors, which are known to play a critical role in shaping media access, exposure to explicit content, and health outcomes. Integrating socio-economic indicators, such as income level, education, and family structure, could provide a more comprehensive understanding of how these factors mediate the relationship between media exposure and reproductive health. Addressing these limitations in future research would enhance the validity and applicability of the findings.

Recommendations for future research

Future research should adopt longitudinal designs to establish causal links between media exposure and reproductive health outcomes, allowing for the examination of how these relationships evolve over time. Qualitative methods, such as in-depth interviews or focus groups, can provide deeper insights into adolescents' subjective experiences with media, particularly how they interpret and internalize sexual content. Cross-cultural studies are essential to explore how contextual factors, such as cultural norms, religious beliefs, and societal attitudes toward sexuality, influence media consumption patterns and their effects on reproductive health. For example, researchers could investigate how adolescents in conservative versus liberal societies differ in their responses to pornography exposure. Additionally, intervention studies should focus on developing and evaluating strategies to improve media literacy, such as educational programs that teach adolescents to critically analyze and contextualize sexual content in media. These interventions should be tailored to specific cultural contexts to ensure their relevance and effectiveness. Gender-specific research is also recommended to better understand how media impacts male and female adolescents differently. For instance, studies could explore how boys and girls differ in their consumption of sexual content, their psychological

responses, and the resulting behavioral outcomes. By addressing these areas, future research can provide more nuanced and actionable insights into mitigating the negative effects of media on adolescent reproductive health.

Conclusion

This study highlights the significant influence of media consumption on female adolescents' exposure to pornography and its implications for reproductive health. Digital platforms such as the Internet and handheld devices are primary sources of pornography exposure, posing challenges to adolescent well-being. The findings underscore the need for targeted interventions to address the pervasive nature of sexualized media and promote critical media literacy among adolescents. Furthermore, comprehensive sexual education programs that address the influence of media on reproductive health are essential to mitigating the negative effects of pornography exposure.

Declaration of conflicting interest

The authors declare no potential conflict of interest.

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Author contributions

RKS: Conceptualization, study design, data analysis, and manuscript writing.

ADA: methodology, and manuscript review.

YSNI: Data analysis, interpretation of results, and manuscript editing.

CPM: Literature review, data collection, and manuscript drafting.

IY: Supervision, critical review, and validation of the research framework.

ST: Statistical analysis, data interpretation, and manuscript revision.

R: Project administration, resource coordination, and final manuscript approval.

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