

## Exposure to Internet Pornography: A Cross-sectional Study among Primary School-aged Children in Java

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ARTICLE INFO	ABSTRACT
<p><b>Manuscript Received:</b> 23 Nov, 2024  <b>Revised:</b> 04 Feb, 2025  <b>Accepted:</b> 05 Feb, 2025  <b>Date of Publication:</b> 06 Mar, 2025  <b>Volume:</b> 8  <b>Issue:</b> 3  <b>DOI:</b> <a href="https://doi.org/10.56338/mppki.v8i3.6946">10.56338/mppki.v8i3.6946</a></p>	<p><b>Introduction:</b> In today's times, generation Z has extraordinary skills in finding information. This generation is very good at using gadgets to learn, play, and even earn their own income. Pornographic content often appears accidentally and begins to be known by children. Curiosity is often the reason teenagers access pornography and then end up with the practice of premarital sexual intercourse. This study aims to understand how primary school-age children behave in accessing pornographic content.</p> <p><b>Methods:</b> This cross-sectional study sampled 63 students in fifth grade at a public primary school, using by total population sampling technique. Data was collected using a self-administered questionnaire technique. The data obtained were then analyzed using univariate analysis and linear regression.</p> <p><b>Results:</b> Most respondents in this study were 11-year-olds (82.5%), comprising 41.3% boys and 58.7% girls, and not experienced puberty yet (60.3%). Of 39.7% have been accessing porn through handphone (41.3%) and laptop (1.6%). As many as 3.2% of children have accessed pornography since the age of &lt; 7 years. About 17.5% of pornographic content accessed is in real motion. The content accessed is mostly pictures of naked people and kissing scenes. As many as 19% of children admitted to accessing pornography accidentally and immediately closed the access.</p> <p><b>Conclusion:</b> The health department of Family Health and School Health needs to partner with parents to improve supervision and communication between parents and children. Providing healthy living skills training for children needs to be embedded into the educational curriculum so that skills can be carried out routinely and continuously.</p>
<p><b>KEYWORDS</b></p> <p>Access to Pornography;            Primary School;            Children;            Puberty;            Reproductive Health</p>	
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## INTRODUCTION

Growth and reproductive development in adolescents are some of the factors that influence adolescent behavior, especially sexual behavior in adolescents. Based on the results of a previous survey on the sexual behavior of adolescents aged 15-24 years in big cities in Indonesia, it was reported as much as 44% of respondents claimed to have experienced first sex in the age range of 16-18 years and 16% of respondents experienced first sex in the age range of 13-15 years. Data shows that 15 million female adolescents aged 15-19 years give birth every year, and around 15-20% of school-age teenagers in Indonesia have had sexual relations before marriage. Risky sex practices carried out by adolescents will cause a negative impact on health and non-health aspects (1). The high rate of premarital sex among adolescents is closely related to the increasing number of abortions. The number of abortions is currently around 2.3 million and 15-20% of them are done by teenagers. This condition also causes high maternal and neonatal mortality rates in Indonesia (2).

Curiosity is a common reason stated by teenagers to practice sex (3–5). Preliminary studies conducted by researchers on adolescents who experience unwanted pregnancy revealed that they are inspired and eager to try practicing sex with their partners after accessing pornography through videos or reading books such as porn comics. Research conducted on high school students found that the results regarding accessing pornographic sites were 10.1% in the low category, 88.4% in the medium category, and 1.4% in the high category. In the variable premarital sexual attitude of adolescents, it was found that 76.8% had traits that tended to be positive or had a tendency to approach premarital sexual behavior, and 23.2% had negative traits or tendencies to avoid and dislike premarital sexual behavior (6).

Based on data obtained from the Indonesian Adolescent Reproductive Health Survey in 2012 showed that the percentage of adolescents who had premarital sex at the age of 15-19 years was 4.5% of men and 0.7% of women and increased from previous data in 2007 (7). Based on research conducted by Syamsulhuda on adult adolescents aged 18-24 years, it was found that 11.9% of 362 respondents engaged in risky premarital sex behavior or premarital sex. The results of the study said that adult adolescents who had a more permissive attitude were found to have a risk of premarital sex behavior at risk of unwanted pregnancy 3,473 times greater than adult adolescents whose attitude was less permissive (8).

Early exposure to pornography can have a significant impact on school-age children, both psychologically and in terms of long-term behavior. Children who are exposed to pornography tend to be more likely to engage in earlier or riskier sexual behaviors (9). Children exposed to pornography are also more likely to develop unrealistic perceptions of sexuality. This can lead them to consider the behavior or norms displayed in pornography to be standard (10). Early exposure to pornography can lead to anxiety, fear, or confusion regarding interpersonal relationships and sexuality. In addition, other dangerous psychological problems can also arise as a result of exposure to pornography, namely emotional problems such as anxiety, depression or low self-esteem, low self-esteem, and desensitization to sexual problems, which can make children feel less sensitive to violence or harmful behavior in relationships (10,11).

Research from various countries shows a high prevalence of pornography access among adolescents. Some very high prevalence rates up to 98% have been reported in Germany, Sweden, Poland, and Italy (12–14). European countries, such as Belgium, Switzerland, Netherlands, Greece, and the Czech Republic reported 36% to 57% prevalence rate of porn access (10). In the United States, the numbers have highly fluctuated (15).

In contrast to Western countries, pornography is considered taboo and inappropriate in most Eastern countries. The taboo culture related to pornography in Eastern countries varies greatly because it is influenced by factors such as different religions, traditions, and social values. In Indonesia, especially in Javanese tribe, pornography is considered something that violates the norms of religion and morality that apply in Indonesian society. Therefore, the production, distribution, and consumption of pornography are prohibited in Indonesia (16). Nevertheless, a survey conducted on 4,500 adolescents in 12 major cities in Indonesia found that access to pornographic content almost reached 100%. The reasons or factors that motivated them to access and watch pornographic content were due to just fun (27%). From data owned by the National Commission for Child Protection, it is also stated that of the total of 2,812 students, 60% of them have accessed pornography (17).

The Ministry of Education and Culture of the Republic of Indonesia said that pornographic material can be easily obtained by anyone today. In the guidelines for parents issued by the Indonesian Ministry of Education and

Culture, it is stated that the sources of pornographic content include newspapers, comics, story books, games, magazines, television, videos, images, as well as websites and social media (18). Of 97% of junior and senior high school students had accessed pornographic content. Primary school children already know that accessing pornography is not allowed (19).

Accessing adult content that is found a lot at the age of 10-19 years can affect health and social life. This age group is the age of adolescents who have high curiosity, and the occurrence of changes, both in emotional changes, physical changes, and psychological changes (20). Pornographic content can be easily accessed by anyone, especially Generation Z who are very good at using gadgets to access any information. It is very difficult to stem the flow of negative information that can harm children, so the most potential strategy to overcome this problem is to strengthen children not to be affected by the environment and negative information. For this reason, research is needed that aims to understand how primary school-age children behave in accessing pornographic content.

## METHOD

This study is a quantitative study using a descriptive approach. This research raises the topic of pornography which is considered a sensitive and taboo topic in Java, so an approach is needed that ensures data confidentiality to schools and parents. Based on this, this study uses a cross-sectional study design so that data collection is carried out quickly and does not interfere with school hours. The population that became the subject of this research were students in fifth grade at a public primary school in Semarang which amounted to only 63 children who had obtained the consent of their parents and schools to take data. The sample in this study is determined using a total population sampling technique.

The data in this study were taken using a questionnaire filled directly by the children after the school activities were over in August 2023. The independent variable in this study is children's characteristics (sex, age, and puberty status), while the dependent variable is the behavior of pornography consumption (content, context, onset, frequency, media, duration, reason, and peer influence). The instrument of each variable revealed good internal consistency. Each question is reliable (Cronbach alpha > 0.60). Kolmogorov Smirnov's test shows that all questions are valid. The data obtained were then analyzed using univariate analysis and linear regression.

## Ethical Approval

This research has been approved by the ethics committee of the Faculty of Public Health, Universitas Diponegoro No. 609/EA/KEPK-FKM/2023.

## RESULTS

Most respondents in this study were 11-year-olds (82.5%), comprising 41.3% boys and 58.7% girls. Table 1 shows that 60.3% of children are not yet pubescent. Some respondents in this study were pubescent at the age of 8 years (1.6%), 9 years (3.2%) and 10 years (11.1%). This is in accordance with the results of this study illustrated in table 1. A total of 39.7% of primary school-age children have accessed pornography, but 19% of them were exposed to pornography accidentally. They are exposed to pornography while accessing the internet for various purposes above. Pornographic links in the form of pop-ups or advertisements appear unintendedly. Some children felt uncomfortable and immediately closed the link because of feelings of guilt. Some of them began to be curious and ventured to explore further.

**Table 1.** The Category of Children's Characteristic

Characteristic	n	%
Age		
10 years	11	17.5
11 years	52	82.5
Sex		
Boy	26	41.3
Girl	37	58.7
Status of puberty		
Puber	25	39.7

Not puber yet	38	60.3
Age of puberty		
8 years	1	1.6
9 years	2	3.2
10 years	7	11.1
11 years	15	23.8

**Table 2.** The Distribution Frequency of Children's Access to Pornography

	<b>n</b>	<b>%</b>
<b>Accessing Porn</b>		
Has been accessing porn	25	39.7
The first age of accessing porn		
<7 years	2	3.2
7 years	2	3.2
8 years	1	1.6
9 years	5	7.9
10 years	7	11.1
11 years	8	12.7
Media to access porn		
Handphone	26	41.3
Laptop	1	1.6
Frequency		
Once a week	21	33.3
2-3 times a week	1	1.6
4-5 times a week	3	4.8
>5 times a week	1	1.6
Duration		
<5 second	13	20.6
5-30 second	9	14.3
30-60 second	2	3.2
>1 minute	2	3.2
Type		
Writing	5	7.9
Real people and freeze figure	4	6.3
Real motion	11	17.5
Animation motion	7	11.1
Content		
Naked	11	17.5
Genital	2	3.2
Kiss on the cheek	10	15.9
Kiss on the lip	9	14.3
Necking	1	1.6
Girl's breast	1	1.6
Petting	1	1.6
Vaginal sex	2	3.2
Oral sex	1	1.6
The reason for accessing porn		
Unintended	12	19.0
Curiosity	12	19.0
Peer influence	1	1.6
Number of friends accessing porn		
I don't know	43	68.3
1	10	15.9
2-3	5	7.9
>3	5	7.9

The respondent of this study admitted that they had accessing porn since they were toddler. Most of them are exposed to pornography through their parents' handphone. As many as 33.3% of children access pornography at least once a week. As many as 20.6% of children admitted that they were exposed to pornographic content for less than 5 seconds because they immediately closed the link that appeared once after they noticed it. However, some other children began to be curious and watched longer. This is very dangerous because it can be addictive and trigger the practice of sex. Most children do not know how many of their friends also access pornography, but as many as 7.9% of children can name more than 3 of their friends who they know are also accessing pornography. The pornographic content they access is generally images of naked people and scenes of kissing cheeks or lips. Some children have also watched scenes or pictures depicted about vaginal and oral sex. About 17.5% of pornographic content accessed is in real motion (see table 2).

**Table 3.** Cross-tabulation between Children's Characteristics and Accessing Porn

Variable	Accessing porn		Total n (%)	p-value
	Risky n (%)	Very risky n (%)		
Age				
10 years	6 (16.2)	5 (19.2)	11 (17.5)	0.756
11 years	31 (83.8)	21 (80.8)	52 (82.5)	
Sex				0.888
Boy	15 (40.5)	11 (42.3)	26 (41.3)	
Girl	22 (59.5)	15 (57.7)	37 (58.7)	
Status of puberty				0.491
Puber	16 (43.2)	9 (34.6)	25 (39.7)	
Not puberty yet	21 (56.8)	17 (65.4)	38 (60.3)	

Table 3 shows that primary school-age children who access pornography with the very risky category are children who are older/11 years old (80.8%), girls (57.7%) and have not experienced puberty (65.4%). There is no influence between age, sex, and status of puberty and pornography access behavior in primary school-age children (see table 4).

**Table 4.** The Result of Multivariate Analysis on The Variable of Accessing Porn

Variable	B	SE	Wald	P-value	OR (95% CI)
Age	-0.023	0.189	-0.017	0.905	-0.400, 0.355
Sex	-0.032	0.136	-0.032	0.813	-0.304, 0.240
Status of puberty	-0.084	0.141	-0.084	0.551	-0.366, 0.197

## DISCUSSION

Children in late childhood experience emotional and social changes that allow them to form stronger, more complex friendships with peers. This affects the formation of his personality. Children of this age need to have friends, especially of the same sex. Thus, of course, they are very likely to experience more peer pressure. In terms of thinking and learning, children in this age group may face more academic challenges in school, become more independent from their families, and begin to see other people's points of view more clearly (21,22).

Puberty in girls is characterized by menstruation, while in boys have wet dreams. Most children enter puberty by age 15. The average age of puberty for girls in Indonesia is 12.5 years, while boys experience wet dreams at an average age younger than girls (23). However, some respondents in this study were pubescent at the age of 8 years (1.6%), 9 years (3.2%) and 10 years (11.1%). Thus, they have been able to experience conception at a very young age (24). Children who experience early maturation are associated with faster improvement in attention skills during adolescence for both boys and girls. In addition, early maturation predicted poorer self-control among girls but not boys. This needs more attention because adolescence is a period full of vulnerabilities and opportunities (25). Therefore, children need to be equipped with cognitive life skills to save themselves from the negative impacts of their social environment such as the influence of access to pornography (26).

At the beginning of accessing pornography, children often feel guilty and ashamed because they know that what they see is inappropriate or not in accordance with the values they adhere to. These feelings can trigger anxiety and fear if they are caught. Pornography often presents inaccurate or unrealistic information about sexuality. This can make children feel confused and unsure about what is normal or healthy in sexual relationships. Children who are exposed to pornography may begin to compare themselves or others to what they see in videos or pictures. This can lead to feelings of insecurity, low self-esteem, and anxiety about their sexual appearance or performance (10,27).

The impact of addiction can make changes in the brain. Some studies suggest that excessive exposure to pornography can cause changes in brain structure and function, especially in areas related to pleasure, motivation, and self-control. These changes can make children more susceptible to addiction. Compulsive behavior begins to appear in children who are addicted to pornography. They find it difficult to control their desire to watch or search for pornographic material, spending a lot of time and energy doing so, even if it interferes with other activities in their lives (10,27).

Nowadays, the internet has also become a child's daily life. Even schools use gadgets and the internet as one of the media in learning. Internet users in Indonesia alone in 2017 reached 143.26 million people or around 54.68% of the total population of Indonesia. The penetration rate of internet users in Indonesia itself in 2017 was 77.63%, with internet users aged 10-14 years amounting to 768,000 people (28). Of 76% of the primary school-age children in Indonesia reported that the mobile phone belongs to them personally, hence they do not share its use with their siblings. Most children have a mobile phone at the age of ten, while 2% reported that they already own one from the age of five (29).

Most children mainly use the internet for entertainment. They use the Internet to play online games (49.5%); 20% of the children said they use the internet mainly for chatting; 10.9% use it mainly to browse for school assignments; and 10.1% for downloading information, including song lyrics, information about one's favorite sports club, or favorite artist/idol. A small portion of the respondents claim to mainly use the Internet for sending/receiving email (4.2%), designing something (2.7%), or reading the news (2.5%); 10% indicate they have accessed an adult site at least once (29). This is even more terrible with the data shown by the national survey from Ireland which states that 18% of children aged 9 to 17 years say that they have seen sexual messages on the internet in the past 12 months. As much as 5% of children aged 9-10 say they have seen images of this kind. This increases to 11% for 11-12-year-olds, 19% for 13-14-year-olds, and one-third (33%) of 15-17-year-olds report having received such images. Gender differences are notable with more boys than girls (21% vs. 16%) reporting exposure to sexual content. For comparison, the EU Kids Online 2020 study of 19 European countries reported an average of 33% of 9-16-year-olds seeing images in the past year. This ranges from the lowest finding of 21% in France to 43% in Czech Republic (30).

Some children were exposed to pornography accidentally. They are exposed to pornography while accessing the internet for various purposes. Pornographic links in the form of pop-ups or advertisements appear unintendedly. Some children felt uncomfortable and immediately closed the link because of guilt. Some of them began to be curious and ventured to explore further. Pornography and sexual issues are not commonly discussed among children in Indonesia because of taboo presumptions. This has become a value taught by families and schools so that children generally know that it is not right and is not allowed (19).

Children in Indonesia are getting to know the internet at a very young age. Most start to know the internet at the age of 6-8 years, but not a few have started to know the internet at a younger age, namely 3 years. The majority of them know the internet through their own families, namely their parents, siblings, and grandparents. The most widely used location to access the internet is at home. Children at the age of 9-11 years are still mostly classified as light users in using the internet. That is, they only access the internet for less than 7 hours per week. Only 9% of them become high users, especially accessing the internet for a long duration on weekends (31). The use of the internet or online communication is becoming a trending phenomenon, especially among teenagers. Today, many teenagers are involved in online social networks, both as producers and as users of online information. However, the use of the internet is often used by teenagers to provide information about their personality to others who may not be very well known. Teenagers, who use the internet to communicate online with strangers, will pose risks to the teens themselves, such as sexual harassment carried out online or direct access to harmful content and content that violates privacy (32).

Premarital sex behavior is significantly associated with access to pornography. Access to magazines, books, pornographic films, and pornoaction films that expose the pleasure of sex causes early adolescents to begin trying to do so (33,34). Previous research stated that 60.6% of adolescents access pornography at least 1 time per day with the majority using personal cellphone media (59.2%) and done at home. In fact, 1.2% of adolescents begin to be exposed to pornography from the age of 5-8 years (17). When compared based on sex, there is no significant difference between boys and girls in accessing pornography (35). This is consistent with the finding that reports no influence between age, sex, and status of puberty and pornography access behavior in primary school-age children.

Indonesia has experienced rapid growth in internet and smartphone penetration. This has led to increased access to information and entertainment but also poses challenges in regulating content and protecting children. There is a gap in digital literacy among parents and children, making it difficult to navigate the online world safely and identify inappropriate content. This is further exacerbated by parents who may not be actively involved in monitoring their children's online activities, due to work commitments or a lack of awareness (36).

Indonesian society generally holds conservative views on sexuality, with open discussions often considered taboo. This can lead to a lack of comprehensive sex education for children. After that, children may turn to online sources to seek information about sexuality due to a lack of guidance at home or school. The easy availability of pornography and other sexual content online can normalize such material for children, potentially leading to risky behaviors. This can expose them to inaccurate or harmful content (37).

It is important to note that these are complex issues with no easy solutions. A multi-faceted approach involving parents, educators, policymakers, and technology companies is needed to create a safer online environment for children in Indonesia. The Indonesian government has launched programs to promote digital literacy and provide guidelines for online safety. Organizations and NGOs are working to educate parents about the importance of monitoring their children's online activities and engaging in open communication about sexuality. Health offices and education offices are still struggling to gradually incorporate literacy and sex education into their curriculum.

This study faced a limitation in the form of a small number of samples. This is due to the sensitive topic and the age of the respondents who are still classified as children, so an intensive approach is needed to schools and parents to convince them to give consent for their children to be the sample in this study. Further research can improve the results of this study by increasing the number of samples. In addition, research related to the content accessed by children can be more detailed so that it can be used as a recommendation to the government in restricting porn content.

## **CONCLUSIONS**

Primary school-age children face greater challenges than ever. They have been exposed to pornography inadvertently since they were less than 7 years old. Almost all of them access pornography through mobile phones connected to the internet. To avoid bad influences, the Health Department of Family Health and School Health needs to partner with parents to improve supervision and communication between parents and children so that children can be responsible and avoid things that can harm their lives. Primary health care must work with PKK (Empowerment of Family Welfare Organization) and primary schools to strengthen this effort by equipping children with healthy living skills. Meanwhile, the government must be more decisive through recent legislation to create amendments and proposals for greater regulation of children's access to pornography online, such as age-inappropriate. In addition, the Digital Services Act, which will have a direct effect in Indonesia, places an obligation on providers of online platforms to ensure the online safety of children.

## **AUTHOR'S CONTRIBUTION STATEMENT**

RI and BW: concepts, design, definition literature concept, data analysis, statistical analysis, manuscript preparation. RHI: literature research, data acquisition. All: manuscript preparation, editing, review.

## **CONFLICTS OF INTEREST**

Confirms that the authors have declared any potential conflicts that could influence the impartiality of the research. The authors explicitly state that they have no financial or personal relationships with entities that might unduly affect their objectivity. This declaration ensures the integrity of the study by transparently addressing any possible influences on the research outcomes, contributing to the credibility and trustworthiness of the article.

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