



Determinant Risks of Adolescent Sex Behavior in Terjun Village

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Track Record Article	Abstract
<p>Revised: 25 September 2025 Accepted: 17 November 2025 Published: 31 December 2025</p> <p>How to cite : Bukit, D. S., Rochadi, K., & Keloko, A. B. (2025). Determinant Risks of Adolescent Sex Behavior in Terjun Village. <i>Contagion : Scientific Periodical of Public Health and Coastal Health</i>, 7(3), 81–91.</p>	<p><i>Adolescent sexual behavior is a complex issue that has a major impact on the health and well-being of young people worldwide. In today's internet era, it is shaped by many factors, including peer influence, family support, access to pornography, and reproductive health services. This study set out to examine the variables that influence adolescent sexual behavior. Using a cross-sectional design, researchers surveyed 170 adolescents in Terjun Village, selected through random sampling. Data were analyzed with the chi-square test to identify relationships between variables. The results showed that knowledge ($p = 0.006$), family support ($p = 0.0005$), and access to pornographic content ($p = 0.0005$) were significantly related to adolescent sexual behavior. In contrast, reproductive health services ($p = 0.196$) and peer influence ($p = 0.440$) did not show a significant relationship. These findings suggest that to help adolescents live healthier and more responsible sexual lives, efforts should focus on comprehensive sex education, strong family support, reproductive health promotion, and policy advocacy that reinforce these strategies.</i></p> <p>Keywords: <i>Adolescent, Sexual Behavior, Health, Risk</i></p>

INTRODUCTION

Adolescent sexual behavior is a complex public health issue with serious implications for the physical and mental well-being of young people worldwide (Jayanti & Nasution, 2020). Adolescents are particularly vulnerable to risky sexual practices, which can expose them to a range of health problems (Akhriansyah et al., 2022). These challenges are shaped by technological, cultural, and social changes that influence how adolescents interact and access information about sexuality (Mulyaningrum et al., 2021).

Risk factors include limited knowledge of reproductive health, peer pressure, exposure to unrealistic sexual content in media, and restricted access to safe and affordable health services (Dewi et al., 2023). National data reveal that 9.1% of male adolescents and 2.6% of female adolescents aged 15–19 in Indonesia have engaged in premarital sex (BPS & BKKBN, 2022). Alarmingly, nearly half of adolescents aged 15–24 lack comprehensive knowledge about HIV/AIDS (UNICEF, 2021).

According to the World Health Organization (WHO), unsafe sexual behavior places adolescents at high risk of contracting HIV and other sexually transmitted infections (STIs). In Indonesia, the adolescent pregnancy rate remains high, posing long-term risks to health and future opportunities (BKKBN). Previous studies have identified several factors influencing adolescent sexual behavior, such as education, family environment, social media, and peer

influence (Muklathi et al., 2022; Febriana & Mulyono, 2022). However, there is still a research gap in understanding the specific variables that drive adolescent sexual behavior in urban Indonesia. Few studies have examined in depth how peer dynamics, access to information, cultural values, family relationships, and school environments shape these behaviors (Antaria, 2024; Fahrudin et al., 2025).

This study seeks to fill that gap by investigating the risk factors influencing adolescent sexual behavior in Terjun Village, a densely populated urban area with diverse socioeconomic conditions and complex social dynamics. Terjun Village serves as an ideal case study for exploring how peer interactions, cultural norms, and family environments contribute to risky sexual behavior among adolescents (Lubis et al., 2023). The findings are expected to provide a deeper understanding of adolescent sexual behavior and lay the groundwork for more effective intervention programs to address this issue comprehensively.

METHODS

This study employed a cross-sectional design, collecting data at a single point in time to examine the relationship between independent and dependent variables. The research was conducted in Terjun Subdistrict, Medan Marelán District, North Sumatra Province, chosen because it is an urban area with a large and diverse youth population, making it a representative setting for studying adolescent sexual behavior in urban North Sumatra.

The population included all adolescents living in Terjun Subdistrict. From this group, 170 adolescents were selected using a simple random sampling method. The independent variables were: level of knowledge, use of adolescent reproductive health services, family support, peer behavior, and exposure to pornographic content. The dependent variable, adolescent sexual behavior, was measured using indicators such as condom use, age at first sexual intercourse, and number of sexual partners.

To ensure validity, the study used established instruments commonly applied in adolescent sexual behavior research. Knowledge was measured using items adapted from the Adolescent Sexual and Reproductive Health Knowledge Scale, covering puberty, contraception, and sexually transmitted infections (STIs); Family support was assessed with Likert-type questions adapted from the Perceived Parental Support Scale, measuring adolescents' perceptions of parental support; Peer behavior was measured using items from the Peer Pressure Inventory, focusing on the influence of friends on dating and sexual behavior; Exposure to pornography was measured using a frequency scale, asking about types and

sources of exposure. And adolescent sexual behavior was measured using selected items from the Sexual Risk Behavior Scale and the Adolescent Sexual Behavior Inventory (ASBI), covering behaviors from early dating to premarital sex.

All instruments were administered through confidential self-report questionnaires, designed to ensure data reliability and minimize reporting bias. For analysis, data were processed using the chi-square statistical test in SPSS (version 25.0), with the significance level set at $\alpha = 0.05$. This study received ethical approval from the Research Ethics Committee of STIKes Hang Tuah Surabaya (Letter No. PE/154/XII/2022/KEP/SHT), ensuring that all procedures complied with established research ethics standards.

RESULT

Table 1. Frequency Distribution of Respondent Characteristics

Respondent characteristics	N	%
Education Status		
School Attrition	3	1.8
School	167	98.2
Daily Allowance		
< Rp. 30.000	163	95.9
≥ Rp. 30.000	7	4.1
Adolescent Age		
Early Adolescence	89	52.4
Middle adolescent	69	40.6
Late Adolescence	12	7.0
Total	170	100.0

Table 1 shows that the vast majority of respondents are still students (98.2%), with only a small proportion having dropped out of school (1.8%). Most respondents also reported having pocket money of less than Rp. 30,000 per day (95.9%). Looking at age groups, more than half of the respondents are in the early adolescent stage (52.4%), followed by middle adolescents (40.6%), while only 7.0% are late adolescents.

These findings suggest that formal education serves as a strong protective factor against risky behavior, since nearly all participants remain actively enrolled in school. At the same time, the predominance of early adolescents highlights that most respondents are at a developmental phase marked by curiosity and vulnerability to external influences. This underscores the importance of reproductive health education and strong family support in guiding adolescents toward healthy and responsible behavior.

Table 2. Risk Factor Analysis of Adolescent Sex Behavior

Risk Factor	Adolescent Sex Behavior						P-value	PR (95% CI)
	Risk		No risk		Total			
	n	%	n	%	n	%		
Knowledge								
Less	75	68.1	35	31.8	110	100	0.006	1.461 (1.083 – 1.970)
Good	28	46.6	32	53.3	60	100		
Family Support								
Less Support	70	76.9	21	23	91	100	0.005	1.841
Support	33	41.7	46	58.2	79	100		(1.387 – 2.445)
Pornographic Content Access								
Ever	90	81	21	18.9	111	100	0.005	3.680 (2.258-5.997)
Never	13	22	46	77.9	59	100		
Reproductive Health Services								
Less	59	56.7	45	43.2	104	100	0.196	0.851
Good	44	66.6	22	33.3	66	100		(0.670 – 1.081)
Peer Influence								
Less	60	58.2	43	41.7	103	100	0.440	0.908
Good	43	64.1	24	35.8	67	100		(0.712 – 1.157)

The analysis of risk factors for adolescent sexual behavior revealed several statistically significant relationships. Adolescents with low levels of knowledge were more likely to engage in risky sexual behavior (68.1%) compared to those with good knowledge (46.6%). This difference was significant ($p = 0.006$; $PR = 1.461$; 95% CI: 1.083–1.970).

Family support also emerged as a protective factor. Respondents who reported low family support showed a much higher proportion of risky behaviors (76.9%) compared to those with strong family support (41.7%), with a statistically strong relationship ($p = 0.005$; $PR = 1.841$; 95% CI: 1.387–2.445).

Exposure to pornographic content demonstrated the strongest association. Among adolescents exposed to pornography, 81% engaged in risky sexual behavior, compared to only 22% of those not exposed. This relationship was highly significant ($p = 0.005$; $PR = 3.680$; 95% CI: 2.258–5.997).

By contrast, no significant associations were found between risky sexual behavior and access to reproductive health services ($p = 0.196$; $PR = 0.851$; 95% CI: 0.670–1.081) or peer influence ($p = 0.440$; $PR = 0.908$; 95% CI: 0.712–1.157).

Overall, these findings suggest that knowledge, family support, and exposure to pornographic content are strong determinants of adolescent sexual behavior, while reproductive health services and peer influence did not show measurable effects in this study population.

DISCUSSION

Knowledge

Knowledge plays a central role in shaping adolescent sexual behavior, as explained by well-established behavioral theories. When adolescents have accurate information about sexual and reproductive health, they are more likely to recognize the risks, understand the benefits of protective actions, and feel confident in carrying them out, mechanisms emphasized in the Health Belief Model (HBM) and related frameworks. Intervention studies using HBM approaches show that improving knowledge enhances both risk perception and self-efficacy, which in turn support safer choices. Similar pathways are described in Ajzen's Theory of Planned Behavior and Social Cognitive Theory, where attitudes influence intentions, which then guide behavior (Ozdemir & Cevik, 2025).

In practice, better knowledge can shape attitudes toward condom use, delay sexual initiation, and encourage the use of reproductive health services by changing beliefs about consequences and available protective options. Knowledge also interacts with self-efficacy (confidence in negotiating safe sex) and perceived norms (expectations from peers and family). This means that information alone is necessary but not always sufficient, knowledge is most effective when paired with skills training and supportive environments that help adolescents put understanding into practice.

Recent studies reinforce these theoretical links. A 2023 scoping review in Indonesia found that reproductive-health knowledge was a consistent determinant of premarital sexual behavior during the COVID-19 period, recommending health-promotion to improve knowledge and attitudes (Muthmainnah et al., 2023). A cross-sectional study of Brazilian medical students reported high rates of risky sexual behavior alongside low STI knowledge, with poorer knowledge linked to lower condom use (Nascimento et al., 2024). Similarly, a large study of young women (n = 705) found that higher sexual-health literacy was associated with lower risky behavior (Ozdemir & Cevik, 2025). Evidence from Indonesia also supports this pattern: adolescents with low reproductive health knowledge were more likely to engage in risky sexual behaviors compared to those with adequate knowledge (Lubis et al., 2023). A multilevel study in Thailand further showed that strong sexual health literacy, especially the ability to apply information, served as a protective factor against risky behaviors (Benchamas et al., 2024). Interestingly, a study in Bogor reported the opposite trend, finding that sexual knowledge was directly correlated with increased adolescent sexual involvement (Maria & Indrayani, 2025).

Taken together, these findings suggest that knowledge is both a protective factor and a prerequisite for effective sexual health education. However, its impact depends on how well it is integrated with skills-building, family support, and school-based interventions that help adolescents translate information into responsible behavior.

Family Support

Family support plays a crucial role in reducing adolescent sexual risk, as explained by well-established theoretical frameworks such as Bronfenbrenner's ecological systems theory and models of parental monitoring and social control. Within the family microsystem, communication, supervision, and emotional support shape adolescents' attitudes, norms, and opportunities for behavior. When these processes are strong, they limit exposures and choices that could lead to risky sexual behavior. Large multisite studies confirm that parental behaviors, such as understanding adolescents' problems and monitoring academic and leisure activities, are linked to lower odds of sexual activity and other sexual risks (Shawon et al., 2024).

Family support works through several pathways: Open parent–child communication improves sexual health knowledge and beliefs about safe sex; Consistent monitoring reduces unsupervised opportunities for sexual encounters; Emotional support buffers stressors that might otherwise trigger risk-taking

Both longitudinal and cross-sectional studies document these mechanisms. For example, better family functioning (communication and satisfaction) predicted reduced sexual risk-taking over time, while stronger perceived family relationships were linked to a lower likelihood of online sexual risk behaviors (Garcia Saiz et al., 2021; Chou et al., 2024).

Empirical evidence mirrors these findings. A recent global GSHS analysis showed that adolescents whose parents understood their problems and monitored school/leisure activities had significantly lower odds of sexual exposure and risky behaviors across multiple countries. Similarly, longitudinal studies found that higher family communication and satisfaction were protective against sexual risk-taking.

Together, these contemporary studies (2021–2024) provide convergent evidence that low family support increases adolescent sexual risk, corroborating the associations observed in the current research (Garcia Saiz et al., 2021; Shawon et al., 2024; Chou et al., 2024). Recent studies also highlight that strong family support, particularly open communication and effective family functioning, is consistently associated with reduced engagement in risky sexual behavior. Evidence from Indonesia shows that adolescents who feel supported by their families are less likely to engage in risky sexual practices, while cross-country findings confirm

that good parent–child communication acts as a protective factor against early sexual initiation and unsafe behaviors (Alfitri et al., 2024; Melese et al., 2024).

Pornographic Content Access

Adolescent exposure to pornographic content is strongly linked to risky sexual behavior. In many settings where formal sex education is limited, pornography often becomes an alternative source of sexual knowledge. However, the content typically portrays unrealistic sexual norms, such as unprotected intercourse, aggressive acts, and relationships without emotional ties, which can foster misconceptions about sexuality among adolescents (Andamon et al., 2025). Empirical evidence supports these concerns. For example, research by Yunengsih & Setiawan, (2021) found that the age of first exposure, type of content consumed, and level of addiction to pornography were significantly correlated with risky sexual behavior among students ($p < 0.05$; $r = 0.241$).

Several psychosocial theories explain this phenomenon: Social Learning Theory (Bandura): Adolescents imitate behaviors they observe in media, especially when those behaviors appear socially rewarded; Sexual Script Theory: Pornography provides “scripts” or patterns of sexual behavior that adolescents may adopt as normative guidelines; Cultivation Theory: Repeated exposure shapes perceptions of reality, potentially shifting what adolescents view as “normal” sexual behavior.

These frameworks align with recent findings. A cross-sectional study of Galician teenagers (aged 12–17) showed that pornography consumption was associated not only with sexist attitudes but also with risky behaviors such as sexting, meeting strangers online, and exchanging sexual content (Faisal et al., 2022).

Contemporary research further strengthens the link. Studies indicate that higher frequency and intensity of pornography exposure increase the likelihood of permissive attitudes toward sexuality and unsafe sexual practices. A U.S. study reported that pornography exposure raised the likelihood of condomless sex, though this effect was reduced when parents engaged in effective sexual health communication, highlighting the protective role of open dialogue (Wright & Herbenick, 2025). Additionally, neurocognitive evidence shows that adolescents with frequent exposure exhibit altered brain activity, including longer reaction times and reduced accuracy on cognitive tasks, underscoring the neurological impact of habitual pornography use (Shu et al., 2025).

Reproductive Health Services

There are several theoretical reasons why access to or use of reproductive health services may show no statistical association with adolescent sexual behavior in cross-sectional

studies. Service use is only one step in a complex causal chain. Simply gaining knowledge or having brief contact with services does not automatically change the deeper drivers of behavior, such as motivation, perceived norms, or self-efficacy. This reflects the well-known knowledge, attitude, behavior gap. Selection and measurement issues can obscure effects. Adolescents who already engage in risky sexual behavior are often more likely to seek services (reverse causation). In addition, simple measures of “use” (e.g., ever/never) fail to capture important dimensions such as service quality, frequency, confidentiality, or whether counseling addressed behavioral skills. In other words, exposure does not equal effective intervention.

Contextual barriers, including stigma, unfriendly providers, limited privacy, cultural resistance, and weak links between information and services, reduce the potential impact of services on actual behavior (Tilahun et al., 2024; Langat et al., 2024). These points explain why utilization metrics may appear uncorrelated with behavioral outcomes, even when services are available.

Empirical evidence supports this interpretation. A 2025 scoping review found that many sexual and reproductive health (SRH) interventions reliably improve knowledge and attitudes, but evidence for consistent, population-level behavior change remains mixed and highly dependent on intervention design, intensity, and context (Putri et al., 2025). Qualitative studies from 2023–2024 further highlight that low service quality, confidentiality concerns, religious/cultural resistance, and poor promotion of adolescent-friendly care limit effectiveness factors that help explain null associations between simple service-use indicators and risky sexual behavior in quantitative studies (Tilahun et al., 2024; Langat et al., 2024). These findings suggest that future research should go beyond measuring basic utilization. Instead, studies should assess service quality, timing, and behavior-change components, and adopt longitudinal designs to better evaluate causal effects.

Peer Influence

There are several theoretical reasons why peer influence may show no statistically significant association with adolescent sexual behavior in this study. Theoretical models distinguish between peer selection and peer socialization. Adolescents may choose friends with similar predispositions (selection) rather than being changed by them (socialization). As a result, measured peer characteristics do not always reflect causal influence on behavior (Veenstra & Laninga-Wijnen, 2022). Measurement issues can obscure effects. If the survey captures only general peer attitudes or indirect pressure, rather than sexual-specific norms or overt encouragement, it may miss the aspects of peer interaction that actually drive sexual behavior (e.g., modeling sexual acts or providing opportunities).

Family and cultural moderators, such as strong parental monitoring, conservative community norms, or limited opportunities for unsupervised interaction, can weaken the translation of peer attitudes into behavior. In such contexts, peers may shape attitudes but not actual conduct (Crespo-López & Koning, 2025). Finally, developmental timing matters. Peer effects are often strongest for certain behaviors, ages, or subgroups. In mixed-age samples or those dominated by early adolescents, peer influence on sexual behavior may be weaker or appear non-significant.

Empirical evidence supports these theoretical explanations. A large-scale, cluster randomized study of adolescent girls in Uganda found that peer pressure was not associated with risky sexual behavior, even though it was correlated with substance use. This suggests that peer influence is domain-specific and varies across social and cultural contexts (Namuwonge et al., 2024). Similarly, a 2023 study of adolescent girls in Italy reported that most sexting activity occurred with romantic partners rather than due to peer pressure, indicating that intimate relationships or individual factors may play a stronger role than peer groups (Verrastro et al., 2023). Taken together, these findings show that the null association observed in this study can be explained theoretically when considering measurement instruments, contextual moderators, and the specific forms of peer influence examined.

CONCLUSION

The analysis shows that knowledge, family support, and exposure to pornographic content are significantly related to adolescent sexual behavior, with p-values below 0.05 and prevalence ratios (PR) greater than one. This means that adolescents with limited knowledge, weak family support, or exposure to pornography are more likely to engage in risky sexual behavior. By contrast, access to reproductive health services and peer influence did not show significant associations in this sample. This suggests that the effects of these factors may be more complex, possibly mediated by other contextual influences such as service quality, cultural norms, or parental monitoring.

Overall, these findings highlight the importance of educational interventions, family-based communication, and digital media exposure in shaping adolescent sexual behavior. They also point to the need for further research in urban Indonesian settings, where cultural norms and access to information are rapidly changing, to better understand how these factors interact and influence adolescent risk-taking.

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