

THE RELATIONSHIP BETWEEN PREMARITAL SEXUAL BEHAVIOR AND STI INCIDENCE AMONG KAMORO ADOLESCENTS

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Abstract

Premarital sexual behavior is an emerging public health concern among Kamoro adolescents because of its potential association with sexually transmitted infections (STIs). However, studies integrating epidemiological and sociocultural perspectives on this issue among Kamoro adolescents remain limited. This study aimed to examine the relationship between premarital sexual behavior and STI incidence and identify its influencing factors among Kamoro adolescents in the Mapurujaya Health Center working area. A mixed-methods approach combined a quantitative cross-sectional design and a qualitative case study. The quantitative population comprised 2,586 adolescent visits to Mapurujaya Health Center in 2024. A total of 536 adolescents were selected for the quantitative study, while 10 informants were recruited for the qualitative study using purposive sampling. Quantitative data were analyzed using prevalence ratios (PR), chi-square tests, and attributable risk analysis. The results showed that the variable with the highest attributable risk for the incidence of STIs was Ethnicity in adolescents at 3.46%, and the lowest was gender (-0.53%). Age above 15 years (late adolescence) was significantly associated with STI incidence. The highest prevalence ratio was for Tribe, which was 5.11 (95% CI: 0.59-44.04). Qualitative findings indicated that premarital sexual behavior was common among Kamoro adolescents and was influenced by family dynamics, social environments, social media, and globalization. Customary practices played a limited role in prevention. In conclusion, premarital sexual behavior is shaped by interconnected social and cultural factors, while late adolescence is associated with STI incidence. These findings highlight the need for culturally appropriate reproductive health education and community-based STI prevention.

Keywords: Adolescents; Premarital sexual behavior; Kamoro; Sexually transmitted infections.

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1. INTRODUCTION

The phenomenon of promiscuous sexual behavior in Indonesia is increasingly concerning, where data from the results of a survey conducted by the Indonesian Child Protection Committee (KPAI) quoted by Noer, stated that as many as 32% of adolescents aged 14-18 years in major cities in Indonesia (Jakarta, Surabaya, Bandung, and Yogyakarta) have had sex. The results of the survey stated that one in four adolescents in Indonesia had sex and showed that 62.7% of adolescents lost their virginity while still in junior high school; some of them had done extreme things, namely having an abortion(1).

Adolescent sexual behavior is any behavior that is driven by sexual desire, both with the opposite sex and with the same sex (2). These forms of behavior usually vary, ranging from feelings of attraction to dating, making out, and having intercourse. The sexual object is usually someone else, an imaginary person, or yourself (3). Healthy sexual behavior is carried out in a private place in a legally valid bond (4).

It was found that 1.8% of Indonesian adolescents had agreed to engage in premarital sexual activity. Around 25% of respondents reported having kissed and made out, while 9.34% reported having fingered with the opposite sex. BPS data in 2023: women aged 20 - 24 years who were married before the age of 18 were 6.92% (6). According to the National Commission for Child Protection (NCCP), 62.7% of adolescents in Indonesia have had free sex (7).

The high incidence of promiscuous sexual behavior in adolescents is caused by cognitive development (changes in mental ability), emotional (behavior), and social capacity during early adolescence, as well as high curiosity among adolescents about everything. In addition, it is also caused by various factors such as the strength of adolescents' faith, lack of parental attention, curiosity, uneducated spectacle, knowledge, and misassociation (7).

The number of HIV/AIDS cases in Papua Province in 2021 was recorded at 46,967 cases. In the adolescent group aged 15 to 19 years, the number of cases reached 5,706, while cases in the age group of 20 to 24 years reached 9,330 (8). Adolescents aged 15-24 years are an age group at risk for infection with Sexually Transmitted Infectious Diseases (STIs), including the Human Immunodeficiency Virus. About 2% of women aged 15-24 years and 3% of married men aged 15-24 years have had sexual intercourse before the age of 15 years (9). Factors influencing this behavior include a lack of sexual education, peer influence, social media, and local social and cultural conditions (10).

2. METHOD

This study uses two types of designs, namely quantitative research with a cross-sectional design and qualitative research with a case study design. The researcher uses these two designs as a strategy to increase the credibility and trustworthiness of the data by comparing information from secondary data

analyzed epidemiologically (cross-sectional design) and qualitative data analysis from informants who assess adolescent sexual behavior from different perspectives (case study).

In addition, the researcher conducted triangulation with the aim of enriching understanding and strengthening the interpretation of the meaning of phenomena. The population in the quantitative study is all adolescent data obtained from adolescent visits at the Mapurujaya Health Center in 2024, a total of 2586 visits. The sample in this study is part of the population. The sample studied was 536 samples taken by the purposive sampling technique, while the informants for the case study design were 10 informants taken by the purposive sampling technique.

3. RESULTS AND DISCUSSION

Results:

Quantitative analysis

This study involved 536 samples that were analyzed using 3 analyses, including: attribute risk analysis, prevalence ratio, and Chi-Square analysis. The following are the results of the analysis:

Table 1. Risk Attributes Analysis (RA), Prevalence Ratio (PR), and Chi-Square: Age, Gender, and Ethnicity on the incidence of STIs at the Mapurujaya Health Center, Mimika Regency

Research Variables	STIs Status			RA (%)	Chi- Square Analysis			
	STIs	None STIs	Total		Confidence Interval (95%)			
	N (%)	N (%)			p-value	PR	Lower	Upper
Ages								
Late teens>=15 Years	5 (1,9%)	251(98%)	256	1,95	0.024	0,98	0,96	0,998
Early teens 10-14 years old	0 (0%)	280 (100%)	280					
Gender								
Male	2 (0,7%)	288 (99,3%)	290	-0,53	0,665	0,566	0,09	3,30
Female	3 (1,2%)	243(98,8%)	246					
Tribe								
Kamoro	1(4%)	24(96%)	25	3,46	0,21	5,11	0,59	44,04
None kamoro	4(0,8%)	507(99,2%)	511					

Source: Secondary Data, 2025

Based on the table above, it is known that the variable with the highest attribute risk for the incidence of STIs is Tribe in adolescents at 3.46%, and the lowest is gender at -0.53%. The results of the Chi-square analysis show that the significant variable associated with the incidence of STIs in adolescents is Age > 15 years (late adolescents). For the highest prevalence ratio, the Tribe is 5.11, but because the lower and upper values include the number 1, the prevalence ratio is not significant.

Results Kualitatif Analysis

The results of the interview with the informant showed that Kamoro tribal teenagers considered that premarital sex was common and not something that should be hidden. The teenagers who were interviewed also admitted that they had had premarital sex without feeling ashamed.

"....normally, I already had premarital sex after graduating from elementary school"(I3)

The social environment, especially peers, has a strong influence on adolescents' decisions in having premarital sex. Here is an excerpt of the interview;

"....it is very influential because there are friends who invite you to find a girlfriend, invite you to watch porn videos...." (I¹).

Parents have a great influence on premarital sex. Parents generally give general advice on education, but explicit talk about sexuality is minimal.

"... Parents always give advice to children so that school is good, people can work because there is a school diploma and they can work" (I4)

Some Kamoro teenagers watch porn videos using mobile phones, and some claim to have never watched porn videos, and they have sexual intercourse because their boyfriends invite them to have sex after watching porn videos.

"....I used to see on my friend's cellphone watching porn videos, sometimes.." (I1)

The traditional role of the Kamoro tribe in the prevention of premarital sex is minimal. Adolescents state that the church is more active in providing advice and rules. The following are excerpts from the interview;

"The priest once said not to be near women if you are not married." (I²)

... From the customs, there is no custom; the traditional chief never conveys anything. (I⁴)

"... The chief just reminded about not getting drunk in front of the highway; later you get in trouble..." (I⁶).

Different things were expressed by parents and traditional leaders of the Kamoro tribe; they actually considered that it was teenagers who did not heed customs.

.... "But the younger generation no longer holds cultural values." (I⁵)

"There are still many drunks, a lot of promiscuity(I⁷).

The results of interviews with traditional leaders, educators, health workers, and the child protection commission really hope that there will be an increase in counseling efforts. The following is an excerpt of the interview:

“Perhaps a strategy could be for the community health center (Puskesmas) to conduct outreach sessions—ideally once a week—so that the children can gain a better understanding...” (I⁸)
“Maybe the church could also get involved. They could explain the consequences of premarital sex—such as the risk of contracting diseases, for instance, HIV, which can even be fatal. It’s important to make the risks known.” (I⁹)
“There must be parental supervision—from both the father and the mother—including oversight within the home, especially if other male relatives, like an uncle, are present. Parents shouldn’t be overly trusting of their children; after all, there are many men out there.” (I¹⁰)

Discussion

1. Tribal Relationships with Premarital Sex

The highest risk attribute for the incidence of STIs is ethnicity in adolescents, which is 3.46%, or it is interpreted that around 3.46% of STI cases in adolescents can be attributed to ethnic factors (e.g., differences in cultural norms, sexual behavior, or access to health care influenced by ethnic background). There are three variables that are assessed as risk attributes; the tribe variable has the highest attribute risk. This shows that, compared to age and gender factors, tribalism factors contribute the most to the risk of STIs in adolescents.

The practical meaning of this risk attribute is that interventions for the prevention of STIs in Kamoro adolescents need to consider tribe-based socio-cultural factors, such as sexual health counseling programs tailored to local culture and language. Collaborate with

indigenous and religious leaders in reproductive health education. Address social norms that encourage risky premarital sex or low access to reproductive health services.

Health counseling by adjusting to the local language is very important. According to research by Sartika Sinaga et al. (2024), there is a difference in the average knowledge score about ISPA before and after counseling interventions using the Moni language, with a p-value of 0.000, indicating that the use of the local language affects the knowledge of Moni tribal residents in Bilogai, Intan Jaya Regency (11).

The results of this study are the same as those of Kartini Estelina Tungka et al.; behavior must be influenced by how adolescents understand the norms and their ability to perform expected behaviors; however, adolescents obeying societal norms are expected to be able to avoid premarital sexual behavior if adolescents face

many temptations after they date and live far from their parents (12).

According to research by Putriani et al., adolescents who have an attitude of hesitation towards sexual behavior; in other words, this needs to be a concern for parents, educational institutions, the Nagari Customary Density, and also the government to create curative programs so that adolescents are able to fortify themselves from promiscuous sexual behavior. The parenting style that parents undergo in parenting can make children have an assertive attitude when there are bad influences that come, including influences in promiscuous sexual behavior (13).

Negative cultural practices such as the pesta pesek, papis, and kumbi traditions, as well as the tari gelang (bracelet dance), have been identified in research by Zeth et al. (cited in Hasmi & Piter, 2025) as factors that increase the risk of HIV/AIDS transmission. Individuals participating in these practices face an odds ratio (OR) of 7.88 for HIV/AIDS infection compared to those who engage in culturally positive behaviors (the control group). Certain traditions, including tribal war celebrations and mourning rituals, can lead to casual, unprotected sexual encounters. For instance, the kumbi tradition among the Dani people of Papua, originally intended to help bereaved families overcome their grief, often concludes with women engaging in sexual relations with men who are not their lawful

partners. According to Hasmi and Piter (2025), alcohol consumption exacerbates the risk of HIV transmission, as the practice of changing sexual partners is frequently triggered by the influence of alcohol. Alcohol consumption carries an OR of 12.2 for engaging in premarital sex. A higher proportion of Papuans are infected with HIV, partly due to alcohol-related behaviors that lead to unsafe sexual practices. Research by Zeth on the impact of alcohol on the spread of HIV indicates that Papuans who consume alcohol are 4.4 times more likely to contract HIV than those who do not (14). These findings align with research by Winny Kirana Hasanah, which shows that 11.2% of adolescent males have engaged in premarital sex, and 41.9% have a history of alcohol consumption. Adolescent males with a history of alcohol use are at an increased risk of engaging in premarital sex (OR = 7.84; 95% CI = 6.51–9.45), even after controlling for age and the influence of peers who have also engaged in premarital sexual activity (15).

2. The Relationship of Adolescence with Sexually Transmitted Infections

The risk attribute value for the age variable is 1.95%. This value is interpreted to mean that approximately 1.95% of sexually transmitted infection (STI) cases among adolescents at the Mapurujaya Community Health Center (Puskesmas) are associated with the age factor. In other words, if the risk factor of being in the 15–24 age group could be addressed through

interventions, there would be potential to reduce STI cases among the adolescent population at the Mapurujaya Community Health Center by 1.95%.

While this figure is relatively lower than that of the ethnicity risk factor—which has a risk attribute value of 3.46%—the age factor remains significant, as it is linked to the level of biological maturity in late adolescence. Risky sexual behavior, according to Andriani et al., yang cenderung meningkat seiring bertambahnya usia. Among adolescents aged 15–19, the largest proportion began dating for the first time between the ages of 15 and 17. Approximately 33.3% of adolescent girls and 34.5% of adolescent boys aged 15–17 had already started dating before they reached the age of 15. (16). The results of this study are consistent with the findings of Amelia et al. (as cited in Rohmatullah), which indicate that being between 28 and 44 years of age carries a 5.4-fold risk in relation to the occurrence of HIV/AIDS among men (17).

Older adolescents may be at greater risk because they are beginning to be sexually active, while younger adolescents are vulnerable due to a lack of information and skills to refuse sexual advances (17).

Reproductive health education programs should be carried out as early as possible, before adolescents enter the phase of risky sexual behavior (18). Adolescents have a high curiosity

about sexuality, which is a natural part of the developmental process. According to Sumiatin, this curiosity arises along with entering puberty, which is characterized by maturation of the reproductive organs and increased production of sex hormones. These biological changes encourage adolescents to seek new information and experiences related to sexuality, both through social environments and information media. Without proper guidance and education, such curiosity can lead to unsafe sexual behavior(19).

Late adolescence is between 16 and 21 years old. At this stage, adolescents behave similarly to adults and have formed their own identities and have their own opinions and ideas. The development of sexuality in late adolescence is related to serious relationships and a clear sexual identity(20).

Along with the development process of the reproductive organs in adolescents, psychological changes also arise, resulting in changes in attitudes and behaviors, such as starting to pay attention to one's appearance, starting to be attracted to the opposite sex, trying to attract attention, and feelings of love appearing, which will then give rise to sexual urges (21).

Sex Relationship With STIs

The results of this study indicate that the Risk Attribute for gender in relation to the occurrence

of STIs is -0.53%. Chi-square analysis reveals that the gender variable is not significantly associated with the occurrence of STIs. A negative Risk Attribute value (-0.53%) suggests that gender is not a risk factor; in fact, it may even be considered a protective factor in the context of STI occurrence among adolescents at the study site.

In other words, gender does not necessarily increase the incidence of STIs; in fact, certain groups (such as women or men) may even face a lower risk compared to the reference group. The value of -0.53% also indicates that the contribution of gender to STI incidence is relatively very small, suggesting that it is not a primary determinant when compared to other variables such as ethnicity (3.46%) or age (1.95%).

These findings differ from those of Ifana Devitasasri, whose research indicated that the prevalence rate suggests a tendency for males to be 1.34 times more likely than females to engage in behaviors that increase the risk of contracting a sexually transmitted infection (22). The results of this study also differ from those of Jacynth A. Fennell, who found a link between gender and adolescent sexual behavior, noting that 8.1% of females engaged in premarital sex due to coercion by their boyfriends (23).

Study Limitations

This study has several limitations, namely, first, this study uses a cross-sectional design, so

it can only describe the relationship between variables based on the condition of the respondents at the time of the study. Second, it is possible that the relationship between variables is also influenced by other factors that are not studied or not controlled in this study.

4. CONCLUSION

The highest attribute risk for the incidence of STIs is Tribe in adolescents 3.46% The lowest attribute risk for the incidence of STIs in adolescents was gender -0.53%. Chi-square analysis found that a significant variable associated with the incidence of STIs in adolescents was Age > 15 years (late adolescents). The highest prevalence ratio was Tribe which was 5.11 CI 95% (0.59-44.04). Premarital sex for Kamoro youth is common. The role of the family and social environment, social media, and globalization is considered to have a great influence on premarital sex. The role of customs is very minimal in efforts to prevent premarital sex.

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Ethics Approval

This research has received a certificate of ethical feasibility from the Health Research Ethics Commission of FKM Uncen with number 069/KEPK-FKM UC/2025

Author Contributions

All authors contributed to this study and the preparation of the manuscript. [HS] conceptualized the research, developed the methodology, and coordinated the research activities. [PL] conducted data collection and contributed to data curation. [HS] performed the data analysis and interpretation. [HS] and [SM] drafted the manuscript, while [HS] contributed to reviewing and editing the manuscript. All authors critically reviewed, revised, and

approved the final version of the manuscript. All authors take full responsibility for the content and integrity of the article.

Artificial Intelligence (AI) Use Disclosure

The author used AI assistance for paraphrasing.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to research confidentiality and ethical considerations.

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