# COGNITIVE, AFFECTIVE AND PSYCOMOTORIC ASPECTS RELATED RISKY SEXUAL BEHAVIOR AMONG ADOLESCENTS AT THE UNIVERSITY LEVEL

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#### **ABSTRACT**

The current phenomenon shows that teenagers are into the sexually active period quickly. This condition causes adolescents to be more vulnerable to experiencing adolescent reproductive health triad such as premarital sex, STI/HIV infections and drug abuse. Higher education is an educational institution whose students are teenagers who do not rule out experiencing these problems. This study aims to determine the cognitive, affective and psychomotoric factors related to risky sexual behavior among adolescents at the college level using a cross sectional approach. The research analysis sample was 750 students from 4 study programs in one of the universities in South Sumatra which were taken by using cluster random sampling technique. Data analysis includes univariable and bivariable analysis (chi square test). The results showed that 12% of students had risky sexual behavior where 3.5% had vaginal, anal or oral sex. In addition, the results of the bivariate analysis showed that the variables that were significantly related to risky sexual behavior included cognitive factors (knowledge), affective factors (attitudes, perceptions of norms, parental roles and self-efficacy) and psychomotoric factors (negative peer group behavior). This study recommends the need for access to adolescent-friendly reproductive health services with the principle of peer educator as a means of improving soft skills for adolescents related to adolescent reproductive health.

Keywords: adolescents, affective, cognitive, psychomotoric, risky sexual behavior

#### **ABSTRAK**

Fenomena saat ini menunjukkan remaja semakin cepat memasuki masa sexually active. Kondisi ini menyebabkan remaja semakin rentan mengalami triad kesehatan reproduksi seperti premarital sex, infeksi IMS/HIV dan penyalahgunaan NAPZA. Universitas merupakan perguruan tinggi yang mendidik ribuan remaja yang tidak menutup kemungkinan mengalami permasalahan tersebut. Penelitian ini bertujuan untuk mengetahui faktor kognitif, afektif dan psikomotorik terkait perilaku seksual berisiko pada kalangan remaja di tingkat perguruan tinggi dengan menggunakan pendekatan cross sectional. Sampel analisis penelitian berjumlah 750 mahasiswa dari 4 program studi di salah satu perguruan tinggi di Sumatera Selatan yang diambil menggunakan teknik cluster random sampling. Analisis data meliputi analisis univariabel dan bivariabel (uji chi square). Hasil penelitian menunjukkan bahwa 12% mahasiswa telah melakukan perilaku seksual berisiko dimana 3,5% pernah melakukan hubungan seksual baik vaginal, anal maupun oral. Selain itu, hasil analisis biyariat menunjukkan bahwa yariabel yang berhubungan secara signifikan dengan perilaku seksual berisiko antara lain faktor kognitif (pengetahuan), faktor afektif (sikap, persepsi terhadap norma, peran orang tua dan self efficacy) serta faktor psikomotorik (perilaku negative peer group). Penelitian ini merekomendasikan perlunya akses terhadap layanan kesehatan reproduksi yang ramah terhadap remaja dengan prinsip peer educator sebagai sarana peningkatan soft skill bagi remaja terkait kesehatan reproduksi remaja.

Kata kunci: remaja, afektif, kognitif, psikomotorik, perilaku seksual berisiko

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#### Introduction

A new paradigm in the field of reproductive health makes humans the subject of population control. This population control is not only to improve the population in terms of quantity, but also in terms of quality. Therefore, a targeted population problem improvement program is needed according to the age classification. Based on records from the Central Statistics Agency (*BPS*) it is known that almost a quarter of Indonesia's population is made up of teenagers. The age range of 10-24 years is a transitional phase from childhood to adulthood called the adolescent phase. The main characteristic of adolescents is the emergence of a desire to find identity. This causes adolescents to be vulnerable to adolescent reproductive health problems (*Triad KRR*) including premarital sexual behavior (premarital sex), HIV infection and AIDS and abuse of narcotics, psychotropic substances and other additives (NAPZA).<sup>2</sup>

Human Immunodeficiency Virus (HIV) is a virus that attacks the body's defense system (immunity) causing Acquired Immuno Deficiency Syndrome (AIDS). HIV is one of the major public health issues globally, not only having a broad impact on public health, but also on the stability of the country. Based on data from the World Health Organization (WHO), as many as 37.7 million people in the world are living with HIV. In 2020, 1.5 million people were infected with HIV and 680,000 people died from HIV-related causes. According to WHO, there were 78% of the addition of new infections in the Asia Pacific region and as many as 3.8 million people infected with HIV occurred in Southeast Asia.

Indonesia is one of the countries in the Asia Pacific Region that has an increasing number of HIV infections per year. Currently, 360,000 people in Indonesia are aware of their HIV-infected status.<sup>4</sup> The development of the increase in the number of HIV infection cases in Indonesia reached its peak in 2019 which was 50,282 and South Sumatra Province was included in the 10 provinces with the highest HIV rates in Indonesia. Based on age category, the majority of HIV sufferers are in productive age, but an alarming 18.3% of cases occur in adolescents.<sup>5</sup> The general pattern of risk of HIV transmission in Indonesia is mostly heterosexual and homosexual. These two things are starting to happen a lot among teenagers because they are based on the desire to try new and challenging things. Even teenagers have started having sexual intercourse for the first time at the age of 15-19 years.<sup>6</sup> This behavior also has an impact on unwanted teenage pregnancies, namely 4.1% at the age above 18 years and 1.97% in the 15-19 year range, and 9.5% of them attempted abortion.<sup>7</sup>

The Integrated Behavioral Model (IBM) is an extension of the *Theory of Reason Action* and *Theory of Planned Behavior* explaining various determinants that contribute to the formation of

behaviors that can be applied in predicting risky sexual behavior. Among them it is stated that the intention (tendency) to perform the behavior is the most important factor. Intention to behave is triggered by the formation of attitudes, perceptions of norms and personal characteristics. In addition, this theory also states that knowledge, environment and habits can also influence the formation of behavior directly. Risky sexual behavior can be prevented by providing sufficient information about reproductive health. The concept of integrated adolescent reproductive health education has long been intensified by the international community, for example Uganda has created the *World Start With Me program* and Tanzania has created the *Mem Kwa Vijana program*. Indonesia has also made efforts to increase youth access to reproductive health information, although in general only 18% know where to consult regarding adolescent reproductive health issues, such as through the Youth Care Health Service (*PKPR*) program and the Youth Reproductive Health Information and Counseling Center (*PIK-KRR*).

Based on data from the Department of Population and Civil Registration (*Disdukcapil*) in 2021, the number of South Sumatrans who have completed higher education, both colleges and universities, is 5.26% of the total population of 8.49 million people. This is supported by the large number of academic institutions and universities in Indonesia. In this area, so that the population of teenagers is recorded to be quite high, there is even a mobilization of the population of teenagers from urban areas and outside the province who are studying in the city center of South Sumatra Province. Today's increasingly free social development and increasingly permissive dating styles make researchers detect risky sexual behavior in adolescents at the college/high school level. This can be used as a reference for the success of achieving the vision of each university to produce graduates who are superior, pious and have high morals that refer to character education. This study aims to determine the cognitive, affective and psychomotoric factors related to risky sexual behavior among adolescents at the college level.

#### Method

This study was designed based on a cross-sectional design approach and was conducted at a university in South Sumatra. Samples were taken using cluster random sampling technique and study programs at universities were clustered. The sample in this study amounted to 750 teenagers who are active and unmarried students in 4 study programs namely nursing, informatics engineering, accounting and sociology. The dependent variable in this study is risky sexual behavior while the independent variables include knowledge, attitudes, perceptions of norms, parental control, self-efficacy and negative peer group behavior. Data was collected by means of self-administered using a questionnaire. Data analysis includes univariate analysis and bivariate analysis using chi-square test. This research has received ethical approval from the Health Research Ethics Commission, Faculty of Public Health, Sriwijaya University.

### Result

The distribution of respondents based on sociodemographic variables namely gender, semester/level, Faculty/Department, age, exposure to reproductive health programs, religion, place of residence, father's education, mother's education, family status and access to information is depicted in Table 1.

Table 1. Distribution of Sociodemographic Variables in Students

	<b>7/0</b>
n	%
214	28,5
536	71,5
	,
284	37,9
175	23,3
154	20,5
155	20,7
160	21,3
288	38,4
147	19,6
137	18,3
517	68,9
96	12,8
70	9,3
680	90,7
432	57,6
318	42,4
	0,1
	10,1
	8,1
	40,5
308	41,1
-	0.7
	0,7
	12,8
	10,4
	38,5
202	37,6
20	3,9
29	3,9
13	5,7
43	3,7
579	77,2
317	11,2
99	13,2
//	13,2
559	74,5
	66,8
	69,7
	94,8
	99,2
	536  284 175 154  155 160 288 147  137 517 96  70 680

Based on Table 1, it can be seen that more than 70% of respondents are female, almost 38% are level 1 students and 79.1% are non-health science students. Most students are between 18-

20 years old and more than 90% of students have never been exposed to adolescent reproductive health programs and most of them adhere to the Islamic religion. More students live with their parents than those who live with family/relatives and other people. Most of the students have families that are classified as prosperous and have fathers and mothers who have high school education. In addition, judging from the source of information most accessed by students is through the internet (almost 100%).

Table 2. Description of Dating Activities for Sriwijaya University Students

Dating Activities	n	%
Ever dating		
Yes	559	74,5
No	191	25,5
Age of First Dating	82	14,7
$\leq$ 12 years	250	44,7
13-15 years	208	37,2
16-18 years	19	3,4
$\geq$ 19 years		- ,
Frequency of Dating		
<= 3 times	385	68,9
>3 times	174	31,1
Sexual Behavior	17.	31,1
Not having risk	660	88,0
Having risk	90	12,0
Experience in having sex	70	12,0
Nerver	724	96,5
Ever	26	
—· · ·-	20	3,5
Age of First Time Having Sex	10	20 5
≤ 12 years		38,5
13-15 years	5	19,2
16-18 years	10	38,5
$\geq$ 19 years	1	3,8
Reason why having sex		
trying to have sex	17	65,4
Coercion / seduction	10	38,5
There is a present or gift in return	5	19,2
Trapped	7	26,9
Raped	3	11,5
Last time of having sex		
Less then one month ago	13	50,0
Between 1-6 month ago	5	19,2
Between 6-1 year ago	1	3,8
Between 1-2 year ago	5	19,2
More than 2 year ago	2	7,7
Action to prevent pregnancy, HIV or sexually transmitted diseases		,
during sexual intercourse		
Not using anything	13	50,0
Using condom	5	19,2
Taking PIL KB (Family Planning Pills)	3	11,5
Doing Injection of <i>KB</i> (Family Planning Injection)	1	3,8
Others	2	7,7
Never done having sex	-	.,.
Will be rejecting the ask of having sex	506	67,5
Postponing the having sex until marriage	565	75,3
Frequency taking return after having sex	303	15,5
Never	15	57,7
Ever	11	2,0
1101	11	2,0

The risk of sexual behavior is the dependent variable that will be seen from data collection on 750 students. Risk or non-risky sexual behavior will be grouped based on the dating activities carried out by students. These activities start from the lowest level to the highest level, namely touching, kissing, petting to sexual intercourse. The distribution of sexual behavior based on the dating activities of Sriwijaya University students is shown in Table 2.

Table 2. shows that almost of the student respondents had been in a relationship and most started dating at junior high school age (*SLTP*). Most students have experience dating less than 3 times. During dating, the most common activity is holding hands with a percentage of almost 60%. Hugging and stroking (23.9%) and kissing 161%. 1/10 respondents do french kiss and masturbate/shake themselves to satisfy their sexuality. Although only around 2-3% of students have had sex, both oral, anal and vaginal, this needs serious attention. 12% of students were detected to have carried out risky sexual behavior, both pregnancy and STI/HIV-AIDS. 3.5% of student respondents have ever had sexual intercourse, even half of which occurred before the age of 16 years. This experience is mostly due to reasons of wanting to try and coercion / seduction of partners to have sexual relations. 50% of sexual intercourse that occurred less than 1 month before the study was conducted, did not use any contraception during sexual intercourse and never received any compensation for this action.

Table 3. Distribution of Respondents by Independent Variables and Sexual Risk Behavior for Sriwijaya University Students

Variable	Sexual Behavior				To	4-1	P-value	PR (CI 95%)
	Having risk		Not having risk		Total (n=750)			
	n	%	N	%	n	%		
Knowledge								
Low	36	9,3	350	90,7	386	100	0.027	0,6
High	54	14,8	310	85,2	364	100	0,027	(0,3-0,9)
Permissive Attitude High	69	18,9	296	81,1	365	100	0,000	4,0
Low	21	5,5	364	94,5	385	100	0,000	(2,4-6,7)
Perception of Norms	45	21,7	162	78,3	207	100	0,000	3,1
Negative Positive	45	8,3	498	91,7	543	100		(1,9-4,9)
Parents' Control								
Low	67	19,5	276	80,5	343	100	0.000	4,1
High	23	5,7	384	94,3	407	100	0,000	(2,5-6,7)
Self efficacy								
Low	22	5,9	354	94,1	376	100	0.000	0,3
High	68	18,2	306	81,8	374	100	0,000	(0,2-0,4)
Negative Behavior								
Peer Group								<i>5</i> 2
Yes	76	18,4	338	81,6	414	100	0.000	5,2
No	14	4,2	322	95,8	322	100	0,000	(2,9-9,3)

Table 3. shows the results of the bivariate analysis related to cognitive factors (knowledge), affective factors (permissive attitude, perception of norms, parental control and self-efficacy as well as psychomotoric factors (negative peer group behavior), the risk of sexual behavior in college

students. Students who have friends with negative behaviors are 5.2 times more likely to try risky sexual behaviors (p-value = 0.00, CI = 2.9-9.3). In addition, self-efficacy and knowledge which is statistically low is a protective factor related to the risk of sexual behavior.

### **Discussion**

The issue of Adolescent Reproductive Health (KRR) and rights to reproductive health is not only a concern of the Indonesian government but also internationally. Adolescents are the age group of 10-24 years who have various unique characteristics and are at increased risk for illness, accident or premature death. Risky sexual behavior carried out by adolescents for example sexual behavior before marriage (early age), having more than one sexual partner and not using certain contraceptives such as condoms during sex. This triggers an increase in the number of unwanted pregnancies among adolescents and the risk of being infected with sexually transmitted diseases (STDs) and HIV.<sup>11</sup>

Along with the times, the pattern of adolescent socialization is increasingly open. The relationship between men and women called "dating" has been recognized even earlier in the age category of children. Researchers identified that 74% of respondents claimed to have been in a relationship and most of them started at the age of 13-15 years. The results are almost the same as the findings of the Demographic and Health Survey in 2017 which showed 44-55% of adolescent boys and girls have been dating since the age of less than 15-17 years. early adolescence. Dating activities among teenagers are also increasingly leading to risky behavior including sexual relations before marriage even though teenagers at this age are believed to not have adequate life skills to avoid this. Teenagers sometimes decide to have sex only considering the factors of intimacy, happiness and emotional attachment, not thinking about further negative impacts. 12

Decisions related to reproductive health during adolescence are the determinants of their own future. Dating activities that have led to risky sexual behavior can trigger an increase in the number of pregnancies and abortions in their teens. The Indonesian Ministry of Health through the 2017 IDHS recorded that 19% of unwanted pregnancies occurred in adolescents aged 15-24 years and about 20% of adolescents had heard of their friends having an abortion. The results of the Youth Risk Behavior Surveillance Survey (YRBSS) show that school-age adolescents are a group that vulnerable to risky behavior of unwanted pregnancy and sexually transmitted infections including HIV/AIDS. 13

Various theories prove that knowledge is a major determinant of behavior. Knowledge of Indonesian youth is still very minimal, especially regarding reproductive health. During the transition period between children and adults, sometimes not many teenagers recognize the physical and non-physical changes that occur to them. Only 9.3% of research respondents had been exposed to reproductive programs. In the university environment, not all study the medical and

non-medical aspects of adolescent reproductive health. The lack of access provided by educational institutions regarding sex and sexuality education makes teenagers look for other alternatives to get it. Usually teenagers rely on information from older siblings about pornography, discuss with friends or even themselves who search for information via the internet.<sup>14,15</sup>

This study shows results that are slightly different from most existing research results and theories. Generally, good knowledge about the impact of sexual behavior and the mode of transmission of HIV is a protective factor against the risk sexual behavior but in this study the opposite was true. Low knowledge reduces the risk of risky sexual behavior because access to pornography and sexual activity is low so that adolescents are not encouraged to try the risk of sexual behavior or delay sexual behavior before marriage. <sup>16,17</sup> In addition, the stigma towards people living with HIV-AIDS in respondents tends to be high because they think that association with people with HIV-AIDS can put them at risk of contracting the disease. This assumption limits adolescents from associating with friends who suffer from HIV-AIDS so that they are not influenced by their friends' risk sexual behavior.

High knowledge should be able to increase awareness of the dangers of sexually transmitted infections and HIV if you have sex before marriage so that it can decrease the intention to behave at risk. The low attitude of assertiveness (assertiveness refusing) sexual intercourse is associated with an increase in risky sexual decision making. The results of the researcher's analysis of university-level adolescents show that there are several components of attitudes that protect the occurrence of risky sexual behavior, including the awareness that sexual intercourse does not only have an impact on health aspects but also socially. Based on the health aspect, adolescents are aware that sexual intercourse can increase the risk of venereal disease. Meanwhile, socially, sexual relations at a young age are assumed to interfere with learning concentration and cause a lack of confidence when married later. Therefore, virginity is an important thing that must be maintained before marriage.

Research on a group of Polytechnic students in Ghana shows that attitudes towards the impact of disease and practical approaches for adolescents are the dominant factors influencing risky sexual behavior. <sup>18</sup> Increasing attitudes in adolescents can be done in several ways, including by changing the perspective of adolescents, for example by not dating multiple partners. and eliminate the view that there is no risk of disease if you engage in sexual behavior. The lower the permissive attitude regarding sexual behavior information, the lower the risk of risky behavior. <sup>19</sup>

Changes in attitude can be stimulated by increasing adolescent knowledge regarding sexuality issues. One form of intervention that is effective in changing adolescent attitudes regarding the impact of sexual behavior is to provide interventions to organized youth groups, for example in schools. Information on reproductive health for adolescents can be included in the education curriculum in schools.<sup>20</sup> Therefore, the target range of interventions is wider because

most of the youth are concentrated in educational institutions. This method is considered to be more effective than the intervention target in unorganized groups of adolescents. However, the adequacy of the information provided needs to be considered so that adolescents can fully trust the source of the information, not looking for other alternatives due to misperceptions.<sup>21</sup>

The concept of Health Belief Model (HBM) and Intention Behavior Model show that health behavior is triggered by the perception of norms. Research conducted at one of the state universities in South Sumatra found that risky sexual behavior in students was influenced by perceptions of religious norms, parental norms and social norms (friendships). The perception that sexual intercourse is a sin if it is done before marriage becomes a function of controlling adolescent behavior. In another study it was found that increasing participation in active religious activities can protect adolescents from risky behavior. In addition, religiosity is believed to have the potential to influence, reduce or increase resilience related to adverse behavior so as to improve health, including adolescents.<sup>22</sup>

On the other hand, the family also has a significant role in shaping adolescent behavior. The role of the family can be shown from the curiosity of parents about activities at school, giving attention when they have problems, expecting and entrusting teenagers to obey the rules. The pattern of education and good communication between parents and teenagers becomes a barrier for teenagers to commit juvenile delinquency, including a strict prohibition from parents to have sex before marriage. 18,19 However, this is a bit difficult to implement if teenagers do not live with their parents such as in a study where 2/5 of the respondents did not live with their parents because they studied far from their hometown. Furthermore, parents need to be more open and not taboo to convey sexual education from an early age so that teenagers are not interested in trying to have sex before marriage. Based on the results of the meta-analysis, the communication pattern of mothers to children, especially girls, was found to be higher in frequency than fathers. When compared with girls, boys tend to be less expressive and not open verbally to communicate their problems. 23 If a positive attitude towards their parents has grown, adolescents will try to listen, ask for information that is not understood, and apply values. and beliefs held by their parents and are able to increase self-confidence (self-efficacy). It should be remembered that the role of parents is not only limited to the intensity of communication with adolescents but also to think about the quality of the communication carried out.

Adolescent perceptions are not only formed through religiosity and parents but also through their peer group (friends). Negative peer group behavior can encourage adolescents to take various risky actions.<sup>14</sup> There are several negative risky negative behaviors carried out by respondents that have the potential to be contagious to respondents, for example the habit of watching pornographic films, masturbating/masturbating to channel their sexual desires, forcing their girlfriends to have sexual relations and receive a reward for this behavior. The perception that

teenagers who have not tried sexual intercourse are considered unslang can plunge them into risky actions. Peer pressure over time encourages adolescents to engage in risky sexual behavior. <sup>17</sup> The results showed 1/3 of the respondents had sexual behavior on the basis of trial and error. There are even teenagers who have sexual relations because they are forced, trapped, rape victims, interested in the rewards given by their partners or even just wanting to show off. <sup>24</sup> If it is not accompanied by a strong protection system both from within and from outside the individual teenager, sexual behavior at the age of adolescence cannot be avoided.

Exposure to information sources correlates with the formation of self-efficacy in adolescents. In this study, it was seen that more than half of the students had low knowledge of reproductive health. So this has an impact on decision making related to sexual activity in adolescents. 12.5% of adolescents have engaged in risky sexual behavior even at a relatively young age (under 18 years). This is unavoidable because the dating culture which seems to have become a trend among teenagers has even been initiated from a young age. Low self-confidence causes teenagers to be unable to refuse their boyfriend's invitation to have sex. Ironically, 30% of those who do not have experience of sexual intercourse are not sure about their attitude to refuse the invitation in the future.

The research findings in this study are slightly different from other studies. Low self-efficacy is a protective factor against risk of sexual behavior. This is possible because of the high perception of students to determine their own sexual activity which they think is still within reasonable limits. In addition, it can also be seen from the composition of respondents' answers which tend to be dominant in the 'disagree' quadrant on the statement 'No one can force or forbid me to have sex'. Low abstinence-related self-efficacy is assumed because almost 90% of students do not engage in risky sexual activities. This indicates that it is necessary to implement integrated interventions in overcoming risk of sexual behavior in adolescents. <sup>25</sup> Intervention programs should be able to increase knowledge about HIV/STD, the negative consequences of high-risk behavior, help adolescents to make decisions regarding sexual activity, motivate adolescents to maintain their reproductive health, improve communication and negotiation skills to refuse sexual invitations but also as a model for youth empowerment related to their reproductive health.

## Conclusions

Based on the results of the study, it can be concluded that 12% of adolescents have engaged in risky sexual behavior, both at the risk of unwanted pregnancy and the risk of STI/HIV infection. This behavior was detected from courtship activities carried out by students including kissing with the tongue, doing masturbation together and even oral, anal sex and risky sexual behavior among adolescents has a correlation with cognitive factors (knowledge), affective factors (attitudes, perceptions of norms, the role of other people). Old age and self-efficacy) and psychomotoric

factors (negative peer group behavior). Access to adequate reproductive health services is needed to equip teenagers who are facing a high curiosity about sexuality education. Without a good protection system from educational institutions and parents, adolescents have a tendency to follow the trend of dating activities in their social environment and weaken their self-efficacy to refuse invitations to sexual relations or other risky activities. It is hoped that educational institutions can provide reproductive health services that are friendly to adolescents and improve youth soft skills (communication, negotiation and assertiveness) to minimize adolescent associations that lead to risk of sexual behavior.

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#### **Conflict of Interest**

No conflict of interest

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