

# Knowledge of Sexual and Reproductive Health Among High School Students, Batam, Indonesia

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## ARTICLE INFO

### Article history:

Received Nov 21, 2022

Revised Nov 28, 2022

Accepted Dec 19, 2022

### Keywords:

knowledge,  
sexual and reproductive health

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## ABSTRACT

This study aims to describe sexual knowledge and reproductive health among school-going adolescents and compare levels of knowledge between males and females. A cross-sectional study was conducted on 387 high school adolescents using a self-validated questionnaire. Adolescents' knowledge level is high at 39.14%, the moderate category is 50.55%, and low-level knowledge is 10.31%. An independent t-test revealed that the average knowledge score of men and women showed no significant difference, with a mean score of 12.42 for males and 12.37 for females. The majority of adolescents discussing sexual matters with friends is 43.41%, 98.71% of adolescents ever heard about contraception, 89.66% know condoms as contraception, and 24.55% do not know how to use them. As many as 51.68% of adolescents only know that HIV/AIDS is a sexually transmitted disease. Lack of knowledge of important aspects of sexual and reproductive health insurance and the need to strengthen sexual and reproductive health education.

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## INTRODUCTION

One of the SDGs' goals is about adolescents' sexual and reproductive health (World Health Organization, 2017). Adolescence is a time of transition between childhood and adulthood. During this period, adolescents undergo physical and psychological changes. Adolescents will also experience a growing sense of sexual maturity as they grow physically. In Asia, sexual and reproductive health problems are an essential focus (Sawyer et al., 2018). Sexually transmitted infections, unplanned pregnancies, abortions, and cases of contraception are on the rise, as well as unplanned pregnancies.

The increased average age of menarche has reached the age of 12 years (Papadimitriou, 2016). Meanwhile, the age of marriage is slowing down. This is the reason for the high incidence of premarital sex. In various countries, discussing sexuality is not a taboo subject, unlike countries in Asia (Sunarsih et al., 2020). Information obtained from parents, siblings, and schools is

insufficient[5]. The majority of adolescents receive sexual health information from their peers. Because of this, unhealthy sexual behavior is due to a lack of knowledge about sexual and reproductive health. Unsafe abortions have been reported as a result of unplanned pregnancies (Yokoe et al., 2019). It has been reported that adolescents in Asia have had sexual intercourse at the age of under 14 years (Espinoza et al., 2020). A study conducted between 2015 and 2019 indicates that 121 million unplanned pregnancies occur annually and that 73.3 million of these result in abortions in East and Southeast Asia, including Indonesia (Bearak et al., 2020). It is also noted that adolescents have limited knowledge of contraception.

In Indonesia, HIV cases are increasing every year with a male-to-female ratio of 5:3. HIV infection in adolescents aged 15–24 years was 18.4% (2014), 19.3% (2015), and 21.0% (2016) (Ditjen, P.P.; Kemenkes, 2021). Data on teenage pregnancies in Indonesia shows that more than 12% of young women experience unplanned pregnancies, and 23% end up having abortions (Badan Pusat Statistik, 2017). According to 2015 statistics, 4.17% of females and 8.26% of males had experienced premarital sex (Puslitbang, 2015).

Research related to sexual and reproductive health in adolescents in Indonesian schools is still limited. Consequently, adolescents tend to have a limited understanding of sexuality and reproductive health. The existence of support from the right information sources will assist adolescents in making appropriate and healthy decisions about adolescent sexual and reproductive health behavior.

This study aimed to describe knowledge about sexual and reproductive health in adolescents attending SMKN 5 Batam and compare the knowledge level between male and female adolescents. It is hypothesized that there is a significant difference in the level of knowledge between males and females.

## RESEARCH METHOD

This research was conducted in Batam City, an island adjacent to Singapore on the outermost island of Indonesia. The total adolescent population in Batam is 188,428 people (Batam, 2020). The population in this study was made up of 3,800 students who attended State Vocational High School (SMKN) 05 Sagulung, Batam City. A quantitative cross-sectional survey was conducted in October 2022. The relevant coordinating teacher introduces the data collectors for each class through the class group. Participants included both males and females. The teacher told the students about this research. Students completed the questionnaire during class time offered by the school. All students of both sexes at SMK N 5 Batam aged 15 to 19 years who agreed to participate were given a google form link to fill out the questionnaire. The sample is determined using the Slovin formula with a significant level of 5%. Based on the population of more than 3,500, there are 387 samples to be obtained using a simple random sampling method.

Assessment of students is done by using a questionnaire. Many questionnaires are related to sexual and reproductive health, each of which varies based on geography, culture, and language. Researchers have modified the questionnaire obtained according to the characteristics of the respondents where the research was carried out (Abdul-Wahab et al., 2021) (Pasay-an et al., 2020) (Inthavong et al., 2020). Validity and reliability tests were carried out on 30 students who were in high school in the same city as the research location and were not included in this study. Question items included information sources on sexual and reproductive health, sexually transmitted infections, unplanned pregnancies, abortion, and contraception. Each correct answer is given a score of 1, and an incorrect answer is given a score of 0.

Comparison of knowledge level with gender between men and women was analyzed using the independent sample T-test, which had previously been carried out with the Kolmogorov Smirnov normality test using SPSS version 24.

## RESULTS AND DISCUSSIONS

The results are categorized into demographic characteristics, sexual and reproductive health knowledge, and knowledge level comparisons between genders.

### Results Demographic Characteristic Information

A total of 387 students were involved in this study, 74% male (N=287) and 26% female (N=100). Among these, it was reported that the majority age distribution was 16 years 45.99% (N=178), and the least was 19 years old 1.55% (N=6). Most of the students are Muslim, 73.64% (N=285). The distribution of other religions reported was Christianity 23.26% (N=90), Buddhism 0.26% (N=1), Hinduism 0.52% (N=2), and 2.33% (N=9) students who did not report their religion. Most adolescents live with their parents, 96.12% (N=372). Details of the data are presented in table 1 below.

**Table 1.** Characteristics of Study Subjects

Characteristics	N	%
Sex		
Male	287	74
Female	100	26
Age (years)		
15	54	13.95
16	178	45.99
17	107	27.65
18	42	10.85
19	6	1.55
Religion		
Islam	285	73.64
Christian	90	23.26
Buddha	1	0.26
Hindu	2	0.52
Unfilled	9	2.33
Living with		
Parents	372	96.12
Brother/Sister/Cousin	10	2.58
Housemate in dormitory/ rented house	5	1.29

### Knowledge of Sexual and Reproductive Health

Most of the adolescents knew about sexually transmitted infections, 62.78% (N=243). Out of the six sexually transmitted infection question items, most of the adolescents could answer them correctly. Almost all adolescents have heard about sexually transmitted infections 93.80% (N=363), and preventing these infections is possible 94.32% (N=365). In addition, they also knew well the symptoms that arise when someone has an infection 58.14% (N = 225). The dominant type of STI they knew was HIV/AIDS; as much as 51.68% (N=200) that most women knew (table 4). Preventive measures such as avoiding sexual relations and not having multiple partners were answered correctly by 90.96% (N=352), and almost all of them knew that this disease was harmful to health 94.06% (N=364). There were no adolescents who could not answer all six items and could answer all items correctly, 38.76% (N=150).

Other studies conducted in several countries have also reported that more than half of the sample studied had general knowledge about sexually transmitted infections (Mekonnen et al., 2020) (LA et al., 2017). Research then relates it to attitude, where the results are only sometimes in line with good knowledge and show a positive attitude

Good knowledge will affect attitudes and adolescents in making decisions. Research informs that adolescents who know about the dangers of sexually transmitted infections show unhealthy reproductive health behaviors. So, assistance in providing accurate and in-depth information to adolescents is still very much needed.

It is also known that very few adolescents know about unplanned pregnancies 8.53% (N=33). In this item, adolescents were asked questions regarding information about the availability of youth posyandu services, the process of pregnancy occurring, the consequences of unplanned pregnancies, as well as menstruation and the fertile period. Each of them could answer each item correctly at 54.52% (N=211), 8.53% (N=33), 68.22% (N=264), and 11.63% (N=45).

Health services are a means for adolescents to conduct consultations, but only a few takes advantage of this service. In this study, it can be seen in table 4 that only a few of them, 11.63% (N=45), were already aware of this facility. Evidently, they do not perform consultations or examinations in relation to adolescent health, and therefore they seek information independently regarding sexual and reproductive health. Particularly if a teenager becomes pregnant before marriage, it can be embarrassing for them and their families. Consistent with other findings in Lebanon, many are still unaware of sexual and reproductive health services (Korri et al., 2021). Consequently, reproductive health issues remain prevalent.

Most adolescents do not know about the process of pregnancy. They realize that having sexual intercourse once will not cause pregnancy. Likewise, with the fertile period, adolescents do not know what the fertile period is. In line with previous findings, adolescents still understand that kissing the opposite sex can cause pregnancy (Pasay-an et al., 2020). In addition, unplanned pregnancies impact maternal health during the prenatal, intrapartum, and early postpartum periods. One study found that women with unplanned pregnancies developed fewer positive prenatal care behaviors, experienced more physical problems, had more harmful and painful labor experiences, and experienced more mental problems in the early postpartum period. These results can increase adolescent awareness of the potential issues that may arise in unplanned pregnancies (Karaçam et al., 2011).

Biology subjects taught in schools have become a source of information for youth to gain knowledge related to leadership. However, a more detailed and technical presentation is limited to be given. Discussions related to sexuality and reproduction are still taboo to discuss with others. Based on previous research, this understanding needs to be applied at the school level on an ongoing basis (Denford et al., 2017). Therefore, adolescents need to get the proper education to make good decisions in guiding their healthy behavior in the future.

**Table 2.** Knowledge of Adolescent Sexual and Reproductive Health

Variables	Categories	N	Percentages (%)
Sexuality Transmitted Infection (STIs)	High	243	62.78
	Moderate	125	32.30
	Low	19	4.91
Unplanned Pregnancy	High	33	8.53
	Moderate	181	46.77
	Low	173	44.70
Abortion	High	251	64.86
	Moderate	126	32.56
	Low	10	2.58
Contraception	High	204	52.71
	Moderate	160	41.34
	Low	23	5.94
Overall knowledge of Sexual and Reproductive Health	High	160	39.14
	Moderate	200	50.55
	Low	27	10.31

According to table 2, most adolescents have a high level of knowledge about abortion (64.86%) (N = 251). Abortion can occur as a result of an unplanned pregnancy. Adolescents answered this item correctly, as much as 65.37% (N=253). Furthermore, adolescents know that unsafe abortion puts their health at risk 92.51% of the time (N=358). Complications of abortion were answered correctly, 85.79% (N=332). Meanwhile, at least 27.91% (N=108) knew about the availability of health services for abortion.

Studies conducted in various countries have found that adolescents are generally aware of abortion, based on literature reviews. But in terms of post-abortion health care, they do not fully know. It is still possible for adolescents to be persuaded to seek abortion services in a healthcare facility. This is also associated with the culture and stigma that develop in society (Espinoza et al., 2020).

The occurrence of abortion among adolescents is possible as an unplanned pregnancy. Various ways are done in this action. Some adolescents receive services from medical personnel, and some take action independently or are assisted by friends. Of course, this action is hazardous, considering there will be complications after having an abortion. Most adolescents are aware of the risks and dangers of abortion performed at a young age, but only a few are aware of adolescent counseling services. Adolescents feel reluctant to go to health services because they feel embarrassed to talk about it. In addition, the community, including health workers, still responds negatively to adolescents who become pregnant outside of marriage. In addition to moral sanctions because of their sexual behavior, adolescents also have the impact of physical sanctions by choosing unsafe abortions.

Adolescents also know well about contraception 52.71 (N=204), most adolescents ever heard about contraception 98.71% (N=382), but few know how to use contraception 24.55% (N=95). It is consistent with research that found the majority of adolescents in Cameroon already know contraception (Fubam et al., 2022) and research reports in the USA that adolescents already know contraception well, including how to use it (LA et al., 2017).

The contraceptive type of condom is most widely known among adolescents. In addition to being easy to use, condom-type protective gear is also easy to obtain. In Indonesia, there are no restrictive regulations for the sale of this type of contraceptive, so it is available in over-the-counter pharmacies, supermarkets, and small shops. Some societies have a negative view of adolescents who buy condoms. So, this can also be one of the reasons for the low rate of contraceptive use among sexually active adolescents.

Contrary to pills, injections, implants, and IUDs, which are common among married people, these procedures are more common among unmarried people. Getting the contraceptive pill is not easy. These pills are not sold freely in the market. Adolescents who buy contraceptive pills will be asked for confirmation from their parents by medical personnel or pharmacists, likewise with implanted contraceptives and IUDs that require the services of health workers to install them in a person's body. Therefore, this type of contraception is not significantly exposed to adolescents.

Therefore, related parties such as health workers will be able to reach more levels of society by providing health education. Adolescents who are the next generation and are included in the most risk groups are of particular concern. Health workers can work together with schools that can directly encourage youth in efforts to increase this level of health.

**Table 3.** Sources of Sexual and Reproductive Health Information

	N	Percentages (%)
Parents	9	2.33
Internet	124	32.04
Media (TV/newspaper/ magazine)	70	18.09
Peers	13	3.36
School	168	43.41
Unfilled	3	0.78

At this time, electronic mass media greatly influences adolescents in obtaining information. Table 3 shows that 32.04% (N=124) of adolescents get sexual and reproductive health information via the internet, while 18.09% (N=70) obtain it through media such as TV and print. Only a small proportion of adolescents get information from peers 3.36% (N=13), and most adolescents get it at school 43.41% (N=168). Adolescents begin to be exposed to lessons related to videos at school. The school has integrated this topic into its curriculum. Therefore, the school, in this case, has an essential role as a provider of appropriate information related to reproductive health to prepare future generations of youth.

Health workers need to provide training to the school so that the information provided is more precise. In addition, the methods previously used by schools in health promotion need to be evaluated. Providing a variety of promotional methods is deemed necessary to be applied with the speed of access to youth information from various sources. As an actor dealing with adolescents, the school will provide a direct touch that is right on target.

**Table 4.** Correct Answers Regarding Knowledge of Sexual and Reproductive Health by Gender

Variables	Female		Male		Total	
	N	%	N	%	N	%
Hearing about STIs	87	87	276	96.17	363	93.80
Preventing STIs is possible	98	98	267	93.03	365	94.32
Symptoms of STIs	65	65	160	55.75	225	58.14
Kind of STIs	52	52	148	51.57	200	51.68
How to prevent STIs	92	92	260	90.59	352	90.96
STIs are dangerous to health	91	91	273	95.12	364	94.06
Cause of pregnancy	55	55	156	54.36	211	54.52
Intercourse during fertile	1	1	32	11.15	33	8.53
Unplanned pregnancy consequences	72	72	192	66.90	264	68.22
Youth health services	9	9	36	12.54	45	11.63
Unplanned pregnancy leading to abortion	71	71	182	63.41	253	65.37
Complications of abortion	93	93	239	83.28	332	85.79
Health dangers of abortion	98	98	260	90.59	358	92.51
Health services	33	33	75	26.13	108	27.91
Hearing contraception	97	97	285	99.30	382	98.71
Kind of contraception	51	51	150	52.26	201	51.94
Condom is contraception	83	83	264	91.99	347	89.66
Contraception can help prevent pregnancy	74	74	220	76.66	294	75.97
How to used	20	20	75	26.13	95	24.55

Most adolescents were aware of sexually transmitted diseases, with 96.17% of males (N=276) and 87% of females (N=87). Almost all adolescents knew preventing sexually transmitted infections was possible in 93.03% of males (N=267) and 98% of females (N=98). For symptoms of sexually transmitted infections, half of them knew that young women knew more about this than young men, with 55.57% (N=160) males and 65% (N=65) females. Likewise, with the types of sexually transmitted infections, 51.57% (N=148) of males and 52% (N=52) of females. Most of the types of disease they know are HIV/AIDS, and they know that it is dangerous.

In line with other studies, a study found that the level of knowledge of adolescents about the dangers and types of sexually transmitted infections was high for both sexes (Frappier et al., 2011). Adolescents are often exposed to the media for information; they also get advice from their parents regarding preventing sexually transmitted infections. Promotion from the government regarding the dangers of HIV/AIDS is also often advertised in the media and schools.

Very few adolescents (8.53% (N=33)) knew that the fertile period was a period of abstinence from sexual intercourse because it could lead to pregnancy. Of this total, only one woman answered correctly, and only 11.15% (N=32) of men who knew if they had intercourse during the fertile period were unaware that pregnancy had occurred. A group at risk for unplanned

pregnancies is adolescents who do not understand pregnancy and the causes of pregnancy. In addition, at least 11.63% (N=45) of adolescents are aware of youth health services. In this service, they will receive education about youth issues, including reproductive health.

In addition, youth health services are also available in places not far from residential areas. It's just that currently, the function of this service may not be fully operational in society, so many adolescents still need to learn about their existence. A concern for health workers for adolescents is that when adolescents experience problems, they can consult and discuss with consultants in adolescent health services.

### Mean of Knowledge Levels by Gender

**Table 5.** Mean Knowledge Score Between Male and Female

	Gender	N	Mean	SD	Sig
Level of knowledge	Boys	100	12.42	3.294	.889
	Girls	287	12.37	3.058	

The average level of knowledge for males is 12.42 and for females is 12.37. Males appear to be more knowledgeable than females on average. But statistically, this difference is not significant. Gender variable is one factor that influences adolescents' knowledge level about sexual and reproductive health (Palomino González et al., 2019) (Abdul-Wahab et al., 2021). However, it is different when viewed in terms of comparing the level of knowledge of the two genders. Wahab 2021 found no statistically significant difference in the level of knowledge between boys and girl (Abdul-Wahab et al., 2021). This finding is in line with the research results obtained by researchers. Increasing amounts of information are easily accessible from various sources, including internet media, which makes the average adolescents have almost the same level of knowledge as each other.

Thus, it is necessary to have a direct approach from the school to adolescents in providing education related to this sensitive topic. While the information they receive may be able to increase their knowledge, direct mentoring methods are needed to help them develop a positive attitude. The mentoring approach for adolescents might be a solution so that they express health problems that they consider taboo.

This research has several limitations. The first is related to the answers given by students. A few were reluctant to fill in their identity clearly, 2.33% (N=9), namely religion. It is possible that the religious values they adhere to become their control so that issues of sexuality become very sensitive for them to express. Second, the sample in this study is still limited to only one school. In the future, it is hoped that research can be carried out throughout the Batam area so that the results better describe the general picture of Batam city youth.

Apart from the limitations, the research above can provide an overview of adolescent knowledge about sexual and reproductive health. Thus, health service providers or schools can determine the appropriate method of approach to providing youth education.

## CONCLUSION

From the results of the study, we can conclude that the level of knowledge of adolescents in the high category is 39.14% (N=160), the medium category is 50.55% (N=200), and the low category is 10.31% (N=27). Although the average knowledge levels of males and females are different, there is no statistically significant difference between the knowledge levels of the two genders. Therefore, Health Education can be offered to both males and females simultaneously so that students can gain a deeper understanding of sexual and reproductive health.

## ACKNOWLEDGEMENTS

The author would like to thank Batam State Vocational High School (SMKN 5) for their valuable contribution to this study.

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