



The Open Public Health Journal

Content list available at: <https://openpublichealthjournal.com>



RESEARCH ARTICLE

Knowledge, Attitude, and Practice Towards Reproductive Health Issue of Adolescents in Rural area, Indonesia: A Cross-sectional Study

JM Seno Adjie¹, Andrew Pratama Kurniawan^{2,*} and Raymond Surya¹

¹Department of Obstetrics and Gynecology Dr. Cipto Mangunkusumo Hospital, Jakarta/ Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia

²Internship doctor at Meranti District, Riau Province, Indonesia

Abstract:

Background:

Indonesia's population is dominated by adolescents; however, reproductive health (RH) issues significantly affect them. Limited access to information and taboo issues regarding reproductive health are significant problems in Indonesian rural areas.

Objectives:

This study investigates the knowledge, attitudes, and practices (KAP) regarding RH issues among high school adolescents in rural areas in Indonesia and provides information about RH issues.

Methods:

This is a quantitative, pre-and post-workshop evaluation, cross-sectional descriptive study determining the KAP of adolescents regarding reproductive health issues. We used a questionnaire to measure the KAP. It was conducted on all high school students in Mekong 1 High School of Meranti district, Riau province, Indonesia. After filling out the questionnaire, there was a 25-minute workshop to educate them on RH issues. A statistical significance was set at $p < 0.05$

Results:

121 students completed the questionnaire. Most of them were 17 years old lived with parents (93.4%), with their father's occupation being labor (42.9%) and housewife (89.3%) for their mothers. The median results of their knowledge were low, although they had a positive attitude and mostly had good practice. There were no differences in knowledge and attitude based on class or gender, but there was a difference of practice between genders. The workshop improves their knowledge level significantly.

Conclusion:

High school students in the rural district have low knowledge, positive attitudes, and poor sexual health and reproduction practices. There are five of the 121 students who had sex before. The workshop that had been done significantly increased their knowledge and attitude.

Keyword: Adolescents, Attitude, Knowledge, Practices, Reproductive Health, Rural.

Article History

Received: February 8, 2022

Revised: February 28, 2022

Accepted: March 29, 2022

1. INTRODUCTION

Indonesia is the fourth largest population globally with 270.2-million people, and 27.94% is dominated by the adolescent group, thus indicating a promising future for the world's economy [1]. Adolescents explore their environment; they tend to do things under the influence of their peers and social media. This behavior places them at the risk of early

pregnancy, sexually transmitted diseases (STD), and even abortion. A study in the USA revealed that most adolescents, 55% of male and female teens, have had sexual intercourse by the age of 18, and approximately 80% of teens used some form of contraception at first sex. The most common method remained condoms (97%), followed by withdrawal (60%) and pills (56%) [2, 3]. According to World Health Organization (WHO), 3 million young girls aged 15-19 go through risky induced abortions each year, and 16 million girls aged 15-19 are delivered every year. These increase the problems associated with pregnancy and delivery, such as unsafe

* Address correspondence to this author at the Internship doctor at Meranti District, Riau Province, Jl. Salemba Raya No.6, RW.5, Kenari, Kec. Senen, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta, Postal Address:10430 Indonesia; E-mail: andrewpratama77@yahoo.com

termination of pregnancy [4]. In Indonesia, *Komisi Perlindungan Anak Indonesia (KPAI)* and *Kementerian Kesehatan (Kemenkes)* depicted that 62.7% of adolescents having sexual intercourse before marriage [5]. Indonesian Youth Reproductive Health Survey stated that 29.5% of male adolescents and 6.2% of female adolescents had touched or stimulated their partners, 48.1% of male adolescents and 29.3% of female adolescents had kissed lips, and 79, 6% of male adolescents and 71.6% of female adolescents have held hands with their partners [6]. Besides that, 23.07% of adolescents had been married before 19 years. It imposes a higher risk of teenage pregnancy ending in maternal and fetal complications [7].

Early initiation of adolescent sexual intercourse might be influenced by several factors such as socio-demographic factors, substance use (tobacco, alcohol, and drugs), depressive symptoms (sadness, loneliness, and anxiety), and truancy. Meanwhile, protective factors which can lower this early sexual intercourse include positive attitudes from friends and frequent parental supervision [8 - 11]. To prevent this problem, sexual health education in school-aged adolescents can be encouraged through positive attitudes regarding gender and reproductive health (RH) issues during puberty based on Indonesia's social and cultural context. Unfortunately, limited access to information and sexuality topics are considered taboo and sensitive subjects in many rural areas of Indonesia; therefore, parents rarely discuss them. It leads parents to be a bit conservative when explaining information related to sexuality to children [12].

Therefore, this study investigates the knowledge, attitudes, and practices (KAP) regarding RH issues among high school adolescents in rural areas in Indonesia. This study would like to provide information for the development of RH education in that region targeted to adolescents. It also provides health workers with a greater understanding of the adolescents' actual situation. Finally, it can help stakeholders reduce high-risk adolescent sexual behavior at the community level.

2. METHODS

This is a quantitative, pre-and post-workshop evaluation, cross-sectional descriptive study determining the KAP of adolescents regarding reproductive health issues. It was conducted with all high school students in Mekong 1 High School in Meranti Islands Regency/District, Riau province, Indonesia. Meranti Islands Regency is categorized as a low-income district, left behind, and located on the outermost border of Indonesia by the Ministry of Village and Improvement of Indonesia. The public health administrator has reviewed and approved this study to be conducted with the approval letter.

The researchers used total sampling through distributed questionnaires. There were ten characteristics demographic questions. Meanwhile, to assess the KAP about RH issues, the researchers asked some knowledge, attitude, and practice questions. We adopted and modified the questionnaire from Pasay-an E *et al.*'s [13] study titled "Knowledge, attitudes, and practices of adolescents regarding sexuality and reproductive issues in the Cordillera Administrative Region of the

Philippines. We developed the questions appropriate to Indonesian culture and then performed forward translation and back-translation by experts. In developing and validating the questionnaire, we discussed the topic and questions with a social obstetrician.

The criteria for identifying the location were based on several considerations, such as permission from the local authority and schools' willingness to participate. The following inclusion criteria were (1) skills in reading, understanding, and writing; (2) submission of the signed written consent from a parent/guardian; and (3) the subject's willingness to participate. The respondents who did not complete the questionnaire were excluded from this study. All participants' health, well-being, and information are paramount.

The questionnaire consisted of two parts, including (1) demographic information such as sex, age, grade level, number of brothers/sisters, mother and father's occupation, marriage status of parents, and prior educational status of parents; (2) the questionnaire regarding KAP on reproductive health issues. An 8-item multiple-choice was designed to assess knowledge, giving one mark for every correct answer. The scores were transmuted into a scale within range of 0-0.19 (very low), 0.20-0.39 (low), 0.40-0.59 (fair), 0.6-0.79 (good), 0.80-1.00 (very good). The attitude level was assessed through 9-item and measured with a 4-point Likert scale (1.00-1.74 as strongly agree; 1.75-2.49 as agree; 2.50-3.24 as disagree; and 3.25-4.00 as strongly disagree). The practice level was divided into a 3-point Likert scale (1.00-1.66 as always practiced; 1.67-2.33 as sometimes practiced; 2.34-3.00 as never practiced).

We also did a workshop to educate the students on RH topics with the author (APK) himself as the speaker. For convenience, we separate male and female students in joining the workshop. We gave a 25-minute presentation about RH topics, with 5 minutes of discussion. Before the workshop, we asked the students to fill out the questionnaire, and after the workshop, we re-evaluated their knowledge and attitudes using the same questionnaire. Some gifts were provided for the students to encourage them to participate in the discussion.

A pilot test was conducted with 20 high school students from the different schools and these respondents did not participate in the actual survey. Cronbach's alpha values were calculated for reliability analysis. For the KAP portion, the RH-issued questionnaire yielded a Cronbach's alpha coefficient of 0.607, 0.619, and 0.856; respectively. After that, descriptive statistics were used for data analysis using SPSS 23.0 for Windows. Normality tests were performed using Kolmogorov-Smirnov for all characteristic demographic data. Descriptive analysis was presented in frequency, percentage, median, and minimum-maximum. Knowledge was distributed into the group of grades and sex; meanwhile, the practice was only divided into sexes. We used the Kruskal-Wallis test and Mann-Whitney test for the sex group to examine knowledge in the grade level group. To evaluate the pre-and post-workshop evaluation test, we performed the Wilcoxon test. All p-values were 2-tailed, and the accepted level of significance was $p < 0.05$.

3. RESULTS

There were a total of 182 students in Mekong 1 High School. One hundred forty-four students came and agreed to participate. There were 121 respondents who completed and returned the questionnaire Fig. (1). Table 1 figures out the demographic characteristics of respondents. The proportion of male and female students is similar, and most of them lived with parents (93.4%). Most of the father’s occupation was labor (42.9%) and housewife (89.3%) for the mother.

Tables 2, 4 showed the KAP regarding RH issues among

high school adolescents, respectively. The overall median scores of knowledge about RH pre-workshop were low, with median scores of 3. A total of four workshops were done that day, with around 30 students in each workshop. After the workshop given by the general practitioner, there was an increase in overall scores of knowledge to 5 (Table 2). The overall mean scores of attitudes about RH pre-and post-workshop were 2.09 (agree) and 1.90 (agree); respectively (Table 3). For practice, the mean score was 2.20 (Table 4). Only 5 of the 121 respondents (4.1%) had ever had sexual intercourse.

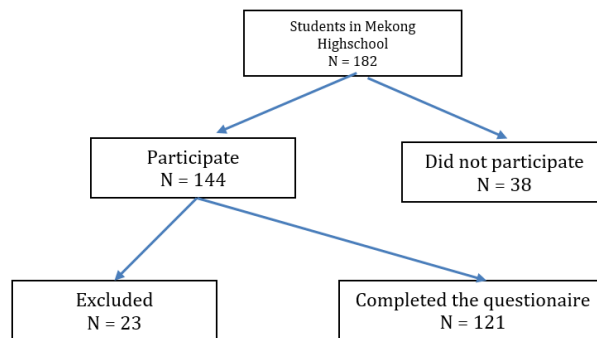


Fig (1). Flowchart of Participant recruitment.

Table 1. Demographic characteristics of respondents.

Characteristics	N=121
Sex (male) ^a	58 (47.9%)
Age (yo) ^b	17 (15-20)
Number of brother/ sister	2 (0-11)
Parental marriage	104 (86.0%)
• Married	8 (6.6%)
• Divorce	9 (7.4%)
• Dead	
Living place with parents	113 (93.4%)
Last educational background of the father (High school or higher) ^a	23 (19%)
Last educational background of the mother (High school or higher) ^a	30 (24.7%)
Father occupation	52 (42.9%)
• Labor	26 (20.8%)
• Businessman	13 (10.4%)
• Farmer	12 (96.0%)
• Fisherman	18 (14.9%)
• Others	
Mother occupation	108 (89.3%)
• Housewife	13 (10.7%)
• Others	

a: n(%); b: median (min-max)

Table 2. Knowledge of adolescents regarding RH issues.

Areas of Knowledge	Pre-test	Category	Post-test	Category
1. Definition of reproductive health	0.30	Low	0.38	Low
2. Causes of sexually transmitted disease (STD)	0.54	Fair	0.92	Very good
3. Transmission of STD	0.30	Low	0.46	Fair

(Table 2) contd....

Areas of Knowledge	Pre-test	Category	Post-test	Category
4. Definition of family planning	0.22	Low	0.28	Low
5. Promiscuity consequences	0.27	Low	0.34	Low
6. Etiologic of STD in adolescent	0.43	Fair	0.45	Fair
7. Contraception for STD prevention	0.12	Very low	0.51	Fair
8. Pregnancy symptom	0.33	Low	0.48	Fair
Total score (Median)	3		5	

Table 3. Attitude of adolescents regarding RH issues.

Questions	Pre-test	Category	Post-test	Category
1. Sexually transmitted disease (STD)/ pregnancy can be avoided by using condom during sexual intercourse	2.12	Agree	1.58	Strongly agree
2. The best method to prevent STD is avoiding sexual intercourse	1.79	Agree	1.57	Strongly agree
3. Knowledge of RH is essential for adolescents	1.59	Strongly agree	1.42	Strongly agree
4. I am embarrassed to buy contraception when I will perform sexual intercourse	2.19	Agree	2.29	Agree
5. Unwanted pregnancy will end in an effort to abort	2.53	Disagree	2.43	Agree
6. Emergency contraception (EC) is one of the methods to avoid pregnancy after unprotected sexual intercourse	2.08	Agree	2.10	Agree
7. STD can be transmitted through kissing and genital touching	2.34	Agree	1.95	Agree
8. Alcohol or narcotics use can increase the risk of unwanted pregnancy or STD	2.33	Agree	1.93	Agree
9. I believe that every sexual intercourse should be free of coercion and disease	2.14	Agree	1.95	Agree
10. I look down to the person who has been pregnant before marriage	1.79	Agree	1.85	Agree
Overall scores	2.09	Agree	1.90	Agree

Table 4. Practice of adolescents regarding RH issues.

Question	Pre-test	Category
1. I discuss with parents or friends information regarding physical, mental, and social health toward RH issues and pregnancy.	2.17	Sometimes
2. I obtained information related to sexual health issues through the internet and social media.	1.91	Sometimes
3. I try to determine information regarding contraception.	2.52	Never
Overall scores	2.20	Sometimes
Additional Questions	N(%)	
Have ever had sexual intercourse	5 (100%)	
Sex (male)	3 (60%)	
Never use a condom during sexual intercourse	2 (40%)	
Have ever had anal intercourse	1 (20%)	
Have ever had oral intercourse	1 (20%)	
Have ever had intercourse with the same gender	1 (20%)	

Table 5. Differences of pre-test and post-test in terms of knowledge and attitude toward RH issues.

Grade	N	Pre-test	Post-test	Significant
Knowledge	121	3(0-8)	5(0-10)	<0.001
Attitude	121	2.09	1.90	<0.001

* Wilcoxon test.

The Kruskal-Wallis test was conducted to determine the differences among educational levels regarding KAP on RH issues. There were no KAP level differences between grades and age ($p>0.05$) in pre-and post-test. Mann-Whitney test was performed to determine the difference between sex groups regarding the KAP on RH issues and found out that there were similar levels of the KAP among the sex group ($p>0.05$) in both pre-and post-test for knowledge and attitude. However, a

significant difference is found between sex groups for practices, in which female students tend to discuss sexual-related topics more than male students.

Wilcoxon test was conducted to describe the difference before and after the workshop. The results showed that both knowledge and attitudes regarding RH issues were statistically significant ($p<0.05$) (Table 5).

4. DISCUSSION

One of the noticeable results was that high school students in the Mekong had insufficient knowledge about RH. Some of them had never heard about contraception or STDs before the study. Pasay E *et al.* [13] and Zakaria M *et al.* [14] also found that adolescents tend to have a low level of knowledge about sexuality and RH. Meanwhile, Kibret M [15] found that adolescents in Bahir Dar, Ethiopia, had a high level of knowledge. In Indonesia, especially in rural areas, sex is still taboo due to religion and cultural restrictions; thus, parents and teachers are likely to be conservative when explaining the topics [16, 17]. It becomes a challenge for educators to raise RH knowledge since adolescents.

Nevertheless, insufficient knowledge of RH was contradicted by their positive attitude. Most of them showed a positive attitude regarding STDs, prevention of transmission, and unwanted pregnancy. Even though they had a positive attitude toward contraception, most were reluctant and ashamed to buy it. Therefore, the questions asked about abortion and teenage pregnancy was answered negatively. Reproductive health issues were also considered essential among respondents. Their cultural and religious beliefs most likely influenced students' attitudes. In Mekong village, Riau Malay culture and Islam were embedded into the students' beliefs. Because sexual things are considered taboo, they will be ashamed to buy contraception, reluctant to abort, prefer abstinence to prevent STDs and pregnancy, and look down on pregnant, unmarried women.

Almost all students realized that knowledge about sexual RH was essential; nevertheless, only a few tried to find the information on the internet or discuss it with parents/friends. It showed that their religion and culture influenced their practices. On the other hand, the students never tried to determine information about contraception because most of them had never heard about contraception before. Engaging in a healthy discussion about RH issues is essential since social support such as from parents and friends can provide meaningful relationships and prevent free sex, especially starting from an early age [15]. Parents should become the primary source for RH information [14, 18]. Peer and social media may impose harm by promoting risky sexual behavior and early sex [19, 20]. Meanwhile, social media can help to promote contraception and RH, especially in adolescents. Further studies must be conducted to determine the impact of social media on adolescents' behavior [21, 22].

Insufficient knowledge about contraception was already known from the study done by Indonesian Health Minister. They revealed that married women aged 15-24 years old in rural areas have the lowest knowledge about contraception methods. Only 63% and 65% of married men know about implants and intrauterine devices, respectively, due to a lack of exposure to information about contraception and RH [7].

In this study, only five students from 121 (4.1%) had sexual intercourse before, whereas three were male and had intercourse with the same gender. This finding was similar to other studies in Indonesia, ranging from 3.8% to 13.1% [16, 23, 24]. Other studies found similar results, such as 11.3% in

Brunei Darussalam and 26.4% in Timor Leste [11, 25]. Of the five students having sex, three (60%) respondents had high-risk sexual behavior, such as never using a condom and having intercourse with the same gender. Peltzer K *et al.* [25] showed that 78% of adolescents in Indonesia engaged in multiple sexual risk behaviors. This issue needs all of us to raise awareness of comprehensive sexual education, especially in Indonesia. Implementing comprehensive sexual education, mental health, and substance use the control is essential in the school curriculum as an intervention program to reduce adolescents' risky sexual behavior [11, 25].

There was no significant difference in KAP in either education level of students or sex. This result is different from Pasay E *et al.*'s [13] study in the Philippines, in which a higher level of education also had better reproductive health knowledge. This might happen because there was no formal discussion/education about RH issues before and taboo perceptions about sex before marriage. Thus, it is hard for them to obtain correct information about RH. On the other hand, a significant difference was found in practice between male and female students, in which female students were more likely to discuss sexual reproduction topics than male students.

After the workshop, my knowledge and attitude increased significantly. The workshop intervention successfully increased the students' knowledge and attitude. This could be a recommendation for the local public health centers to hold workshops for sexual health education regularly to increase their knowledge and attitude about this topic. We recommended that the public health administrator cooperates with the local schools from elementary until high school, creating a sex-education workshop once every year with topics on their age. In that case, we could evaluate their improvement, increase their knowledge, and incorporate a solid and good attitude about RH issues. This dismal level of RH knowledge in adolescents should increase the awareness of local and national public health administrators and need an urgent evaluation. Public health administrators should focus more on socializing about RH issues, especially in rural places, to prevent future STDs and other health problems.

The limitation of this study is that the results may not be representative of all adolescents in the Mekong village of Alai district. Some adolescents leave school for elementary school or junior high school. On the contrary, the first study evaluating RH issues among adolescents continued with the workshop as an intervention in rural villages. Furthermore, we cannot evaluate the long-term impact since it was a short workshop session. However, some students were eager about those topics, as shown by discussing the topics further with the speaker and midwife. Future studies should be conducted to evaluate the KAP of adolescents in the Alai district. A study to evaluate different workshops such as seminars, focus group discussions (FGD), or self-learning may be conducted to find the most effective way to deliver this topic to the high school students.

CONCLUSION

The high school students in the rural district have low knowledge, positive attitudes, and poor practices of sexual

health reproduction. Cultural and religious beliefs heavily influenced their attitude and practices toward RH issues. There are five out of the 121 students who have ever had sex before. The workshop that has been done significantly increased their knowledge and attitude.

LIST OF ABBREVIATIONS

STDs	=	Sexually Transmitted Diseases
RH	=	Reproductive Health
KAP	=	Knowledge, Attitude, Practices
FGD	=	Focus Group Discussion

ETHICAL STATEMENT

This study has been reviewed and approved by the local public health administrator with the number 445/PKM-ALAI/333.

CONSENT FOR PUBLICATION

Informed consent has been obtained from the participants involved.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

The data that support the findings of this study are available from the corresponding author, APK, on special request.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

Special thanks to the head of Alai public health center, local health administrator, nurses, and midwives that helped during the process, as well as the principal and teachers of Mekong 1 High School.

REFERENCES

- [1] Badan Pusat Statistik. Hasil Sensus Penduduk 2020 2021. <https://www.bps.go.id/pressrelease/2021/01/21/1854/hasil-sensus-penduduk-2020.html>
- [2] CDC. Over Half of US Teens Have Had Sexual Intercourse by Age 18, New Report Shows 2019. https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2017/201706_NSFG.htm
- [3] Epstein M, Madeline Furlong, Kosterman R, et al. Adolescent age of sexual initiation and subsequent adult health outcomes. *Am J Public Health* 2018; 108(6): 822-8. [<http://dx.doi.org/10.2105/AJPH.2018.304372>] [PMID: 29672143]
- [4] Wong LP. Qualitative inquiry into premarital sexual behaviours and contraceptive use among multiethnic young women: Implications for education and future research. *PLoS One* 2012; 7(12): e51745. [<http://dx.doi.org/10.1371/journal.pone.0051745>] [PMID: 23272156]
- [5] Seks Bebas Bertentangan dengan Budaya Bangsa Indonesia | Kementerian Koordinator Bidang Pembangunan Manusia dan Kebudayaan <https://www.kemendikbud.go.id/seks-bebas-bertentangan-dengan-budaya-bangsa-indonesia-0>
- [6] Patroni R. The effect of sex education on youth knowledge about sexual behavior in sma negeri 2 kaur. *Apr* 2019; 18-21. [<http://dx.doi.org/10.2991/icihc-18.2019.5>]
- [7] Badan Pusat Statistik. Statistik Pemuda Indonesia 2019 2018. <https://www.bps.go.id/publication/2019/12/20/8250138f59ccebff3fed326a/statistik-pemuda-indonesia-2019.html> (accessed Mar. 31, 2021).
- [8] Peltzer K, Pengpid S. Risk and protective factors affecting sexual risk behavior among school-aged adolescents in fiji, kiribati, samoa, and vanuatu. *Asia Pac J Public Health* 2016; 28(5): 404-15. [<http://dx.doi.org/10.1177/1010539516650725>] [PMID: 27242369]
- [9] Peltzer K, Pengpid S. Early sexual debut and associated factors among in-school adolescents in six caribbean countries. *West Indian Med J* 2015; 64(4): 351-6. [<http://dx.doi.org/10.7727/wimj.2014.025>] [PMID: 26624586]
- [10] Seidu AA, Ahinkorah BO, Ameyaw EK, et al. Risky sexual behaviours among school-aged adolescents in Namibia: Secondary data analyses of the 2013 Global school-based health survey. *J Public Health (Berl)* 2021; 29(2): 451-61. [<http://dx.doi.org/10.1007/s10389-019-01140-x>]
- [11] Pengpid S, Peltzer K. Sexual behaviour and its correlates among adolescents in Brunei Darussalam. *Int J Adolesc Med Health* 2021; 33(1): 20180028. [<http://dx.doi.org/10.1515/ijamh-2018-0028>] [PMID: 30352029]
- [12] Situmorang A. Pelayanan kesehatan reproduksi remaja di puskesmas: Isu dan tantangan. *J Kependud Indones* 2016; 6(2): 2. [<http://dx.doi.org/10.14203/jki.v6i2.92>]
- [13] Pasay-an E, Magwilang JOG, Pangket PP. Knowledge, attitudes, and practices of adolescents regarding sexuality and reproductive issues in the Cordillera administrative region of the Philippines. *Makara J Health Res* 2020; 24(3): 164-72. [<http://dx.doi.org/10.7454/msk.v24i3.1245>]
- [14] Zakaria M, Karim F, Mazumder S, Cheng F, Xu J. Knowledge on, attitude towards, and practice of sexual and reproductive health among older adolescent girls in Bangladesh: An institution-based cross-sectional study. *Int J Environ Res Public Health* 2020; 17(21): 7720. [<http://dx.doi.org/10.3390/ijerph17217720>] [PMID: 33105739]
- [15] Puberty, sexuality and the self: Girls and boys at adolescence. Routledge & CRC Press <https://www.routledge.com/Puberty-Sexuality-and-the-Self-Girls-and-Boys-at-Adolescence/Martin/p/book/9780415914253>
- [16] Rizkianti A, Maisya IB, Kusumawardani N, Linhart C, Pardosi JF. Sexual intercourse and its correlates among school-aged adolescents in Indonesia: Analysis of the 2015 global school-based health survey. *J Prev Med Public Health* 2020; 53(5): 323-31. [<http://dx.doi.org/10.3961/jpmph.20.028>] [PMID: 33070504]
- [17] Tsuda S, Hartini S, Hapsari ED, Takada S. Sex education in children and adolescents with disabilities in Yogyakarta, Indonesia from a teachers' gender perspective. *Asia Pac J Public Health* 2017; 29(4): 328-38. [<http://dx.doi.org/10.1177/1010539517702716>] [PMID: 28441881]
- [18] Gothankar J, Patil R, Plkar S. Knowledge and practices related to reproductive health amongst adolescent girls. *Med J Dr DY Patil University* 2015; 8(6): 719. [<http://dx.doi.org/10.4103/0975-2870.169882>]
- [19] Bingenheimer JB, Asante E, Ahiadeke C. Peer influences on sexual activity among adolescents in Ghana. *Stud Fam Plann* 2015; 46(1): 1-19. [<http://dx.doi.org/10.1111/j.1728-4465.2015.00012.x>] [PMID: 25753056]
- [20] Facets of peer relationships and their associations with adolescent risk-taking behavior <https://www.apa.org/https://www.apa.org/pi/families/resources/newsletter/2015/12/adolescent-risk-taking>
- [21] Stevens R, Gilliard-Matthews S, Dunaev J, Todhunter-Reid A, Brawner B, Stewart J. Social media use and sexual risk reduction behavior among minority youth. *Nurs Res* 2017; 66(5): 368-77. [<http://dx.doi.org/10.1097/NNR.0000000000000237>] [PMID: 28858145]
- [22] Jones K, Eathington P, Baldwin K, Sipsma H. The impact of health education transmitted via social media or text messaging on adolescent and young adult risky sexual behavior: a systematic review of the literature. *Sex Transm Dis* 2014; 41(7): 413-9. [<http://dx.doi.org/10.1097/OLQ.0000000000000146>] [PMID: 24922099]
- [23] Wijaya MK, Giri MKW, Wahyuni NPDS, Setiawan KH. Premarital

- sex behaviors of teenagers: A case in Bali, Indonesia. *Int J Health Sci* 2018; 2(3): 11-21.
[<http://dx.doi.org/10.29332/ijhs.v2n3.211>]
- [24] Leerlooijer JN, Ruiters RAC, Damayanti R, *et al.* Psychosocial correlates of the motivation to abstain from sexual intercourse among Indonesian adolescents. *Trop Med Int Health* 2014; 19(1): 74-82.
[<http://dx.doi.org/10.1111/tmi.12217>] [PMID: 24188644]
- [25] Peltzer K, Pengpid S. Sexual risk behaviour and its correlates among adolescents in Indonesia, Laos, Thailand and Timor-Leste: Results from national school surveys in 2015. *Int J Adolesc Med Health* 2021; 33(6): 501-9.
[<http://dx.doi.org/10.1515/ijamh-2019-0230>] [PMID: 32549165]

© 2022 Adjie *et al.*

This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International Public License (CC-BY 4.0), a copy of which is available at: <https://creativecommons.org/licenses/by/4.0/legalcode>. This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.