Impact of Socioeconomic Family and Student's Performance on Adolescent Sexual Knowledge Level

Muhammad Anas[1*)], Sopia Sapitri[2], Ninuk Dwi Ariningtyas[3], Uning Marlina[4]

[1] Department of Obstetrics Gynecology of Faculty of Medicine, Universitas Muhammadiyah Surabaya
[2] Student of Faculty of Medicine, Universitas Muhammadiyah Surabaya
[3] Department of Obstetrics Gynecology of Faculty of Medicine, Universitas Muhammadiyah Surabaya
[4] Department of Obstetrics Gynecology of Faculty of Medicine, Universitas Muhammadiyah Surabaya

A B S T R A C T

Background: Lack of sexual education impacts high cases of sexual deviation. Early sex education is needed because there are many cases of sexual violence that attack children and adolescents. Parents play a vital role in sexual education, and it should be given directly by parents, especially mothers. This study aims to determine the relationship between the mother's education, parent's occupation, mother's religion, student's gender, age, education, and adolescent's sexual knowledge level in Manubar, Sandaran, East Kutai. Methods: Quantitative study using ordinal regression analysis method and cross-sectional study design. The instrument used was a sexual education questionnaire for adolescents. The research subjects were taken by the total sampling of students in grades 7-9 of junior high school and grades 10-12 of high school, totaling 98 students. Results: The validity and reliability test of all questionnaire items, Pearson correlation with significance <0.05 and Cronbach-alpha>0.8. Ordinal regression test with a significance of model fitting 0.700, Goodness of fit with a significance of 0.505. Pseudo-R-Square value, Nagelkerke Coefficient, 13.4%, shows the magnitude of the influence on adolescent sexual knowledge. Parameter estimated tests for the gender of students with a significance of 0.01, Odds Ratio of 0.312. Conclusion: Students' gender influences the level of adolescent sexual knowledge with the possibility of less category 1.88%, enough 70.22%, and good 27.90%.

A B S T R A K

Latar Belakang: Kurangnya pendidikan seksual berdampak pada tingginya kasus penyimpangan seksual. Orang tua sangat berperan dalam proses pendidikan seksual dan sebaiknya diberikan langsung oleh orang tua terutama ibu. Penelitian untuk mengetahui hubungan sosioekonomi keluarga dan performan siswa terhadap pengetahuan seksual remaja di Kecamatan Sandaran Kabupaten Kutai Timur. Metode: Penelitian kuantitatif cross-sectional dengan analisis regresi ordinal menggunakan instrument kuesioner pendidikan seksual bagi remaja. Subyek penelitian diambil secara total sampling murid kelas 7-9 SMP dan kelas 10-12 SMA sejumlah 98 siswa. Hasil: Uji validitas dan reliabilitas semua item kuesioner, korelasi pearson dengan signifikansi <0,05 dan Cronbach-alpa >0,8. Uji regresi ordinal dengan signifikansi model fitting 0,700, Goodness of fit, Pearson Chi-Square, dengan signifikansi 0.505, mengindikasikan data yang dievaluasi reliabel dan berkerja dengan baik pada model. Nilai Pseudo-R-Square, Nagelkerke Coefficient, 13.4% menunjukkan besaran pengaruh pada pengetahuan seksual remaja. Uji parameter estimasi jenis

kelamin siswa dengan signifikasi p= 0.01, Rasio Odd 0.312. Kesimpulan: Jenis kelamin siswa berpengaruh terhadap tingkat pengetahuan seksual remaja dengan kemungkinan kategori kurang 1,88 %, sedang 70,22%, dan baik 27,90%.

INTRODUCTION

As the next generation, adolescents have a potential effect on the future. Therefore, adolescents an individual who is full of curiosity about many things, including sexual problem. So, it is necessary to give early education to the adolescent to give the best education process from the parents or even from the school environment. In adolescence, all information related to sexual problems must be given to avoid misunderstanding in obtaining the information or the wrong sources (Rinta, 2015). Adolescent, as a young generation, is an essential national asset because on its shoulder lies the responsibility of the nation's survival. Today's teenage problems are complex and worrying. This condition is due to the still insufficient knowledge of adolescents about sex education. Because of the curiosity of a large adolescent in a condition where information and communication technologies are so accessible that teens get incorrect information. Then it will affect the value of their lives to find out the relationship between sex education with sexual behavior in adolescents in SMA Negeri 4 Binjai (Faswita & Suarni, 2020).

The CATAHU data also contains direct complaints and the results of Komnas Perempuan's monitoring and studies. CATAHU 2020 recorded 431,471 cases of violence against women that were reported and handled throughout 2019, which increased by 6% from the previous year (406,178 cases). These cases of violence against women consist of 1). Fourteen thousand seven hundred nineteen cases handled by 239 service partner institutions spread across 33 provinces, 2). Four hundred twenty-one thousand seven hundred fifty-two cases were sourced from case/case data handled by the Religious Courts, and 3) 1,277 cases complained directly to Komnas Perempuan (KEMENPPPA, 2019).

Currently, in Indonesia, education on sex is not optimal yet. Several studies' results explain the lack of adolescent sexual Knowledge in Indonesia. This condition is shown in the case report of sexual deviations; around 65 million adolescents, or 30% of adolescents aged 10 to 24, have had sex before marriage. Furthermore, every year, it is reported that around 15 million adolescent girls aged 15 to 19 have given birth (Kementerian Kesehatan RI, 2018; Kumalasari, 2016). Sex education is an effort to teach, raise awareness, and provide information about sexual issues. The information provided includes knowledge about the function of the reproductive organs by instilling morals, ethics, commitment, and religion so that "abuse" of the reproductive organs does not occur (Irsyad, 2019).

Previous studies show that one factor that can affect knowledge and sexual behavior, also the productive health of adolescents, is caused internal factors like the family environment. So, the relationship between parents and children influences adolescents' information level and their sexual problem behavior. A better relationship between the parents and the children so it makes the lower risk of sexual deviation in adolescents (Rinta, 2015). The data from previous research in 2018 showed a significant positive relationship between the mother's education level and adolescent knowledge about sex education. In this study, 18 or 48% of samples with mother backgrounds, such as universities, had sufficient knowledge about sex education. At the same time, some of the samples have a lower educational background, such as junior high school having a lower level of knowledge in sexual education (Rinta, 2015).

Mother has an emotional understanding of their children's condition. Because the mother and the children have a high intensity of meeting each other and a high intensity of communication, in this case, it is possible for the mothers to provide better sexual education to the children. However, practically the mothers also need some support from the family, especially the husband, to give children the best understanding regarding sexual education for adolescents.

According to information from several residents in the Sandaran district regarding the behavior of adolescents in Manubar village, every year, several cases of unwanted pregnancy occur in junior high school students and senior high school students. Most cases come from those adolescents who have a relationship with their friends. The result of the presurvey shows that there is still a lack of knowledge among adolescents regarding sex education information. So, this research will explore the influence of socioeconomic family (i.e., mother's education, parent's occupation, mother's religion) and student's performance (i.e., gender, age, education level) on adolescents' sexual knowledge.

METHODS

Participant Characteristics and research design

The study is quantitative observational research that uses a cross-sectional approach. The target population for this research was students at the junior and senior high school levels in Manubar Village, Sandaran District, East Kutai. The inclusion criterion is students in the age range of 14 to 19 years old.

Sampling procedures

Total sampling will be used to collect samples. This research has received ethical clearance from the Health Research Ethics Committee of Universitas Muhammadiyah Surabaya number: 036/KET/II.3/AU/F/ 2022.

Sample size, power, and precision

The Lemeshow formula determined the sample size, and the result was 98 samples.

Measures and covariates

Research data was collected using a sexual education questionnaire for adolescents in December 2021 and tested its validity and reliability.

Data analysis

All the data which has been collected will be analyzed using the ordinal regression test at SPSS 25 to know the relationship between socioeconomic family (i.e., mother's education, parent's occupation, mother's religion) and student's performance (i.e., gender, age, education level) on adolescents' sexual knowledge.
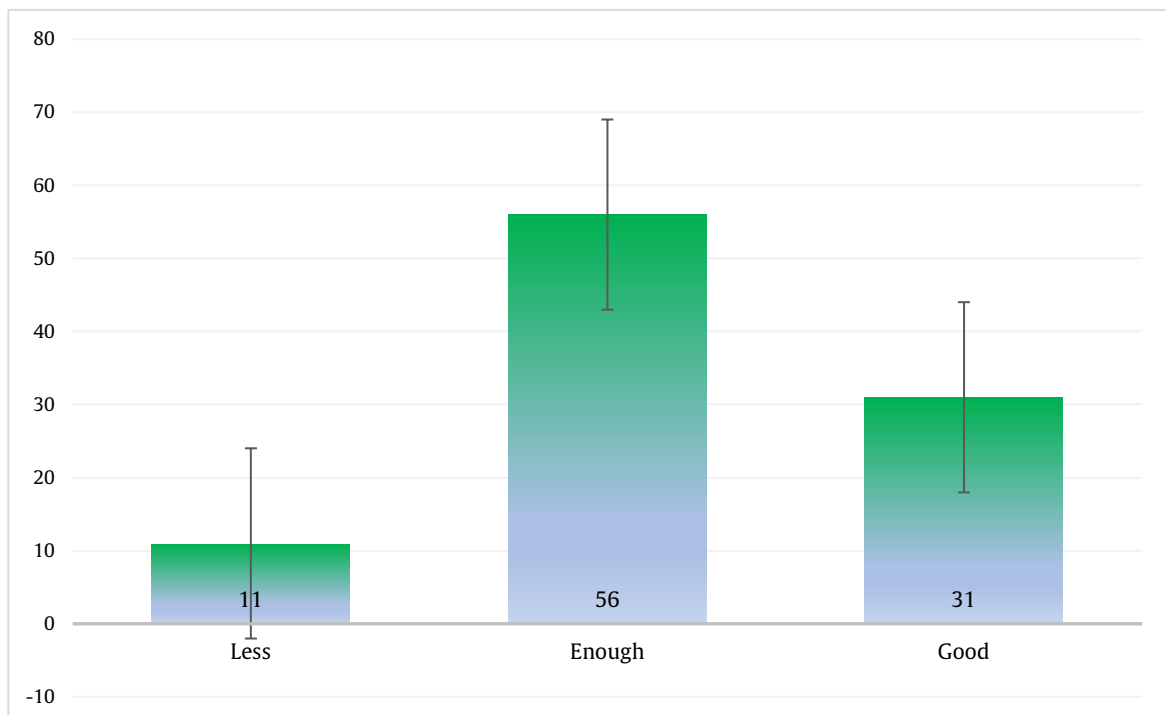
RESULTS AND DISCUSSION

Testing the questionnaire as a research instrument using the validity-reliability test obtained the tabel 1.

All questionnaire item has a significant p-value of validity test below 0.05, which means the questionnaire is valid. Furthermore, all questionnaire items have the reliability test of Cronbach's Alpha value above 0.8. All the respondent data was taken by a questionnaire and tested for each item's validity and reliability, as shown in Table 1. All the items tested are valid and reliable. The results of obtaining Adolescence Sexual Knowledge Level (ASKL) data is as shown in Figure 1 with values of less than 11 (11.2%), enough 56 (57.1%), and good 31 (31.6%). The test result is like to Lina's study (Rohmah et al., 2021).

Table 1
Validity and Reliability Test

| Item | Validity test | | Reliability test |
	Pearson Correlation	Sig. (2-tailed)	Cronbach's Alpha
1	.476**	.008	.840
2	.503**	.005	.839
3	.443*	.014	.841
4	.446*	.014	.841
5	.435*	.016	.842
6	.456*	.011	.841
7	.459*	.011	.841
8	.365*	.048	.843
9	.394*	.031	.843
10	.495**	.005	.839
11	.373*	.042	.844
12	.568**	.001	.837
13	.543**	.002	.837
14	.474**	.008	.840
15	.529**	.003	.838
16	.405*	.026	.842
17	.548**	.002	.837
18	.558**	.001	.838
19	.431*	.017	.842
20	.541**	.002	.837
21	.558**	.001	.837
22	.457*	.011	.840
23	.383*	.037	.843
24	.370*	.044	.845
25	.467**	.009	.840

Figure 1
Adolescence Sexual Knowledge Level (ASKL)

Respondents involved in the study obtained as many as 98 students of different gender, ages, and education levels. -

The characteristics of the mother's respondents were based on religion, education level, and parents' occupation.

Table 2
Characteristics of Research Respondents

Characteristics		N	Percentage
	No School	3	3.1%
	Elementary School	48	49.0%
Motors Education Level (MEL)	Junior High School	27	27.6%
	Senior High School	14	14.3%
	College	6	6.1%
	Housewife	84	85.7%
Parents Occupation (PO)	Fisherman	1	1.0%
	Others	13	13.3%
	Islam	89	90.8%
Mothers' Religion (M.R.)	Christian Protestant	8	8.2%
	Catholic Christian	1	1.0%
Student Gender (S.G.)	Female	47	48.0%
	Male	51	52.0%
	14	23	23.5%
	15	27	27.6%
Student Age (y.o) (S.A.)	16	18	18.4%
	17	19	19.4%
	18	8	8.2%
	19	3	3.1%
Student Education Level (SEL)	Junior High School	44	44.9%
	Senior High School	54	55.1%
Total		98	100.0%

Table 3
Model Fitting Information

Model	–2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	139.223			
Final	127.501	11.723	15	.700

Link function: Logit.

Table 4
Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	88.173	89	.505
Deviance	101.464	89	.173

Link function: Logit.

In Table 2, the group of categories of mother education level the highest number is 48 people (49.0%) with elementary school education level. In the occupational group, most mothers were housewives, and there were 84 people (85.7%). Meanwhile, based on the gender category of respondents with the highest number, the male gender, there are 51 people (52.0%). The highest number of people aged 15 is 27 (27.6%). Most students' high school education is 54 people (55.1%). In the religion category, most respondents are Muslim, and there are 89 people (90.8%). In this study, regarding adolescent sexual knowledge, most respondents were 56 (57.1%) in enough knowledge category%), dan good 31(31.6%). Meanwhile, research by Andariesta *et al.* at Trisakti Gemolong Vocational High School students totaled 61 respondents. The level of knowledge of adolescents is 44.3% good, the role of peers is 68.8% low, and sexual behavior in adolescents is 80.3% deviant behavior (Andariesta et al., 2021).

From Table 3, there is a decrease in the value of -2log likelihood explaining that without including the independent variable (intercept only), the value is 139.223. However, by including the independent variable in the (final) model, there was a decrease in value to 127.501. -2log likelihood is the match rate of the analyzed model, in the sense that if the Final model is significant. It means there is a significant increase in value over the Intercept Only model. From Table 3, the decrease in intercept value only to the final is known to be insignificant in the Final Model, so it can be concluded that there is no increase in the value of -2log likelihood. That is, the Final Model used does not control independent variables and is less able to predict well. In contrast to Model Fitting Information, the suitability test of ordinal regression models on the analyzed data shows that the model matches the empirical data tested (seen in Table 4). With a Pearson Chi-Square value of 88.173 and significance values of 0.505 and 0.173 above 0.05, the Goodness of fit indicates that the data evaluated are reliable and have a workable model.

Table 5
Pseudo R-Square

	P
Cox and Snell	.113
Nagelkerke	.134
McFadden	,064

Link function: Logit.

The Pseudo-R-Square in Table 5 shows how much the independent variable can explain the dependent variable (Adolescence Sexual Knowledge Level). This value is like the determination coefficient in regression. Based on the output above, several measures of the coefficient of determination (R square) were obtained, including Cox and Snell values of 0.113 (11.3%), Nagelkerke of 0.134 (13.4%), and Mc Faden values of 0.064 (6.4%). The Nagelkerke Coefficient (0.134) value means that 13.4% of independent variables affect Adolescence Sexual Knowledge Levels in general, while 86.6% are influenced by other factors not included in the model test. The same goes for the values of Cox and Snell and Mc Faden.

Table 6 of the test of Parallel Lines shows a slope coefficient of p = 0.177 > 0.05, showing all slopes of the existing variable range and slope.

Table 6
Test of Parallel Lines

Model	−2 Log Likelihood	Chi-Square	Df	Sig.
Null Hypothesis	127.501			
General	107.631	19.870	15	.177

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
a. Link function: Logit.

Table 7
Ordinal Regression Test Results

	Parameter Estimates						
	Parameter	B	Std. Error	Hypothesis Test			Exp(B)
				Wald Chi-Square	df	Sig.	Odds Ratio
Threshold	[ASKL=0]	-2.828	2.5193	1.260	1	.262	.059
	[ASKL=1]	.295	2.5004	.014	1	.906	1.343
Location	[MEL=0]	.483	1.5015	.103	1	.748	1.621
	[MEL=1]	.077	1.2023	.004	1	.949	1.080
	[MEL=2]	-.181	1.1542	.025	1	.875	.834
	[MEL=3]	.738	1.2065	.374	1	.541	2.091
	[MEL=4]	0[a]	.	.	.	.	1
	[PO=0]	-.340	.8655	.154	1	.694	.712
	[PO=2]	-1.693	2.1292	.633	1	.426	.184
	[P.O. =3]	0[a]	.	.	.	.	1
	[MR=0]	.095	1.9901	.002	1	.962	1.100
	[MR=1]	-.476	2.0896	.052	1	.820	.621
	[MR=2]	0[a]	.	.	.	.	1
	[SG=0]	-1.165	.4533	6.611	1	.010	.312
	[SG=1]	0[a]	.	.	.	.	1
	[SA=14]	.272	1.2938	.044	1	.834	1.312
	[SA=15]	.297	1.2682	.055	1	.815	1.346
	[SA=16]	.254	1.2775	.040	1	.842	1.289
	[SA=17]	.420	1.2701	.109	1	.741	1.522
	[SA=18]	.442	1.4070	.099	1	.754	1.555
	[SA=19]	0[a]	.	.	.	.	1
	[SEL=0]	-.440	.6311	.487	1	.485	.644
	[SEL=1]	0[a]	.	.	.	.	1
	(Scale)	1[b]					

Dependent Variable: Adolescents Sexual Knowledge Level (ASKL)
Model: (Threshold), MothersEducationLevel (MEL), ParentsOccupation (P.O.), MothersReligion (M.R.), StudentGender (S.G.), StudentAge (S.A.), StudentsEducationLevel (SEL)
a. Set to zero because this parameter is redundant.
b. Fixed at the displayed value.

From Table 7 above, only the Student Gender variable has a significance value of p = 0.01<0.05, so the Student Gender variable partially affects the Adolescent's Sexual Knowledge Level with an odds ratio of 0.312 times. While the other variable's significance value is more significant than 0.05, meaning that partially these variables do not significantly affect the variable Adolescents Sexual Knowledge Level, even though the odds of loss are more than one or even more significant than two. The ordinal regression equation that can be made from the variable is only student gender. The two equations are:

Equation 1

$$p1 = \frac{Exp(-2.828+ -1.165)}{1- Exp\,(-2.828+ -1.165)} = \frac{0.018444298}{1 - 0.018444298} = 0.018790883 \quad (1)$$

Equation 2

$$p1 + p2 = \frac{Exp\,(.295+ -1.165)}{1- Exp\,(.295+ -1.165)} = \frac{0.418951549}{0.581048451} = 0.721026876 \quad (2)$$

$p2 = 0.721026876 - 0.018790883 = 0.702235993$
Equation 3
So, $p3 = 1- (p1+p2) = 1 - (0.721026876) = 0.278973124$ (3)

In equation 1, the slope value is negative, which indicates that if the student gender variable increases, the Adolescence Sexual Knowledge Level variable will decrease. This result means that if Student Gender changes, it tends to change Adolescence Sexual Knowledge Levels in the opposite direction.

Each change in the Student Gender variable will decrease the probability of Adolescence Sexual Knowledge Level less by 1.8790883% and increase the probability of Adolescence Sexual Knowledge Level enough by 72.1026876%, Adolescence Sexual Knowledge Level good by 27.8973124%.

The value of the ordinal regression coefficient of the Student Gender variable is -1.165, which when exponential exp(-1.165) = 0.312. This result means every change in the Student Gender variable will tend to change the Adolescence Sexual Knowledge Level result by 0.312 times.

According to the significant value of all variables in Table 6, the independent variable with a significance value of 0.000 is the adolescent gender. This result means the value is below the probability value (0.05), so it can be concluded that partially the adolescent gender is the independent variable that has the most significant influence on the level of adolescent sexual knowledge. In comparison, other factors do not affect the dependent variable (level of adolescent sexual knowledge).

Student Gender to Adolescent Sexual Knowledge Level

The result based on the statistical test using Parameter Estimates of the ordinal regression model, only variable Student Gender shows a significance value of 0.010 (p-value <0.05), which means there is a significant relationship between student gender and the level of adolescent's sexual knowledge in Sandaran, East Kutai district with the composition of the female is 48% of 98. The odds ratio is small (B: -1.165, OR: 0.312 times)–a study by Suherni *et al.* on students of class VII SMP Muhammadiyah Kasihan Bantul. Most respondents with a good level of knowledge were female (62.5% of 50), 13 years old (54.2%), had highly educated mothers (60%), had mothers who did not work (65.4%), and getting information sources >3 sources of (62.1%). The level of knowledge about free sex is suitable for most teenagers at SMP Muhammadiyah Kasihan, Bantul, Yogyakarta (Suherni et al., 2020).

According to Agbeve's research in Ghana, parents typically agree that children should be educated about sex. They did stress that sex education should be age-specific and should be influenced by religion and cultural norms. Gender-specific discussion patterns between parents and their children focused on the needs of adolescent girls since they were seen as more vulnerable than boys (Agbeve et al., 2022).

In Eastern cultures, talking about sexuality precedes adult sexual engagement. Information on sexuality and disease is readily disseminated in the media. Parents, particularly mothers, play a critical role in teaching their children the importance of having a positive attitude. A positive is helpful for the parental advisory in teaching how to monitor children's development. It is essential to teach children about sexual health. Gender education has recently seen an upsurge in the sexual exploitation of minors (Sugiasih, 2011).

Mother's Education Level to Adolescent Sexual Knowledge Level

The result of the mother's education level in this research is not significant (p >0.05), but the odds ratio is high; (B: -0.181-0.738, OR: 0.834-2.091 times). This study's results align with the research conducted by Maimunah stated no relationship between the mother's education level and the adolescents' knowledge about sex. This result is because several respondents had a mother with an excellent educational background but still had a low level of sexual knowledge (Maimunah, 2015). There is no relationship between the level of knowledge about reproductive health and sexual behavior in adolescents (p=0.128); research by Andariesta *et al.* However, peers' role is related to sexual behavior in adolescents (p=0.000). Teenagers who are well-informed may or may not engage in sexually deviant behavior. Adolescents who interact more frequently with their peers in a hostile environment are likelier to engage in premarital sexual behavior (Andariesta et al., 2021). The Respondent's parents' highest school level is statistically insignificant to having a sexual partner (Osadolor et al., 2022).

On the other hand, the other research conducted by Salamah and Ayu was about parental education and adolescent knowledge about sex education. Parents, as the ones in the family environment, who are intensely meeting the adolescent, have a significant role in processing all the information given to the children (Salamah & Ayu, 2018). Another study by Indrawati states that mothers played a significant role in influencing adolescent knowledge about productivity. Good parenting from a mother towards adolescents will give more knowledge to adolescents than a mother with lousy parenting methods (Suprapti & Indarwati, 2013). In addition, similar research also conducted by Thaha and Yani, in the study, mentioned that the excellent relationship between the mother and the adolescent affects the quality of the information they provide. Good communication between mothers and adolescents will make it the mother easier to monitor the children association (Thaha, R. Y., Riswan, R., & Yani, 2021). In the study conducted by Isnaini, the level of parents' knowledge about sex education is "good" 23 people (62.2%) and "enough" 22 people (59.5%). The results also obtained a significant relationship level of parents' knowledge about sex education in Candi Winangun Hamlet equal to 0.014 (p<0.05) (Isnaini, 2014).

Adolescents often feel uncomfortable or feel taboo discussing their sexuality and reproductive health issues. However, the curiosity factor, they try to get this information. Teenagers often feel that their parents refuse to talk about sex, so they look for other alternative sources of information, such as friends or the mass media (Darwisyah, 2008). The use of social media with a level of sexual knowledge obtained a p-value of 0.00 <0.05, indicating a statistically significant relationship between the use of social media and the level of adolescent sexual knowledge at SMAN 5 Samarinda (Paramitha, 2018).

Children need sexual education in a healthy and corrective method, comprehension, and prevention due to the rise in aggressive behavior, deviations, and sexual crimes in people's life. This condition involves the local community, parents, and educators. Because of the widespread diffusion of information regarding sex, the study's literature supports the notion that children need to undergo sex education beginning in early infancy and continuing until adolescence (Listiyana, 2012; Yoisangadji, 2016; Purnamasari & Herfanda,

2019; Irsyad, 2019a; Isnainia & Na'imah, 2020; Wajdi & Arif, 2021).

The results, among others, highlighted that the most common sources of first-sex education among the respondents are school (54.6%), family (21.6%), social media (9.5%), and others like television (7.6%) and books or magazines (4.9%). The frequency of discussion on sexual matters is positively associated with the use of protection such as condoms ($\beta = 0.261$). The study gave support to the increasing pursuit of sex education. However, since adolescents' needs could vary by demographics, streamlining sex education need by age and sex characteristics could enhance its effectiveness (Osadolor et al., 2022).

Six main types of parental intervention can be utilized to stop child sexual abuse, according to the study's findings. Six forms of prevention that parents could do, namely providing sexual health education of parents, providing education on the prevention of sexual abuse for parents, family education programs, good parenting patterns, optimizing the role of parents, and the relationship between education level and parental knowledge. Thus, there are several preventions of CSA that parents can do to protect their children from sexual crimes. (Solehati et al., 2022).

Parent's Occupation to Adolescent Sexual Knowledge Level

The result of the parent's occupation in this research is not significant (p >0,05), but the odds ratio is relatively high (B: -1.693- (-0.340), OR: 0.187-0.712 times). A study by Osadolor shows the analysis of parental occupation shows that adolescents whose parents are farmers are 0.12 times less likely to have sexual partners than adolescents whose parents are in other types of occupation. Only farming/others concerning the mother's occupation produced a statistically significant result. This category of respondents is also less likely to have a sexual partner than the other two occupation categories: civil servant and trading/services ($B = -2.15$; OR = 0.12) (Osadolor et al., 2022). Father's occupation is positively related to having an asexual partner. Farming/others amongst fathers increased the odds of having a sexual partner by 1.74 times (Osadolor et al., 2022).

According to Amatulah & Hastuti's research, teenagers who experienced violence were often between 13 and 18. Mothers do not work, and teenage dads generally work as laborers. In rural communities, parents are often married and have their own house. Low parental acceptance, violence, neglect, and rejection levels are observed. However, sexual assault against teenagers is a serious problem, and their classmates are the most common offenders. According to the findings, teens without bedrooms felt more loved and cared for than those with married parents. The likelihood of sexual violence among adolescents is lower when raised in nuclear homes with welcoming parents (Amatulah & Hastuti, 2022).

Hegdahl et al observed that economic aid reduced sexual activity (risk ratio (R.R.) 0.70; 95% confidence interval (CI) 0.54 to 0.91) when combined with comprehensive sexuality education (CSE) and community discourse. Economic assistance, greater CSE, and community conversation all reduced unprotected sexual activity (RR 0.53; 95% CI, 0.37 to 0.75; for combined support vs. control). Contraceptive use among those who had never engaged in sexual activity was not affected by interventions, but CSE and community dialogue increased contraceptive use and knowledge of contraceptives among those who had recently engaged in sexual activity when compared to economic support alone (RR 1.26; 95% C.I. 1.06 to 1.50). Perceived community

support for contraception was lower in both intervention groups than in the control arm (Hegdahl et al., 2022).

Mother's Religion to Adolescent Sexual Knowledge Level

The result of the mother's religion in this research is not significant (p >0.05), but the odds ratio is relatively high (B: -0.476-0.095, OR: 0.621-1.1 times)–also, *Basit's study of students SMK KH. Gholib Pringsewu shows no relationship between the knowledge level of Islam and sexual behavior (Basit, 2017).*

Adolescents often feel uncomfortable or feel taboo discussing their sexuality and reproductive health issues. However, the curiosity factor, they try to get this information. Teenagers often feel that their parents refuse to talk about sex, so they look for other alternative sources of information, such as friends or the mass media (Darwisyah, 2008). The use of social media with a level of sexual knowledge obtained a p-value of 0.00 <0.05, indicating a statistically significant relationship between the use of social media and the level of adolescent sexual knowledge at SMAN 5 Samarinda (Paramitha, 2018).

Fear of personal, social, and economic consequences of high-risk sexual behaviors act as drivers for communication but also carry a negative framing that hinders open discussion. Lack of parental self-efficacy and cultural and religious norms create an uncomfortable environment leaving peers, media, teachers, and siblings as essential and sometimes preferred sources of sexual health information (Usonwu et al., 2021).

Student's Age to Adolescent Sexual Knowledge Level

The result of students' age in this research is not significant (p >0.05), but the odds ratio is relatively high (B: 0.254-0.442, OR: 1.289-1.55 times). *Kumalasari found 134 students, ages 14 to 23, who mostly had their first sex between the ages of 17 and 18. The survey reveals who had sexual activity (57.5%), knew people well (52.7%), and had a good perspective (64.9%). She concludes that there is a correlation between knowledge and perception of unmarried sexual behavior toward teenagers (Kumalasari, 2016).*

The results showed that adolescents who experienced violence were in the age range of 13 to 18 years. Teenage fathers primarily work as laborers, and mothers do not work/IRT. The parenting style of acceptance, aggression, neglect, and rejection of parents is low. Adolescents who live with nuclear families and receive an accepting parenting style from their parents are less likely to experience sexual violence (Amatulah & Hastuti, 2022).

Respondents aged ≤14 years are 0.2800 times less likely to have a sexual partner than older respondents aged 15–19 ($B = -1.23$; OR = 0.28). Respondents who discuss sexual issues with their parents are 3.93 times more likely to have a sexual partner than those who do not discuss them with a parent. However, respondents who discuss sexual matters with a relative were less likely to have a sexual partner compared to the reference category (the individual who does not discuss with a relative ($B = -1.34$; OR = 0.26) (Osadolor et al., 2022).

The study of Osadolor gave support to the increasing pursuit of sex education. However, since adolescents' needs could vary by demographics, streamlining sex education need by age and sex characteristics could enhance its effectiveness (Osadolor et al., 2022).

Student's Education Level to Adolescent Sexual Knowledge Level

The result of the student's education level in this research is not significant (p >0.05), but the odds ratio is relatively high (B: -0.440, OR: 0.644 times). The research on 189 class VII students at SMP X East Jakarta in 2018 showed that 66.1% of respondents had risky sexual behavior was found that the p-value was 0.000, so it can be concluded that there is a relationship between social media and behavior (Mulati & Lestari, 2019).

According to the observation, 2% of 100 respondents Biology Education students of UNTIDAR may not have understood what sex education was., 71% of respondents understand less, 13% relatively understand, 7% already understand, and 7% are very savvy about sex education. This result shows that many students still do not understand sex education (Sukma et al., 2020).

Based on the results of the Chi-Square test obtained respondents with good education Based on the research results obtained respondents with good education 88.3%, education less 11.7%, while the behavior was positive 48.7% and negative behavior 51.6%. Teenagers behaved well 41.4%, and both behaved negatively 46.9%, with less education, 7% positive behavior, less education, 4.7% negative behavior. The results of statistical tests with the Chi-Square test found that the relationship of sex education with sexual behavior obtained p-value =0.340 does not affect sexual behavior in adolescents. The results of this study suggested that health workers at the health center, especially in the health promotion section, increase knowledge about sex education to adolescents in schools (Faswita & Suarni, 2020). Moreover, the study of Rozana obtained that there is no relationship between knowledge of STIs of 103 teenagers and the sexual behavior of adolescent girls at SMKN 5 Jember (Rozana et al., 2023).

There are several dangerous sexual habits, such as having a different sexual partner and having unprotected intercourse with a non-regular partner. Being female, living in a city, not having pocket money, and attending parties are all associated with a solid understanding of unsafe sex. Harari Regional Educational and Health Bureau should give repeated targeted information about sexual and reproductive health to teenagers through various media, instructors, and school groups. The adolescent reproductive health program should be enhanced and evaluated to improve teens' sexual behavior (Mesele et al., 2023).

Pike's study reveals a growing corpus of literature that offers significant insights into the experiences of teenagers and adolescents from gender minorities in low- and middle-income (LMIC) countries. More research may combine these methodologies, but it must be done considering the social, cultural, and political environment. Given that this study is still in its infancy, we encourage researchers to keep outlining the technique, particularly regarding choosing participants and creating gender identification questions. Researchers looking to include gender minorities and their experiences more effectively in survey research but who may be methodologically intimidated would find this material useful (Pike et al., 2023).

LIMITATIONS OF THE STUDY

The limitation of this study is that the data was collected from students in a limited area because of the COVID-19 pandemic.

CONCLUSION AND SUGGESTIONS

Of the six independent variables used in the study, mother's education, parent's occupation, mother's religion, student's gender, student's age, and student's education, only the student's gender influences the level of adolescent sexual knowledge level with a significance of 0.010 and an odds ratio of 0.312. The possibility of adolescent sexual knowledge level derived from ordinal regression formula is less category 1.88%, enough 70.22% and good 27.90%.

Suggestions for further research to cover the lack of this research is to carry out further research with more subjects and on a broader area so that it is hoped that the results will be strengthened so far.

ETHICAL CONSIDERATIONS

Funding Statement.

Conflict of Interest Statement

The authors declare that there is no conflict of interest in this research.

REFERENCES

Agbeve, A. S., Fiaveh, D. Y., & Anto-Ocrah, M. (2022). A Qualitative assessment of adolescent-parent sex talk in Ghana. *African Journal of Reproductive Health*, *26*(12), 146–160. https://doi.org/10.29063/ajrh2022/v26i12s.16

Amatulah, D. A. S., & Hastuti, D. (2022). Characteristics of Adolescent, Family, and Parenting Styles on Sexual Violence in Adolescents. *Journal of Child, Family, and Consumer Studies*, *1*(1), 24–34. https://doi.org/10.29244/jcfcs.1.1.24-34

Andariesta, M., Astuti, Y., Sulisetyawati, S. D., Azali, L. M. P., Program, M., Sarjana, S., Universitas, K., Husada, K., Program, D., Sarjana, S., Universitas, K., Husada, K., Sebaya, P. T., & Seksual, P. (2021). *Hubungan Tingkat Pengetahuan Tentang Kesehatan Reproduksi Dan Peran Teman Sebaya Dengan Perilaku Seksual Pada Remaja* (pp. 1–10). universitas kusuma husada surakarta.

Basit, A. (2017). Hubungan antara Perilaku Seksual dengan Tingkat Pengetahuan Agama Islam pada Siswa Sekolah Menengah Kejuruan (SMK). *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, *2*(2), 175–180. https://doi.org/10.30604/jika.v2i2.54

Faswita, W., & Suarni, L. (2020). Hubungan Pendidikan Seks Dengan Perilaku Seksual Pada Remaja Putri Di Sma Negeri 4 Binjai Tahun 2017. *Jurnal JUMANTIK*, *3*(2), 274–282.

Hegdahl, H. K., Musonda, P., Svanemyr, J., Zulu, J. M., Grønvik, T., Jacobs, C., & Sandøy, I. F. (2022). Effects of economic support, comprehensive sexuality education and community dialogue on sexual behaviour: Findings from a cluster-RCT among adolescent girls in rural Zambia. *Social Science and Medicine*, *306*. https://doi.org/10.1016/j.socscimed.2022.115125

Irsyad, M. (2019). Pendidikan PENDIDIKAN SEKS UNTUK ANAK USIA DINI. *Elementary: Jurnal Ilmiah Pendidikan Dasar*, *5*(1), 73. https://doi.org/10.32332/elementary.v5i1.1374

Isnaini, F. (2014). Hubungan Tingkat Pengetahuan Dengan Penerapan Pemberian Informasi Tentang Pendidikan Seks

Oleh Orang Tua Pada Remaja Di Dusun Candiwinangun Tahun 2014. In *Pendidikan Seks* (Vol. 2014, Issue June, pp. 1–2). STIKES' Aisyiyah Yogyakarta. https://repositories.lib.utexas.edu/handle/2152/39127%0Aht tps://cris.brighton.ac.uk/ws/portalfiles/portal/4755978/Julius +Ojebode%27s+Thesis.pdf%0Ausir.salford.ac.uk/29369/1/Ang ela_Darvill_thesis_esubmission.pdf%0Ahttps://dspace.lboro.a c.uk/dspace-jspui/ha

KEMENPPPA. (2019). CATAHU 2020: Kekerasan Meningkat: Kebijakan Penghapusan Kekerasan Seksual untuk Membangun Ruang Aman bagi Perempuan dan Anak Perempuan – Catatan Kekerasan Terhadap Perempuan Tahun. *Catahu: Catatan Tahunan Tentang Kekerasan Terhadap Perempuan*, 1–109. https://drive.google.com/file/d/1Zn_brQmp6BLN5wbHfCdbh -o-3EngmAjJ/view

Kementerian Kesehatan RI. (2018). *Laporan Riskesdas Provinsi Kalimantan Timur 2018*. Lembaga Penerbit Badan Litbang Kesehatan. https://ejournal2.litbang.kemkes.go.id/index.php/lpb/article/ view/3760

Kumalasari, D. (2016). Correlation of Knowledge and Attitude With Premarital Sexual Behavior Toward the Student in Smk. *Jurnal Ilmu Kesehatan Aisyah*, *1*(1), 93–97.

Listiyana, A. (2012). Peranan Ibu Dalam Mengenalkan Pendidikan Seks Pada Anak Usia Dini. *Egalita*. https://doi.org/10.18860/egalita.v0i0.1998

Maimunah, S. (2015). Pengaruh Faktor Keluarga terhadap Perilaku Seksual Remaja. *Seminar Psikologi Dan Kemanusiaan*, 359–362.

Mesele, J., Alemayehu, A., Demissee, A., Yusuf, M., Abubeker, F., Ahmed, M., & Jemal, A. (2023). Level and determinants of knowledge, attitude, and practice of risky sexual behavior among adolescents in Harar, Ethiopia. *SAGE Open Medicine*, *11*. https://doi.org/10.1177/20503121221145539

Mulati, D., & Lestari, D. I. (2019). Hubungan Penggunaan Media Sosial Dan Pengaruh Teman Sebaya Dengan Perilaku Seksual Remaja. *Jurnal Kesehatan Masyarakat*, *3*(1), 24–34.

Osadolor, U. E., Amoo, E. O., Azuh, D. E., Mfonido-Abasi, I., Washington, C. P., & Ugbenu, O. (2022). Exposure to Sex Education and Its Effects on Adolescent Sexual Behavior in Nigeria. *Journal of Environmental and Public Health*, *2022*. https://doi.org/10.1155/2022/3962011

Paramitha, D. (2018). Hubungan antara Penggunaan Media Sosial dengan Tingkat Pengetahuan Seksual Remaja di SMAN 5 Samarinda. *Skripsi*.

Pike, I., Kraus-Perrotta, C., & Ngo, T. D. (2023). A scoping review of survey research with gender minority adolescents and youth in low and middle-income countries. *PLoS ONE*, *18*(1 January). https://doi.org/10.1371/journal.pone.0279359

Rinta, L. (2015). Pendidikan Seksual Dalam Membentuk Perilaku Seksual Positif Pada Remaja Dan Implikasinya Terhadap Ketahanan Psikologi Remaja. *Jurnal Ketahanan Nasional*, *21*(3), 163. https://doi.org/10.22146/jkn.15587

Rohmah, H., Yuliyanasari, N., Ghufron, M., & Anas, M. (2021). The Influence of Health Education (Health Promotion) Breast Self Examination (BSE) Against Behavior of BSE (Knowledge, Attitudes, and Action) Student of Madrasah Aliyah Ar-Raudlatu ... *PROCEEDINGS – 4th International Conference on Sustainable Innovation*, *May*, 399–426. https://www.researchgate.net/profile/Muhammad-Anas-18/publication/351638361_The_Influence_of_Health_Educat ion_Health_Promotion_Breast_Self_Examination_BSE_Agains

t_Behavior_of_BSE_Knowledge_Attitudes_and_Action_Stude nt_of_Madrasah_Aliyah_Ar-Raudlatul_Ilmiy

Rozana, M. F., Jayanti, R. D., & Hardianto, G. (2023). Relationship of Knowledge about Sexually Transmitted Infections with The Sexual Behavior of Adolescent Women in SMKN 5 Jember. *Indonesian Midwifery and Health Sciences Journal*, *7*(1), 53–62. https://doaj.org/article/39830d0d137642ceae374596f277bf2 1

Salamah, S., & Ayu, D. (2018). Pendidikan Orang Tua Dengan Pengetahuan Remaja Tentang Pendidikan Seks. *Jumantik*, *3*(1), 109–114.

Solehati, T., Septiani, R. F., Muliani, R., Nurhasanah, S. A., Afriani, S. N., Nuraini, S., Fauziah, S., Pratiwi, S. D., Alam, S. P., Hermayanti, Y., Kosasih, C. E., & Mediani, H. S. (2022). Intervensi Bagi Orang Tua dalam Mencegah Kekerasan Seksual Anak di Indonesia: Scoping Review. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *6*(3), 2201–2214. https://doi.org/10.31004/obsesi.v6i3.1914

Sugiasih, I. (2011). Need Assessment Mengenai Pemberian Pendidikan Seksual Yang Dilakukan Ibu Untuk Anak Usia 3 – 5 Tahun Need Assessment of Sexual Education By Mother. *Jurnal Psikologi Proyeksi*, *6*(1), 71–81. research.unissula.ac.id

Suherni, DR Yuni kusmiyati S., & Heni Puji Wahyuningsuh, Ss. K. (2020). *Tingkat Pengetahuan Tentang Seks Bebas Pada Remaja Di Smp Muhammadiyah Kasihan Bantul Yogyakarta* (pp. 8–30).

Sukma, A., Wijaya, Y., Khotijah, S. L., Ariani, P., Damayanti, B. A., & Puspitasari, V. A. (2020). Tingkat Pemahaman Sex Education pada Mahasiswa Untidar Program Studi Pendidikan Biologi. *NECTAR : Jurnal Pendidikan Biologi*, *1*(1), 7–11. https://jom.untidar.ac.id/index.php/nectar/article/view/980

Suprapti, & Indarwati. (2013). Peran Orang Tua Dan Pengetahuan Remaja Tentang Pubertas Di Salah Satu Smp Negeri Boyolali. *Gaster*, *10*(1), 20–29.

Thaha, R. Y., Riswan, R., & Yani, R. (2021). Factors Affecting Adolescent Knowledge About Reproductive Health at SMPN 1 Buntao, North Toraja Regency. *Jurnal Komunitas Kesehatan Masyarakat*, *3*(2), 52–74.

Usonwu, I., Ahmad, R., & Curtis-Tyler, K. (2021). Parent–adolescent communication on adolescent sexual and reproductive health in sub-Saharan Africa: a qualitative review and thematic synthesis. *Reproductive Health*, *18*(1), 1–15. https://doi.org/10.1186/S12978-021-01246-0/FIGURES/3

Wajdi, F., & Arif, A. (2021). Pentingnya Pendidikan Seks Bagi Anak Sebagai Upaya Pemahaman Dan Menghindari Pencegahan Kekerasan Maupun Kejahatan Seksual. *Jurnal Abdimas Indonesia*, *1*(3), 129–137. https://doi.org/10.53769/jai.v1i3.130