

Determinants of Adolescent Reproductive Health Literacy in SMP N II Jambu Semarang Regency, Central Java

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Abstract: Adolescent reproductive health is a significant concern, as adolescents undergo both physical and psychological changes during their transition from childhood. A lack of reproductive health literacy among adolescents can increase the risks of teenage pregnancy, sexually transmitted infections (STIs), and other related issues. This gap in reproductive health literacy is influenced by several factors, including the support provided by teachers through peers and family members. This study aims to analyze the determinants of adolescent reproductive health literacy, focusing on the support factors from teachers, healthcare providers, families, and peers, and their correlation with the level of reproductive health literacy among adolescents at SMP N II Jambu, Semarang Regency. This research adopts a quantitative approach with a cross-sectional design, involving 151 students from SMP N II Jambu, Semarang Regency, selected through simple random sampling. Adolescent reproductive health literacy is measured using the modified Health Literacy Measure for Adolescents (HELMA). The data were analyzed using univariate analysis with frequency distribution and bivariate analysis with the Chi-Square test. The study found a significant correlation between the support of teachers, healthcare providers, family, and peers, and the level of adolescent reproductive health literacy at SMP N II Jambu, Semarang Regency. To enhance adolescent reproductive health literacy in schools, there is a need for increased support from teachers, healthcare providers, family members, and peers.

Keywords: Adolescent reproductive health literacy, Teacher support, Peer support, Healthcare provider, Family support.

INTRODUCTION

Adolescent reproductive health is an important issue that requires special attention, particularly because adolescence is a transitional phase from childhood to adulthood, marked by physical and psychological changes. During this phase, adolescents face physical, emotional, and psychological challenges that impact their understanding of reproductive health. Currently, Indonesia experiencing a demographic bonus, with nearly 70.7% of the population in the productive age category, and 16.81% of that population being teenagers. Good reproductive health literacy is essential to ensuring that adolescents can make informed decisions about their bodies, avoid the risks of teenage pregnancy, and protect themselves from sexually transmitted infections (STIs).

Reproductive health problems in adolescents are closely linked to risky behaviors, including smoking, drinking alcohol, drug abuse, and engaging in premarital sexual intercourse. According to the 2017 Indonesia Health Demographic Survey (IHDS), 55% of adolescent boys and 1% of adolescent girls smoke, 15% of adolescent boys and 1% of adolescent girls use illegal drugs, 5% of adolescent boys drink alcoholic beverages, and 8% of boys and 1% of girls have engaged in sexual intercourse while dating. The reasons for sexual intercourse while dating reported 47% mutual love, 30% curiosity, 16% because it “just happened” and 6% due to peer pressure or coercion. Data from the 2015 Global School Health Survey (GSHS) indicates that Indonesian teenagers in junior high and high school also face health-related behavioral issues. The survey revealed that 5.26% of 9,512 respondents had engaged in sexual intercourse, with 0.7% of 10,876 reporting their first experience at age 11 or younger. Additionally, 1.22% of 10,881 respondents had sexual intercourse with more than one partner, and 49.73% of 10,800 respondents did not know how to refuse an invitation to have sexual intercourse. Only 36.33% of students in Indonesia reported being taught in school how to refuse sexual relations (Kusumawardani et al., 2015). Further data shows that the Age-Specific Fertility Rate (ASFR) for women aged 15-19 years was 20.49 per 1,000 women of childbearing age in 2021, rising to 26.49 per 1,000 in 2022 (Kristanto, 2023).

The condition of adolescent reproductive health in Central Java based on the 2019 Program Accountability Performance Survey (SKAP) shows that 59.3% of adolescents have never heard of or do not know about the fertile period. Additionally, a significant number of adolescents believe that women cannot get pregnant by having sex just once (28.9%), while 18.3% are unaware of this entirely. There are still adolescent boys (2.1%) and girls (4.3%) who plan to get married before the age of 20, and 49% of adolescents do not know the consequences of marrying at a young age (Tri Wijayanti & Yusup Agung Nurpratama, 2020), (Kicbusch et al., 2013) (Nutbeam & Lloyd, 2021).

Adolescent health behavior is related to health literacy (Fleary et al., 2018). According to the Organization for Economic Co-operation and Development (OECD), Literacy is the ability to understand, evaluate, use, and be involved in achieving one's goals, and developing one's knowledge and potential. Literacy is the ability to understand, evaluate, use and be involved in achieving one's goals, and develop one's knowledge and potential (Nutbeam & Lloyd, 2021). World Health Organization (WHO) defines health literacy as cognitive and social skills that determine an individual's motivation and ability to gain access to health to understand and use information in a way that promotes and maintains good health. A person with poor literacy tends to be less

responsive to traditional health education messages and less likely to use disease prevention services (Berkman et al., 2011). Adolescents with low reproductive health literacy have a worse effect on sexual behavior compared to those with high health literacy (Lakhmudien, 2018). Adolescents with low reproductive health literacy have a worse effect on sexual behavior compared to those with high health literacy (Kyilleh et al., 2018).

Health literacy is influenced by personal determinants or individual characteristics in the form of needs, motivations, attitudes, levels of adaptation, attention spans, and social situations which will further affect the amount of health care costs, behavior, and health status as well as individual participation in efforts to maintain health (Sørensen et al., 2012). Studies in Indonesia, Laos, and Indonesia found inadequate levels of Adolescent Reproductive Health Literacy (ARHL) among secondary school students (Wardiati et al., 2023; Lakmudien, 2019; Vongxay et al., 2019).

The results of the 2016 PKBI Central Java survey on adolescents in SMA/SMK equivalent in Semarang City and Regency showed that no more than 55% of teenagers were well informed, covering health courtship knowledge as much as only 27,84% men and 42,36% women, about puberty as many as 38,14% of men and 55,11% of women, prevention of pregnancy as much as 18,09% of men and 26,52% of women who were able to answer correctly (Central Java PKBI Pillar, 2016). In addition based on (Lakhmudien et al., 2019) adolescent reproductive literacy in Semarang City high school is inadequate (33.1%) or problematic (48.2%). The majority of students (50%) have inadequate or problematic abilities in accessing, understanding, assessing, and applying reproductive health information.

This research was conducted at SMP N II Jambu, Semarang Regency, to find out factors related to the level of adolescent reproductive health literacy, including teacher support, health worker support, peer support, and family support. Teachers have an important role in providing information and guidance on adolescent reproductive health is important in providing accurate information and guidance on reproductive health, but most teachers do not have a comprehensive understanding of adolescent reproductive health (ARH) (Fitriana, 2018).

The reason for this study lies in the need to know the factors related to the level of adolescent reproductive health literacy so that it can be used as a consideration in carrying out interventions to overcome the growing gap in reproductive health literacy among adolescents in Indonesia. The data mentioned above show a lack of comprehensive adolescent reproductive health knowledge among adolescents that increases their vulnerability to early marriage, teenage pregnancy, and sexually transmitted infections. Adolescent reproductive health literacy will affect

their health level as well as affect public health in the future. The urgency of this research is driven by the increasing rate of teenage pregnancy and STI transmission, as well as the increasing role of informal sources such as peers and the internet in shaping adolescent behavior.

METHOD

This study is a quantitative research using a cross-sectional design to determine the relationship between teacher support, healthcare provider, peers, and family support with the level of adolescent reproductive health literacy in SMP N II Jambu, Semarang Regency. The population in this study is 189 students at SMP N II Jambu Semarang Regency. The sample consisted of 151 respondents who were selected using simple random sampling. Data was collected using a questionnaire in February 2024. The questionnaire used is modified from the Health Literacy Measure for Adolescents (HELMA) developed by Ghanbari et al. (2016). The researchers then reviewed the contents, modifying the HELMA questionnaire based on the flexibility of customizable questions that cover different aspects of adolescent reproductive health. The questionnaire uses a Linkert scale with the answer options "never=0", "rarely=1)", "sometimes=2", "often=3", and "always=4)". Univariate data analysis uses frequency distribution and Chi-Square bivariate analysis.

RESULTS

Characteristics of Respondents

Based on Table 1, it can be seen that male respondents (53.64%) are more than women (46.36%). The average age of students is 13.54, the youngest age is 12 and the oldest age is 17 with elementary school 1,112. Most of the parent's income is < 3 million rupiahs.

Table 1. Characteristics of Respondents Based on Gender, Age, and Income of Parents

Characteristic	frequency (n=151)	Percentage
Gender		
Male	81	53.64
Female	70	46.36
Age (years)		
Mean	13.54	
Median	13	
Minimum	12	
Maximum	17	
Std. Deviation	1.112	
Parents' Income < 3 million (Rp)	126	83.44

Characteristic	frequency (n=151)	Percentage
3 – 4 million (Rp)	21	13.91
5 – 6 million (Rp)	3	1.99
>6 million (Rp)	1	0.66

Bivariate analysis

Bivariate analysis of Reproductive Health Literacy of SMP N II Jambu Semarang Regency students as shown in Table 2 as follows:

Table 2 The bivariate analysis of adolescent reproductive health literacy in SMP N II Jambu Semarang regency.

	Adolescent reproductive health literacy								
	Low				Moderate		High		p-value
	f	%	f	%	f	%	f	%	
Teacher Support									
Low	78	51.66	33	42.3	40	51.3	5	6.4	0.0001
High	73	48.34	10	13.7	41	56.2	22	30.1	
Healthcare Provider									
Low	38	25.17	17	44.7	15	39.5	6	15.8	0.001
Moderate	65	43.04	22	33.8	36	55.4	7	10.8	
High	48	31.79	4	8.3	30	62.5	14	29.9	
Family Support									
Low	45	29.80	27	60	13	28.9	5	11.1	0.0001
Moderate	77	50.99	12	15.6	53	68.8	12	15.6	
High	29	19.21	4	13.8	15	51.7	10	34.5	
Peer Support									
Low	37	24.51	21	56.8	10	27	6	16.2	0,0001
Moderate	71	47.01	19	26.8	43	60.6	9	12.7	
High	43	28.48	3	7	28	65.1	12	27.9	

Based on Table 2 above, 51.66 % of students with low reproductive health literacy, 51.66% received low support from teachers, and 56.2% of students with moderate literacy received high support. These results show that the higher the support provided by teachers, the better students' reproductive health literacy. This is strengthened by the results of chi-square bivariate analysis with a p-value of 0.0001, which means that there is a statistically significant relationship between teacher support and the level of reproductive health literacy of junior high school students in Jambu Semarang Regency.

Support from healthcare providers also showed a significant relationship with reproductive health literacy. A total of 44.7% of students with low literacy received support from low healthcare providers, while 62.5% of students with high literacy received high support. The p-value of 0.001 shows a significant relationship, where better support from healthcare providers correlates with increased literacy.

Family involvement in providing support shows a relationship with reproductive health literacy. As many as 60% of students with low literacy received low support from their families, while 51.7% of students with higher literacy received better family support. With a p-value of 0.0001, the role of the family affects reproductive health literacy.

Support from peers is also an important factor in adolescent reproductive health literacy. A total of 56.8% of students with low literacy received low support from peers, while 65.1% of students with higher literacy received good support from peers. The p-value of 0.0001 confirms that peer support has a very significant relationship with the level of adolescent reproductive health literacy.

DISCUSSION

Focusing on adolescent reproductive health literacy and its determinants, the results of the study at SMP N II Jambu Semarang Regency show that there is a relationship between teacher support and junior high school adolescent health literacy. Teachers are important in providing information and guidance related to adolescent reproductive health. The results showed that of students with low reproductive health literacy, 51.66% received low support from teachers, while 56.2% of students with higher literacy received high support. The role of teachers in adolescent reproductive health includes education and counseling. Teachers play a very significant role in improving reproductive health literacy (Widyatuti et al., 2018). The role of teachers is important in providing comprehensive sexual education (CSE) to empower adolescents with knowledge and skills regarding their reproductive health. More than 50% of adolescent girls receive menstrual health information from teachers (Kurniawati et al., 2022). Teachers play a key role in creating a supportive menstrual health environment (Shenkman et al., 2023).

Based on the study's result, the support of healthcare providers also influences reproductive health literacy. Healthcare providers from health centers, as well as counselors from BKKBN involved in the PIKR-R program, contribute to the Adolescent Reproductive Health Information Center at school (Najallaili & Yusuf, 2021). Health services in schools are also implemented through the School Health Program (UKS). The activities conducted by healthcare professionals from health centers are carried out according to a pre-planned schedule, in coordination with the school principal and the public health center (Suharyanto et al., 2019).

Family support, especially in the context of reproductive health education, is often overlooked. Research conducted at SMP N II Jambu shows that students with low family support

tend to have lower reproductive health literacy. This aligns with the finding from (Lakhmudien, 2018) in Semarang, which indicates that many parents still feel uncomfortable discussing reproductive health topics with their children, leading to information gaps at home. Similarly, research by (Guan, 2021) in Beijing shows that families actively provide information about reproductive health, and adolescents are more likely to have good knowledge and exhibit responsible behavior regarding their reproductive health. In Some cultures, however, this topic is still considered taboo.

Based on the research, the result was obtained that there was a relationship between peer support and adolescent reproductive health literacy at SMP N II Jambu. This is supported by the research of Kyilleh et al., (2018) that adolescents often trust the information provided by their peers more than those that come from adults as teachers and parents. Research by Vongxay et al., (2019) in Laos found that peer education programs involving training adolescents to share correct reproductive health information can significantly improve health literacy among adolescents. Programs like this are implemented in many developing countries with success in reducing risky sexual behaviors.

CONCLUSION

Based on research conducted at SMP N II Jambu, Semarang Regency, several factors related to the level of adolescent reproductive health literacy were concluded as follows:

1. Teacher support has been shown to significantly improve adolescent reproductive health literacy. Students who received strong support from their teachers tended to have better reproductive health literacy.
2. Support from health workers, whether through school programs or health centers, also plays an important role in improving reproductive health literacy. Students who receive support from health workers have a better understanding of reproductive health.
3. Peer support is related to adolescent reproductive health literacy. Positive peer support based on correct information can improve adolescent reproductive health literacy.
4. Family support is related to the level of adolescent reproductive health literacy. Family involvement in reproductive health education supports the improvement of adolescent reproductive health literacy.

Overall, this study shows that adolescent reproductive health literacy is greatly influenced by support from teachers, health workers, peers, and family. Therefore, comprehensive interventions involving all of these factors are needed to improve reproductive health literacy among adolescents,

so that they can help reduce the risk of risky sexual behaviors, adolescent pregnancy, and sexually transmitted infections.

Conflict of Interest

The authors declare that there are no major competing financial, personal interests, or professional that could have impacted the performance or presentation of the study described in this publication.

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REFERENCES

- Berkman, N. D., Sheridan, S. L., Donahue, K. E., Halpern, D. J., & Crotty, K. (2011). *Low Health Literacy and Health Outcomes: An Updated Systematic Review*. www.annals.org.
- Central Java PKBI Pillar. (2016). *Annual Survey Data 2012-2016*.
- Fitriana, hani. (2018). PENDIDIKAN KESEHATAN REPRODUKSI REMAJA DI SMPN 52 SURABAYA. *The Indonesian Journal of Public Health*.
- Fleary, S. A., Joseph, P., & Pappagianopoulos, J. E. (2018). Adolescent health literacy and health behaviors: A systematic review. In *Journal of Adolescence* (Vol. 62, pp. 116–127). Academic Press. <https://doi.org/10.1016/j.adolescence.2017.11.010>.
- Ghanbari, S., Ramezankhani, A., Montazeri, A., & Mehrabi, Y. (2016). Health literacy measure for adolescents (HELMA): Development and psychometric properties. *PLoS ONE*, 11(2). <https://doi.org/10.1371/journal.pone.0149202>.
- Guan, M. (2021). Sexual and reproductive health knowledge, sexual attitudes, and sexual behavior of university students: Findings of a Beijing-Based Survey in 2010-2011. *Archives of Public Health*, 79(1). <https://doi.org/10.1186/s13690-021-00739-5>.
- Kicbusch, Pelikan JM, Apfel F, & Tsouros AD. (2013). 3. *Health literacy: the solid facts*.
- Kurniawati, E. M., Rahmawati, N. A., Safitri, C. T., & Hanum, S. S. (2022). Informational and instrumental support related to menstruation: adolescents' perspective. *International Journal of Public Health Science*, 11(4), 1317–1323. <https://doi.org/10.11591/ijphs.v11i4.21806>.
- Kyilleh, J. M., Tabong, P. T. N., & Konlaan, B. B. (2018). Adolescents' reproductive health knowledge, choices, and factors affecting reproductive health choices: A qualitative study in the West Gonja

District in Northern region, Ghana. *BMC International Health and Human Rights*, 18(1). <https://doi.org/10.1186/s12914-018-0147-5>.

Lakhmudien. (2018). *PENGARUH TINGKAT LITERASI KESEHATAN REPRODUKSI TERHADAP PERILAKU SEKSUAL PRANIKAH REMAJA BERBASIS TEORI HEALTH LITERACY DI SMK N X KOTA SEMARANG*.

Lakhmudien, Soedirham, O., & Fatah, M. Z. (2019). Reproductive Health Literacy Level of Adolescents in Senior High School in Semarang City. *International Journal of Public Health and Clinical Sciences*, 6(1). <https://doi.org/10.32827/ijphcs.6.1.75>.

Najallaili, & Yusuf, W. (2021). *Influence of Education and Information Center (EIC) for Adolescence on Reproductive Health Knowledge, Attitude on Pre-marital Sexual Behavior, and Sexual Behavior Among the EIC for Adolescence Participants and Non-participants in Public Senior High School*. 8, 113–121. <https://doi.org/10.29406/jkmk.v8i3.2797>.

Nutbeam, D., & Lloyd, J. E. (2021). Understanding and Responding to Health Literacy as a Social Determinant of Health. *Annu. Rev. Public Health*, 42, 159–173. <https://doi.org/10.1146/annurev-publhealth>.

Shenkman, J. L., Neubauer, L. C., Mason, L., Oruko, K., Alexander, K., Phillips-Howard, P. A., & Nyothach, E. (2023). Building menstrual health and hygiene-supportive environments: exploring teachers' experience in rural Western Kenya. *Frontiers in Public Health*, 11. <https://doi.org/10.3389/fpubh.2023.1206069>.

Sørensen, K., Van Den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., & Brand, H. (2012). Health literacy and public health: A systematic review and integration of definitions and models. In *BMC Public Health* (Vol. 12, Issue 1). <https://doi.org/10.1186/1471-2458-12-80>.

Suharyanto, A., Cathio, Muchlis, Agus Suharyanto, Ms., Tim Penyusun, M., Catio, M., Hutapea, J., Djuharsono, P., Jalinus, L., & Jauhari, M. (2019). *Pedoman Pembinaan dan Pengembangan UKS/M*.

Tri Wijayanti, U., & Yusup Agung Nurpratama, P. (2020, September 17). *GAMBARAN KESEHATAN REPRODUKSI REMAJA*. <https://Jateng.Bkkbn.Go.Id/?P=1551>.

Vongxay, V., Albers, F., Thongmixay, S., Thongsombath, M., Broerse, J. E. W., Sychareun, V., & Essink, D. R. (2019). Sexual and reproductive health literacy of school adolescents in Lao PDR. *PLoS ONE*, 14(1). <https://doi.org/10.1371/journal.pone.0209675>.

Wardiaty, W., Septiani, R., Agustina, A., Ariscasari, P., Arlianti, N., & Mairani, T. (2023). Reproductive Health Literacy of Adolescents at Public Islamic School: A Cross-Sectional Study in Indonesia. *Al-Sihah: The Public Health Science Journal*, 12–22. <https://doi.org/10.24252/al-sihah.v15i1.33133>.

Widyatuti, Waluyanti, T. F., Mulyadi, B., & Nursasi, Y. A. (2018). The influence of health training on teachers and students' knowledge of adolescent reproductive health. *Enfermeria Clinica*.