



## Reproductive Health Education Study Materials for Junior High School Students

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### Abstract

**Background:** Some indicators of reproductive health education in schools have not reached the expected level. A preliminary study on junior high school students shows that 90% of students have poor reproductive health knowledge. This situation is an indicator of the weak reproductive health education in junior high schools. This study aimed to formulate curriculum and material for the reproductive health education in junior high school teachers.

**Methods:** The design of this study is research and development. The study continued with field tests on 30 junior high school teachers in the Mijen sub-district of Semarang City.

**Results:** The study succeeded in formulating 5 materials and 18 study materials on reproductive health education for junior high school students. The material includes: 1) Male and female reproductive organs, 2) Personal protection from sexual abuse, 3) Problems related to reproductive health behavior, 4) Sexually transmitted diseases and HIV-AIDS, 5) Environmental care for reproductive health. The mapping results show that 50% of teachers have never learned the materials: the structure and function of reproductive organs, the types of sexually transmitted diseases, and the health effects of sexually transmitted diseases. The level of teacher knowledge about reproductive health education was 26.7% including the excellent category, 33.3% good and 36.7% sufficient

**Conclusion:** Materials health education for junior high school students need to be implemented through various forms of intra and extracurricular learning in junior high school

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## BACKGROUND

Health is one of the important pillars in national development. This can be interpreted that in every development effort must always pay attention to its impact on the health sector. Therefore a health paradigm is needed as a direction in every development effort. The health paradigm in development is mainstreaming promotive and preventive efforts in health development (Prisklatiwi, Windraswara, & Budiono, 2014).

Promotive and preventive actions are essential efforts to reduce the magnitude of health problems and increase the degree of public health. Decreasing health problems will be optimal if all sectors include indicators of promotive and preventive efforts that are relevant to their respective fields of work. Including the main sectors that are required to integrate these efforts are educational institutions. The challenge of Health Promotion in educational institutions (Health Promoting Schools) proclaimed by the World Health Organization uses holistic model that includes relationships between physical, mental, social, and environmental aspects. This concept involves families and schools by encouraging their participation in increasing the knowledge and skills of students (starting at an early age) about health (World Health Organization & UNESCO, 2018).

Educational institutions are seen as a strategic place to promote school health. Educational institutions especially basic education are very effective in realizing health education, where students can be taught about the intentions of healthy and unhealthy behavior and their consequences (Dongre, Deshmukh, & Garg, 2011). The basic education in question is the level of education that the government has set as the limit of 9-year compulsory education, namely up to junior high school (JHS/SMP in Indonesia).

One important health problem for promotive and preventive efforts in school institutions is reproductive health problems. Some research show that many unwanted pregnancies occur among middle school students. Because there were free sex among them. The permissive attitude of the community and the school environment towards the factors associated

with free sex encourages the development of this behavior. The impact of pregnancy on teenagers is not only short-term, but also has long-term consequences. The inadequacy of fetal and mother teenage nutritional intake is often the cause of stunting problems. The risk of sexually transmitted diseases and cervical cancer due to sex at an too early age has proven to be a serious problem faced by adolescents with unwanted pregnancies (Pourmarzi & Rimaz, 2014).

The negative impact of free sex behavior among students shows the importance of promotive and preventive efforts in schools. Unfortunately, the current situation of many schools, especially junior high schools, has not provided adequate reproductive health education material for their students. Preliminary studies at the SMP in Mijen Subdistrict, Semarang City showed the students lack of knowledge about reproductive health. As many as 90% of students surveyed have knowledge about reproductive health in the less category. The review of the 2013 curriculum documents for junior high school students also shows that reproductive health material is mentioned in a tiny portion on sports and health physical education subjects. This shows that curriculum and study materials have not been developed yet supporting reproductive health education for junior high school students. This study aimed to formulate curriculum and material for the reproductive health education in junior high school teachers.

## METHOD

The design of this study is research and development. The study was intended to produce a model in the form of reproductive health education study material for reproductive health education for junior high school students. In this study the procedure design of research development research is carried out until the internal testing stages. After the validity of the developed model has been tested, it is then followed by a field test to find out the profiles of the readiness of the cognitive aspects of the teachers, as well as the lessons learned from the practices that have been carried out by the teachers.

The development of study materials re-

productive health education for junior high school students was carried out using the Delphi method by involving experts in the fields of management of education and reproductive health. At this stage the researcher submits a draft of study material reproductive health education to experts to get input and suggestions for improvement. After the draft is approved, then the experts provide an assessment / validation of the model developed. Validation is carried out by evaluating the relevance of the model developed with the theme of reproductive health education. Assessment is given with a range of scores 1-3, i.e. 1 = irrelevant, 2 = somewhat relevant, and 3 = relevant.

The validity testing of the study materials reproductive health education carried out by 6 experts with doctoral backgrounds in education management and reproductive health. The field test is intended to determine the profile of preparedness from the cognitive aspects of the teachers. The results of field tests will be a reference for school preparation in implementing the study materials reproductive health education which has been developed. The field test subjects were 30 junior high school teachers in the Mijen sub-district of Semarang City.

## RESULT AND DISCUSSION

The initial model of study materials reproductive health education for junior high school students was developed by studying relevant literature studies. Based on the results of the literature review, first reproductive health education material can be grouped into 5 components. The five components are 1) Male and female reproductive organs, 2) Personal protection from sexual abuse, 3) Problems related to reproductive health behavior, 4) Sexually transmitted diseases (STDs) and HIV-AIDS, 5) Environmental care for reproductive health

Furthermore, from the five components described in several study materials, in detail the components appear in table 1.

The material components for the study of reproductive health education are compiled above, in line with some of the results of previous studies which stated that reproductive health education has a broad spectrum, ranging from the introduction of reproductive health

organs to problems related to reproductive health (Pourmarzi & Rimaz, 2014). The results of other studies on reproductive health education also reinforce the importance of school-based reproductive health education. In the study, it was revealed that school-based health education is a potential and inclusive effort for the promotion of reproductive health in adolescents. The benefits that can be obtained from the education are include 1) reducing and preventing transmission of sexually transmitted diseases in the future, and 2) increasing awareness of the prevention behavior for sexually transmitted diseases (Sani, Abraham, Denford, & Ball, 2016; Tushabomwe & Nashon, 2016)

After the reproductive health education study materials were improved according to expert advice and input, the experts also gave a validation assessment of the model. Table 2 shows the results of expert evaluations.

The results of the evaluation of validity in table 2 show that the study materials reproductive health education that has been developed in this study can be implemented in junior high school. This is in line with previous research which emphasized the importance of reproductive health education in the school curriculum, so that teachers can deliver reproductive health material for students through intra and extracurricular activities (Dongre, Deshmukh, & Garg, 2011; Tushabomwe & Nashon, 2016).

After the study materials reproductive health education for junior high school students has been successfully developed, further studies need to be conducted to map the competency profile of reproductive health education to the teacher. Table 3 are showing the characteristics of the research subjects from 30 teachers who became the study sample. It appears that most respondents are female. The types of subject teachers are fairly evenly distributed covering all subjects in junior high school.

Based on the study materials of reproductive health education for junior high school students who have been developed, mapping is done about whether or not the teacher has obtained the material. This is very important to be considered in the implementation of models in the field. Material acquisition can come from the period of their study in university or through self-development after graduating

**Table 1.** Component and study material of health reproductive for JHS students

No	Component material	Study material
1	Male and female reproductive organs	Structure and function of the reproductive organs Puberty Menstrual cycle Healthy reproductive age
2	Personal protection from sexual harassment	Sexual harassment Law for sexual harassers Social and religious norms about sexual harassment Preventive measures against sexual harassment
3	Problems related to reproductive health behavior	Personal hygiene of reproductive health organs Health and social impacts of free sex The health and social impacts of undesirable pregnancy Health and social impacts of abortion
4	Sexually transmitted diseases (STDs) and HIV-AIDS	Various types of sexually transmitted diseases Health effects of sexually transmitted diseases How to prevent sexually transmitted diseases (STDs) and HIV-AIDS
5	Reproductive health caring environment	LGBT impacts and prevention Avoid permissiveness to free sex Drug effects and prevention

**Table 2.** Evaluation of the relevance of materials within the theme of reproductive health education for junior high school students

No	Overview	Calculated score	Criteria score	Score	Conclusion
1	Male and female reproductive organs	18	18	100	Approved
2	Self-protection from sexual abuse	18	18	100	Approved
3	Problems related to reproductive health behavior	18	18	100	Approved
4	Sexually transmitted diseases (STDs) and HIV-AIDS	18	18	100	Approved
5	Reproductive health caring environment	17	18	93,3	Approved

Information :

Calculate score = addition of assessment scores from all assessors

Criteria score = number of assessors x number of rating scales  
= 3 x 6 = 18

Value = (calculated score: criterion score) x 100

Conclusion = component approved if value > 75

from teacher education. Table 4 illustrates the percentage of whether or not teachers receive reproductive health material.

Based on table 4, there are several reproductive health education materials that have not been studied by the teacher. More than 50% of teachers stated that they had never studied three materials, namely: 1) the structure and function of reproductive organs, 2) the types of sexually transmitted diseases, and 3) the health effects of sexually transmitted diseases.

In addition, reproductive health education material in which about 16% of teachers had never studied it, were : 1) menstrual cycle, 2) healthy reproductive age, 3) personal hygiene reproductive health organs, 4) health and social impacts of free sex, 5 ) various types of sexually transmitted diseases, 6) health effects of sexually transmitted diseases.

As an effort to map junior high school teacher competency to the study materials reproductive health education, an evaluation of the teacher knowledge level was conducted. The 5 main components of reproductive health education material were translated into 48 item questions. Table 5 presents profile of teacher's knowledge about reproductive health education.

Furthermore, the profile of knowledge about reproductive health education when described according to subject teachers is as how in table 6

It can be concluded from table 5 and 6 most teachers has fairly good knowledge about reproductive health, some of them were still in the less knowledge categories. Furthermore, when viewed from subjects, it appears that science teachers had best level of knowledge.

The results showed that more than 50% of teachers stated that they had never studied some reproductive health education material. The material that most teachers have not studied were 1) the structure and function of reproductive organs, 2) the types of sexually transmitted diseases, and 3) the health effects of sexually transmitted diseases. In addition, about 16% of teachers have never studied material about 1) menstrual cycle, 2) healthy reproductive age, 3) personal hygiene of reproductive health organs, 4) health and social impacts of free sex, 5) various types of sexually transmitted diseases, 6)

**Table 3.** Research subject characteristics

Characteristic		n	%
<b>Gender</b>	Man	9	30.0
	Women	21	70.0
	Total	30	100.0
<b>Subjects</b>	Mathematics	3	10.0
	Science	4	13.3
	Social	3	10.0
	English	3	10.0
	Indonesian	4	13.3
	Javanese language	1	3.3
	Physical Exercise	2	6.7
	Counselling	2	6.7
	Religion	2	6.7
	Technology	2	6.7
	Art and culture	2	6.7
	Civic	2	6.7
<b>Total</b>		30	100.0

health effects of sexually transmitted diseases.

The findings of the study that showed a lack of exposure to reproductive health material to teachers seemed to be an implication of the absence of a reproductive health curriculum in schools. Only teachers in certain fields of study such as Natural Sciences (IPA) have obtained more complete material. This causes the reproductive health education material did not conveyed well to students. The implications of the low competence of reproductive health education in teachers will be long-term.

In the junior high school curriculum, reproductive health material is not explicitly included in the learning plan. Reproductive health materials can be integrated in all intra and extracurricular activities. Therefore, as a part of mapping reproductive health education in schools, it is necessary to know the profile of providing reproductive health education materials in schools. Table 7 presents a profile of the provision of reproductive health education materials by 30 teachers who were respondents to the study.

Table 7 shows that reproductive health education has not been given comprehensively to students. This needs to be corrected given the importance of reproductive health educa-

**Table 4.** Profiles of reproductive health education materials obtained by teachers

Reproductive health education materials		Reproductive health education obtained		
		Ever n (%)	Never n (%)	Total n (%)
<b>Male and female reproductive organs</b>				
1	Structure and function of the reproductive organs	10 (33,4)	20 (66,6)	30 (100,0)
2	Puberty	30 (100,0)	0 (0)	30 (100,0)
3	Menstrual cycle	25 (83,4)	5 (16,6)	30 (100,0)
4	Healthy reproductive age	25 (83,4)	5 (16,6)	30 (100,0)
<b>Self-protection from sexual abuse</b>				
1	Sexual harassment	30 (100,0)	0 (0)	30 (100,0)
2	Law for sexual harassers	30 (100,0)	0 (0)	30 (100,0)
3	Social and religious norms about sexual harassment	30 (100,0)	0 (0)	30 (100,0)
4	Preventive measures against sexual harassment	30 (100,0)	0 (0)	30 (100,0)
<b>Problems related to reproductive health behavior</b>				
1	Personal hygiene of reproductive health organs	25 (83,4)	5 (16,6)	30 (100,0)
2	Health and social impacts of free sex	25 (83,4)	5 (16,6)	30 (100,0)
3	The health and social impacts of pregnancy are not desirable	30 (100,0)	0 (0)	30 (100,0)
4	Health and social impacts of abortion	30 (100,0)	0 (0)	30 (100,0)
<b>Sexually transmitted diseases (STDs) and HIV-AIDS</b>				
1	Various types of sexually transmitted diseases	10 (33,4)	20 (66,6)	30 (100,0)
2	Health effects of sexually transmitted diseases	10 (33,4)	20 (66,6)	30 (100,0)
3	How to prevent sexually transmitted diseases (STDs) and HIV-AIDS	25 (83,4)	5 (16,6)	30 (100,0)
<b>Reproductive Health Caring Environment</b>				
1	LGBT impacts and prevention	30 (100,0)	0 (0)	30 (100,0)
2	Avoid permissiveness to free sex	30 (100,0)	0 (0)	30 (100,0)
3	Drug effects and prevention	30 (100,0)	0 (0)	30 (100,0)

tion interventions for students. Research shows the importance of early reproductive health education interventions (Pinandari, Wilopo, & Ismail, 2015). Several studies have proven that adolescents and young adults who receive comprehensive reproductive health information at the formal education level are less likely to have premarital sexual intercourse. In other words, receiving comprehensive reproductive health information provides greater opportuni-

ties for adolescents and young adults to prevent premarital sexual relations (Miswanto, 2014; Pinandari *et al.*, 2015; Widiyanto, Purnomo, & Sari, 2013).

The results of this study provide information that most reproductive health education materials have not been taught by teachers in schools. This is a challenge for the education world given the importance of investment in reproductive health education to prevent vari-

**Table 5.** Profile of knowledge about reproductive health education in teachers

<b>Component of reproductive health education material</b>	<b>Category</b>	<b>n</b>	<b>%</b>
Overall reproductive health education material	Very good	8	26.7
	Good	10	33.3
	Enough	11	36.7
	Less	1	3.3
	Total	30	100.0
Female and male reproductive organ	Very good	15	50.0
	Good	5	16.7
	Enough	7	23.3
	Less	3	10.0
	Total	30	100.0
Personal protection from sexual abuse	Very good	15	50.0
	Good	8	26.7
	Enough	6	20.0
	Less	1	3.3
	Total	30	100.0
Problems related to reproductive health behavior	Very good	7	23.3
	Good	11	36.7
	Enough	11	36.7
	Less	1	3.3
	Total	20	100.0
Sexually transmitted diseases (STDs) and HIV-AIDS	Very good	5	16.7
	Good	6	20.0
	Enough	14	46.7
	Less	5	16.7
	Total	30	100.0
Reproductive Health Caring Environment	Very good	27	90.0
	Good	3	10.0
	Enough	0	0
	Less	0	0
	Total	30	100.0

**Tabel 6.** Categories of knowledge reproductive health material according to subject

Subject's teacher	Categories				Total n (%)
	Very Good n (%)	Good n (%)	Enough n (%)	Less n (%)	
Mathematics	-	2 (66.6)	1 (33.4)	-	3 (100.0)
Science	4 (100.0)	-	-	-	4 (100.0)
Social	-	2 (66.6)	1 (33.4)	-	3 (100.0)
English	-	2 (66.6)	1 (33.4)	-	3 (100.0)
Indonesian	1 (25.0)	2 (50.0)	1 (25.0)	-	4 (100.0)
Javanese language	-	-	1 (100.0)	-	1(100.0)
Physical Exercise	1 (50.0)	1(50.0)	-	-	2 (100.0)
Counselling	1 (50.0)	1(50.0)	-	-	2 (100.0)
Religion	1 (50.0)	1(50.0)	-	-	2 (100.0)
Technology	-	-	2 (100.0)	-	2 (100.0)
Art and culture	-	-	2 (100.0)	-	2 (100.0)
Civic	-	2 (100.0)	-	-	2 (100.0)
Total	8 (26.6)	13 (43.4)	9 (30.0)	-	30 (100.0)

ous reproductive health problems that currently tend to increase. Some health problems such as the high incidence of HIV / AIDS due to free sex which can be prevented by early education (Rossem, Berten, & Tuyckom, 2010).

The results of other studies reinforce evidence of the long-term role of health education in school-age children towards the elimination of sexually transmitted diseases (Wanje et al., 2017). Similarly, the results of the Rada study (2014) showed reproductive health education as an effort to minimize the occurrence of deviant sexual behavior (Rada, 2014).

Reproductive health education in junior high school students in addition to instilling healthy reproductive behavior, it is also useful to provide skills for students in maintaining their own personal genital hygienes. Problems related to premenstrual syndrome can also be prevented by adequate reproductive health education (Ather, 2014; Canan & Jozkowski, 2017). Ather's research (2014) proves that the short-term effects of reproductive health education are very useful to help students prevent premenstrual syndrome. The act of preventing premenstrual syndrome can also be done through nutritional counseling, exercise, and religion in adolescents (Ather, 2014).

## CONCLUSION

Materials and materials for the study of reproductive health education have been successfully developed for junior high school students. The material includes 5 main components namely 1) Male and female reproductive organs, 2) Self protection from sexual abuse, 3) Problems related to reproductive health behavior, 4) Sexually transmitted diseases (STDs) and HIV-AIDS, and 5) Environmental care for reproductive health . The main components are described in 18 study materials.

The results of mapping the profile of reproductive health education in junior high school teachers show that as many as 50% of teachers have not learned the material about the structure and function of reproductive organs, the types of sexually transmitted diseases, and the health effects of sexually transmitted diseases. As many as 16% of teachers have never learned about menstrual cycles, healthy reproductive age, personal hygiene of reproductive health organs, health and social impacts of free sex, various sexually transmitted diseases, and the health effects of sexually transmitted diseases. The level of teacher knowledge about reproductive health education was 26.7% including the excellent category, 33.3% good and 36.7% sufficient.



**Tabel 7.** Profile of providing reproductive health education materials in schools by teachers

Reproductive health education materials	Teacher providing reproductive health materials		
	Yes n (%)	No n (%)	Total n (%)
<b>Male and female reproductive organs</b>			
1 Structure and function of the reproductive organs	4 (13.4)	26 (86.6)	30 (100.0)
2 Puberty	10 (33.4)	20 (66.6)	30 (100.0)
3 Menstrual cycle	10 (33.4)	20 (66.6)	30 (100.0)
4 Healthy reproductive age	10 (33.4)	20 (66.6)	30 (100.0)
<b>Self-protection from sexual abuse</b>			
1 Sexual harassment	12 (40.0)	18 (60.0)	30 (100.0)
2 Law for sexual harassers	10 (33.4)	20 (66.6)	30 (100.0)
3 Social and religious norms about sexual harassment	25 (83.4)	5 (16.6)	30 (100.0)
4 Preventive measures against sexual harassment	4 (13.4)	26 (86.6)	30 (100.0)
<b>Problems related to reproductive health behavior</b>			
1 Personal hygiene of reproductive health organs	6 (20.0)	24 (80.0)	30 (100.0)
2 Health and social impacts of free sex	7 (23.4)	23 (76.6)	30 (100.0)
3 The health and social impacts of pregnancy are not desirable	15 (50.0)	15 (50.0)	30 (100.0)
4 Health and social impacts of abortion	15 (50.0)	15 (50.0)	30 (100.0)
<b>Sexually transmitted diseases (STDs) and HIV-AIDS</b>			
1 Various types of sexually transmitted diseases	5 (16.6)	25 (83.4)	30 (100.0)
2 Health effects of sexually transmitted diseases	10 (33.4)	20 (66.6)	30 (100.0)
3 How to prevent sexually transmitted diseases (STDs) and HIV-AIDS	7 (23.4)	23 (76.6)	30 (100.0)
<b>Reproductive health caring environment</b>			
1 LGBT impacts and prevention	25 (83.4)	5 (16.6)	30 (100.0)
2 Avoid permissiveness to free sex	5 (16.6)	25 (83.4)	30 (100.0)
3 Drug effects and prevention	25 (83.4)	5 (16.6)	30 (100.0)

Based on the findings of the above research, it is recommended that junior high school education institutions include 5 reproductive health education materials in various forms of intra and extracurricular learning. Teacher must develop knowledge about reproductive health education material through various scientific activities such as seminars, workshops, or learning from various reference books.

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