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RESEARCH ARTICLE

The Reproduction Health Behavior of High School Teenagers in Semarang, Indonesia

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Abstract:

Background:

It is recorded in Semarang that nearly 50% of the teenagers have conducted premarital sexual intercourse at the age 10-15 years. One of the efforts to prevent it is by reproduction health education at school to improve the teenagers' knowledge and health behavior.

Objective:

The research objective is to find out the relation of school role in health education with reproduction health behavior on high school teenagers in Semarang.

Methods:

The research was conducted in 2017, which is a correlation description research with a quantitative approach. The population is all high school students in Semarang, *i.e.* 6620 students, the sample taking technique is by purposive sampling with 178 respondents. Questionnaire instruments were used to collect data on the role of schools and adolescent reproductive health behaviors. The questionnaire was tested for validity and reliability first. In addition, additional instruments such as APARQ are used, which are standard questionnaires for measuring physical activity and standard recall, so validity and reliability tests are not needed. Data was analysed using univariate, bivariate and multivariate with SPSS.

Results:

There was a significant role of school in the teenager's reproduction health behavior (p-value 0.023), there was no significant effect of the dating status on the teenager reproduction health behavior with (p-value 0.693), there was a significant effect of teenager knowledge to teenager reproduction health behavior (p-value 0.012) and there was no significant relation between teenage physical activity and teenager reproduction health behavior in Semarang (p-value 0.370).

Conclusion:

The role of the school is directly related through knowledge to the reproduction health behavior where the policy and activity have the highest effect on knowledge. Moreover, age, dating status, and physical activity do not directly relate to the reproduction health behavior of high school teenagers in Semarang. Besides, result demonstrate that school has a high role in teenager knowledge compared to other variables in this research.

Keywords: School role, Health education, Dating status, Reproduction health, Teenagers' knowledge, Health behavior.

Article History

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1. INTRODUCTION

Teenage period is a transition one due to many shocks and changes that are quite radical from the previous period, particularly owned emotional intelligence [1]. The tendency of teenagers to try various behavior that sometimes are risky behavior. But so, it refers to the personality development pro-

cess and social adaptation of the teenager [2]. One of them is the reproduction health behavior that is implicated in the form of sexual behavior in dating. This occurs from the manifestation of teenagesexual impulse, starting from a glance to pair's sensual part of the body until sexual intercourse. Ironically, the action occurs as if it was common among dating teenagers, though indirectly become a risky health behavior [3].

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Teenagers think that dating could elevate their pride. Unfortunately, often the dating behavior gives a negative effect, such as premarital sex, that can form a sexual experience. Where someone that has had an attitude toward sexuality (sexual attitude), will potentially do non-marriage sexual intercourse [4]. Besides, teenagers require positive activity to develop creativity and imagination due to high curiosity. Yet if the teenagers are unable to manage this condition well, then they will likely waste their time for less benefit activity like hanging around and dating. As researched by Gambit, the inability of a teenager to manage sexual impulse leads to deviation behavior [5].

This condition requires specific attention from many parties since teenage risky behavior usually leads to fatal consequences, thus causing various problems, such as unreadiness to face marital conflict or abortion, health disorder, venereal disease, even mortality caused by the reproductive organs that have not matured [6]. As recorded in the data of National Family Plan Coordination Board (Badan Koordinasi Keluarga Berencana Nasional/BKKBN), around 23% of high school teenagers in Indonesia convicted that they have done sexual intercourse and 20% of them committed abortion [7]. While 45 AIDS cases were found among high school and university students [8].

Based on the cases, an effort is required to raise awareness among teenagers to behave healthily through motivation or self-will and the implementation in daily life. The international agreement of Cairo in 1994 (The Cairo Consensus) regarding health states that reproduction health education needs to be given since adolescence, whether by the family or school curriculum [9]. Education institute holds an important role in encouraging healthy life behavior among teenagers. Since through formal education or school, it is expected that the teenagers obtain a science-based knowledge thus bringing out a correct understanding [10].

School is a strategic reproduction health education target, considering that >50% of Indonesian population is students; the future generation. At school, there are curriculum policy, facility and infrastructure and competence resources for reproduction health education. Besides, the students encounter multi-community life so it is expected that by health reproduction behavior, a student is able to become the role model in the various community, like family, neighborhood or peers [11]. Since in school, there are curriculum policy, facility, and infrastructure, as well as competence resources on reproduction health education teaching [12]. So the student can get proper information through positive activity from the school and would be able to develop a reproduction health knowledge so that can be preserved [13].

Sex education at school does not deliver in a particular subject but is integrated through health and sports class, Biology, Social Science, and Religion, though the proportion is not balanced [14]. The susceptibility of sex education currently given at school is that it insufficiently and incorrectly provides the understanding of the reproductive health and it could instead be a supporting factor in the increase of teenage sexual crime prevalence [15].

Based on the initial study and mini survey in Semarang District and Semarang City high school teenagers sexual behavior mini survey by Central Java PILAR PKBI, it has been observed that nearly 50% of them have committed premarital sexual intercourse with an average age on the first date being 10-15 years while 30% of them admitted that they have had sex with more than 1 person. As for the reproduction health education at school, it is only an extracurricular program. Some even mentioned that it only a glance talk that is unstructured and unscheduled.

Research on the involvement of schools in the provision of health education to improve adolescent reproductive health behavior is a new approach that is being developed by the government in collaboration with higher education institutions.

The objective of this research is to find out "How is School Role, Dating status, Physical Activity and Reproduction Health Behavior on High School Teenagers in Semarang".

2. MATERIALS AND METHODS

Ecological models recognize multiple levels of influence on health behaviors, including intrapersonal/individual factors, which influence behaviors such as knowledge, attitudes, beliefs, and personality. Interpersonal factors, such as interactions with other people, which can provide social support or create barriers to interpersonal growth that promotes healthy behavior. Institutional and organizational factors, including the rules, regulations, policies, and informal structures that constrain or promote healthy behaviors. Community factors, such as formal or informal social norms that exist among individuals, groups, or organizations, can limit or enhance healthy behaviors. Public policy factors, including local, state, and federal policies and laws that regulate or support health actions and practices for disease prevention including early detection, control, and management [16, 17].

This research is a descriptive-correlative with a quantitative approach. The population includes all the high school students in Semarang which are 6220 students. Samples are obtained using calculations from Solvin, which included 178 respondents. Sample collection technique by purposive sampling with inclusion criteria is as follows:

- The school agrees to cooperate in this research.
- It is a general school without particular specification.
- The school has a health education program.
- The school has been accredited.
- The students agree to be the respondents.
- The students are in XII grade.

Questionnaire instruments were used to collect data on the role of schools and adolescent reproductive health behaviors. The questionnaire was tested for validity and reliability first. In addition, additional instruments such as APARQ (*The Adolescent Physical Activity and Recall Questionnaire*) were used, APARQ were standard questionnaires for measuring physical activity and standard recall, so validity and reliability tests are not needed. The instrument filling by respondents is conducted with accompaniment.

The validity technique used in this study is the Product Moment Correlation technique proposed by Pearson. From the test, the results show that all questions in the questionnaire are valid. Instrument reliability testing using Cronbach Alpha formula because of the instrument of this research is in the form of questionnaires and multilevel scale. The value obtained is 0.981 so the questionnaire instrument was reliable.

Test the normality of the data using Shapiro Wilk with the value of the test result was 0.71. Then, obtained data were processed by using bivariate analysis with chi-square and multivariate analysis by logistic regression analysis with SPSS program.

A primary asset of error statistical methods is their contributions to designing, collecting, modeling, and learning from data. The severe testing view provides the much-needed link between a test's error probabilities and what's required for a warranted inference in the case at hand [18].

3. RESULTS

From Table 1, it was known that the demographic characteristics of the respondents were as follows: Most respondents were 18 years old (75.28%), and more respondents were female (58.98%), many respondent's fathers had a higher education level (62.36%), while the majority of respondent's mother education were middle education (55.62%), respondents mostly live in urban areas (64.6%), while the highest family economic status is in the third quartile (45.5%).

Research result regarding school role on the reproduction health behavior of Semarang high school teenager after data process is as follows: 93.9% respondents (167 persons) stating the school role in high school health education is supporting, 105 persons (68%) stated that they do not date while 118 respondents (66.3%) have good knowledge, 137 respondents (23%) stated that they do not have active physical activity and 120 respondents (67.4%) stated that they have fair reproduction health behavior.

Table 1. Demographic characteristics of respondents.

Variable	Frequency (f)
Age	
17 years	32
18 years	134
19 years	12
Sex	
Male	73
Female	105
Father's education	
Basic education	2
Middle education	65
Higher education	111
Mother's education	
Basic education	5
Middle education	99
Higher education	74
Residence	
Urban	115
Rural	63

Economic status	
Quartil 1	0
Quartil 2	8
Quartil 3	81
Quartil 4	62
Quartil 5	27

Source: Primary data, December 2017

Based on Table 2, the result of meaning level with p-value (0.05) obtained that there is a significant effect of the role of school on the teenager's reproduction health behavior with p-value $0.023 < 0.05$, there is no significant effect of dating status

Table 2. Bivariate analysis of school role in health education, dating status, knowledge and physical activity to teenager health reproduction behavior.

Health Reproduction Behavior	Good (%)	Fair (%)	P value
Dating Status			
Dating	70.8	31,2	0.693
Not dating	66.8	34.2	
School Role			
Support	69.5	30.5	0.023
Not support	36.4	63.6	
Knowledge			
Poor	45	26.3	0.012
Well	55	45	
Physical Activity			
Active	73.2	26.8	0.370
Not active	65.7	34.3	

Source: Primary Data, December 2017

on teenager reproduction health behavior with p-value $0.693 > 0.05$, there is a significant effect of teenager knowledge on teenager reproduction health behavior with p-value $0.012 < 0.05$ and there is no significant relation between teenage physical activity and teenager reproduction health behavior in Semarang with p-value $0.370 > 0.05$.

Based on Table 3, the variable outcome started from the highest p-value. From the result, it can be seen that dating status variable and physical activity have the highest p-value (0.693 and 0.370), thus the next phase excludes them. The result of the model without dating status and physical activity is shown in Table 4.

Based on Table 4, the knowledge variable has a lower p-value. To find out which factor is the most related to reproduction health behavior can be seen from the highest OR (Exp(B)). OR value of school role in the health education is 4.102 and OR value of knowledge is 2.328. Therefore, it can be concluded that school role in health education is the most related factor with high school teenager reproduction health behavior in Semarang.

By then the hypothesis that can be formed in this research is there is an effect of school role on highschool teenager reproduction health behavior in Semarang. With variable that highly affects is the school role with OR 2.328.

Table 3. First stage multivariate analysis on school role in health education, dating status, knowledge, and physical activity to high school teenager health reproduction behavior in Semarang.

Variable	ρ	OR	95% C.I
School Role in health education	0.023	3.980	1.116-14.200
Dating Status	0.693	0.880	0.466-1.661
Knowledge	0.012	2.296	1.195-4.413
Physical Activity	0,370	1.424	0.656-3.094

Source: Primary data, December 2017

Table 4. Second stage multivariate analysis on school role in health education, dating status, knowledge, and physical activity to high school teenager health reproduction behavior in Semarang.

Variable	ρ	OR	95% C.I
School role in Health Education	0.033	4.102	1.122-14.992
Knowledge	0.013	2.328	1.199-4.521

Source: Primary Data, December 2017

4. DISCUSSION

4.1. School Role and Teenager Reproduction Health Behavior

Based on the research result obtained, there is a significant effect of school role on high school teenager reproduction health behavior in Semarang with p-value $0.023 < 0.05$, where the school role variable is the most related to reproduction health behavior at school which has 2.238 ratios odd. As has been awarded that basically highschool teenager only get a glance of information related to the reproduction health through biology, religion, counseling guidance and health and sports education yet all are not sustainable or segmented and unstructured, therefore it generates a biased understanding. Beside from high school curriculum, the high school students have been directed into the majors since the beginning of the class, while most of the information related to reproduction health is in the biology class. This condition does not support teenagers requirement of reproduction health information. The result of this research indicates the school's role in health education activity support (93.8%). Reproduction health education given at school needs to be improved through teacher's knowledge development so that activity supporting health education improvement for a student can be delivered as needed [19].

School's effort on improving student's knowledge regarding reproduction health has an important role through focus and clear communication, information and education (CIE) [20]. Thus, a good reproduction health behavior is formed since "a know before do" is very important. Wherein the research of reproduction health behavior is indicated from dating behavior, dating place where teenager prefer to spend time with the pair alone on tourist site or friend's house indicating they expect no supervision from older family members. Therefore parent's role is highly important on the teenager's ability to socialize in accordance with the norms and values of the community [21].

One of the significant developments in the interdisciplinary field of judgment and decision making is the classification of environments as a function of (a) their capacity to enable people to learn from experience (kind environments vs. wicked environments) and (b) the consequences of having failed to understand and adapt to them (exacting environments vs. lenient environments) [22].

4.2. Dating Status to Teenager Reproduction Health Behavior

Based on the research result, there is no effect of dating status on the reproduction health behavior with p-value $0.654 > 0.05$. As explained previously, the role of sexual gonads is very high during the teenage either biologically or psychologically. In a phase where a will and interest in opposite-sex occurs, teenagers often form a relation called dating. Dating is interpreted as an agreement to love, trust and own each other and as if the couple is husband and wife [23].

The purpose of dating is that a person can learn to communicate heterosexually, build an emotional and physical relationship and develop individual maturity [5]. In order to reach those, supporting and positive attitude are required. If the sexual impulse is too high, it will generate high conflict, and then the impulse is tended to be won with any reason as self-defending. Thus, in the relationship or dating, self-commitment to the mean and purpose of the process is required, therefore they in a relationship are able to manage emotional development caused by gonads development, leading to improper reproduction health behavior. Due to the high curiosity of the teenagers for things experienced often, they ignore the risk of such behaviors [24].

Based on the above, it can be concluded that one's dating status is not sufficient to form an experience, since other factors including self-control of consequences from gonadal gland development to reproduction health behavior, like good knowledge as religious, parents, family and school role are also required.

4.3. Knowledge to Teenager Reproduction Health Behavior

Based on the obtained result, there is a relationship between knowledge and reproduction health behavior with p-value $0.012 > 0.05$. Basically, knowledge is formed through experience and learning either directly or indirectly [9]. There is a positive effect of student's knowledge on student's reproduction health behavior [24]. It means knowledge can form an understanding that can be the base to one's behavior, therefore, it is expected that with good understanding comes good behavior.

4.4. Physical Activity to Teenager Reproduction Health Behavior

Based on the result, there is no relation between physical activity and teenager reproduction health behavior indicated by p-value $0.532 > 0.05$. The teenager sexual problem basically comes from organological development as a result of reproduction organs maturing often not realized by the teenager [25]. On the other side, the change of community life from traditional to modern causes norms shifting and finally affect

the teenager's sexual behavior. Psychologically, the changes occurred in the teenager are the occurrence of sexual impulse and attraction to the opposite sex. Those feelings are not separated from the effect of the sex hormone, testosterone. The sexual impulse is emerged automatically along with the physical growth [26].

Along with the increase in sexual impulse, the requirement is being fulfilled through dating behavior that they consider as self-actualization in the social converse of the phase.

The teenager with the peer will cause changes in the teenager's activity [27]. If the activities are performed regularly, those will form a pattern that can be observed as how the teenager allocate the time for 24 hours of daily life, to do a kind of regular activity and its frequency. Physical activity gives significant effect to mood conditions and feeling as well as decreasing anxiety, stress and depression as a result of change and development inside a teenager at the time of adolescence, which requires proper management [28]. The more active someone is physically, the more energy is required. Therefore, the sexual impulse of the teenager can be directed to positive activity.

Physical activity done regularly will form a daily routine thus indirectly affecting teenager knowledge which means that without being aware a teenager with heavy physical activity would be able to manage the sexual impulse though not having a good knowledge regarding reproductive health. Since the energy of the body can be actualized through high-intensity sports like running, swimming, badminton or other sport with similar intensity indirectly keeping the teenager off improper reproduction health behavior [29].

5. THE LIMITATIONS OF RESEARCH

The limitations of research on inclusion criteria in the selection of schools are quite large so that many schools cannot be used as research samples.

CONCLUSION

School plays a direct role in controlling reproduction health behavior through knowledge based on relevant policies and activities. On the other side, age, dating status and physical activity are not directly related to the reproduction health behavior of high school teenagers in Semarang. Besides, it has been observed that the school has a greater effect on the knowledge of the teenager knowledge compared to other variables in this research.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study is approved by the Health Research Ethics Commission, Universitas Negeri Semarang with Ethical Clearance Letter Number 050/ KEPK/EC/2017.

HUMAN AND ANIMAL RIGHTS

No animals/humans were used for studies that are the basis of this research.

CONSENT FOR PUBLICATION

Written informed consent was obtained from all the participants prior to publication.

AVAILABILITY OF DATA AND MATERIALS

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

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None.

CONFLICT OF INTEREST

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

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