

Conference Paper

Protocol Study: Intervention Model of School Health Nursing for a Prevention of Adolescent Pregnancy

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Abstract

Adolescent pregnancy is a global concern. Pregnancies and births in adolescents bring them to get pregnancy complications. The interventions for pregnancy prevention in schools is one of the options that can be done. The purpose of the study is to determine the effect of school health nursing through the personal and social skills training for the primary prevention of adolescent pregnancy. This study is a quasi-experimental research design with nonequivalent (pretest and posttest) control group design. The outcome of the study was individual behavior change that includes confidence, a healthy dating, attitude in decision making, attitude on say no to premarital sex, and overcome the pressure of the group. This study will take place in high school A and B in Yogyakarta that was selected based on purposive sampling. The study will be held from January to September 2016. At the intervention group, before the intervention, school nurses must first undergo a personal and social skills training. In addition, the school nurses are also trained to be a facilitator for adolescents. The school nurses will then retrain personal and social skills for adolescents in schools through the intervention of school health nursing for six months, while the control group will be given routine reproductive health education. If the school health nursing is effective, it will prevent adolescent pregnancy. This model can then be used widely in schools as an intervention for the prevention of adolescent pregnancy and the improvement of the quality of teenagers' life.

Keywords: Adolescent pregnancy, Adolescent pregnancy prevention, Health education, School health nursing, School nurse.

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1. Introduction

Adolescent pregnancy is a global concern. According to WHO, in 2008 in the world there are 16 000 000 births by mothers aged 15 yr to 19 yr [1]. The adolescent birth rate

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describes 11 % of all births in the world. Approximately 95 % of births in adolescents is the case in countries with middle and low income. Globally, the adolescent birth rate has increased from year to year, in 1990 it reached 60 per 1 000 births and in 2007 was 48 per 1 000 births. For events in the East Asian, it is five per 1 000 births and the highest is in Sub-Saharan Africa, which reached 121 per 1 000 births [1].

The number of give-birth teens is 95 % or approximately 7 300 000 cases occurred in developing countries like Indonesia, two million of them are under 15 yr, while 3 200 000 teens aged 15 yr to 19 yr get unsafe abortions. The number of teenagers who died due to pregnancy and birth is 70 000 inhabitants [2]. According to data of Riskesdas [3] about the data on teen pregnancy in 2013, the proportion of the incidence of pregnancies at a very young age less than 15 yr is very low, at 0.02 %, mainly in the countryside. The proportion of pregnancies in teens aged over 15 yr is 2.71 %, then 1.28 % is in rural areas compared to urban [3].

The high mortality maternal rate in Indonesia is also influenced by the high number of births in teen. Births in teen also give a higher risk of maternal mortality as compared to women aged 20 yr to 30 yr. The births rate among teens contributes 11 % of total maternal mortality in the world. Births-in-teen rate (teen in age 15 yr to 19 yr) in Indonesia also still show a high rate, which in 1991 was 67, and still quite high in 2007 at 35 per 1 000 women aged 15 yr to 19 yr [4]. Also, pregnancies and births in teens bring teens to get pregnancy complications such as preeclampsia, eclampsia, gestational diabetes, anemia, bleeding in the third trimester, postpartum hemorrhage and other complications. The complication rate will increase in gestational age less than 15 yr [5]. Teens are also at risk to act unsafe abortion, so teens are also at risk of death and more than 65 % of women get fistula in the reproductive organs developing in teen, as a complication of birth [1].

The Indonesian government made various attempts through programs and institutions that work comprehensively in overcoming maternal mortality and declining birth rate in teenagers and have not shown optimal results yet. Based on the literature review conducted by Oringanje et al. [6] in previous studies, the prevention of teen pregnancy with interventions such as health education, training and the promotion of contraception can reduce the risk of unwanted pregnancies in teens. However, there are very few evidence about the effects of each intervention, so that it can be concluded that there is no basis of specific interventions that can be recommended for the prevention of teenage pregnancy.

The interventions of teen pregnancy prevention in schools is one of the options that can be done. School health nursing is not so commonly heard in Indonesia. School health

nursing is one part of a school that can also be involved in the interventions for the prevention of pregnancy in teens. Council on School Health defines a school nurse as a practitioner of nursing professionals in charge of facilitating the positive response to the development of children or teens, promoting health and safety, providing intervention of the actual and potential health issues in teens, providing management services for particular case, doing active collaboration with other health services to build the capacity of children or teens and families to adapt, self-management, self-advocacy and learning [7].

Based on the literature of school health nursing in developed countries, especially Sweden and Japan, the nursing profession is a special profession with special education that must be passed. The task of the school nurse is also greatly facilitated by the school to achieve good health for children in the school environment. Its role includes providing reproductive health education to prevent pregnancy and prevent sexually transmitted diseases. Therefore, the researchers choose the approach of prevention of pregnancy in teens through school health nursing. The approach of the prevention of pregnancy in teens through school health nursing is still new in Indonesia, considering few schools that develop school health nursing. The study will analyze the effect of the intervention model of school health nursing for the primary prevention of pregnancy in teens.

The purpose of this study is to know the influence of school health nursing in an intervention model through personal and social skills training for the primary prevention of teenage pregnancy. The outcome of this study for primary prevention of adolescent pregnancy will be seen in changes of behavior, including confidence to abstain from premarital sex, healthy courtship behavior, behavior in decision-making, behavior to say no to premarital sex and overcome the pressure of the group.

2. Materials and Methods

2.1. Material

2.1.1. Study design

This research is a quasi-experimental research design with nonequivalent (pretest and posttest) control group design. This study is a pilot project. In the intervention group, before the intervention, school nurses must first be trained on personal and social skills. In addition, the school nurses are also trained to be a facilitator for teens. The school

nurses will then retrain the personal and social skills for teens in schools through interventions of school health nursing for six months. While the control group will be given routine reproductive health education.

2.1.2. Setting

Selection of schools as a place of research originated from the data coming from the Health Department of Yogyakarta in 2013, that Yogyakarta city is the area that has the second highest adolescent pregnancy rate after Gunungkidul. Then the researchers searched for ten health centers that have a service for a teenager. From the tenth of the health center, Jetis public health center keeps the first order for the occurrence of birth in teen and followed by PHC Tegalrejo as the second, since the important goal of this research is schools, based on information from the nurse of health unit program in Senior High School (SHS). The researchers visited some high schools or vocational schools being the target of Jetis and Tegalrejo health center. To find schools that stand out in concerning about adolescent pregnancy, the researchers conducted interviews with the teachers of school guidance counselor selected. The results of the interview are that there was never any special notes in the school about the incident of adolescent pregnancy. So, another consideration in the determination of the intervention group school and the control group is that there is still minimal reproductive health program ever been implemented in schools and lack of school facilities for health care to the students.

2.1.3. Participants

The criteria of school nurses are the generalist nurses who have completed their undergraduate and nurse education. Two nurses are recruited with a special contract. The school nurses must first receive personal and social skills training given by psychologist of teens who experiences in assisting teens at the health center. The nurse will then provide school health nursing every day for 6 mo in the intervention group.

2.1.4. Population of the study

The general population in this study is the students of SHS who are in the Yogyakarta Province. Jetis health center ranked first in the number of births in 2013, followed by Tegalrejo health centers. Then the researchers went on to study senior high schools

that are in the health centers' target. SHS A and SHS B were selected. Then there was a simple draw to determine the intervention group and the control group. SHS A as an intervention group and SHS B as a control group.

Calculation of sample size is determined based on a formula of a sample size to test the hypothesis of one side of the mean difference of the two populations [8]. Variance of the population is unknown value, but it can be estimated from previous studies, the research [9]. Research Tablot and Langdon [9] used one measurement nearly same with what is used in this study that is a tool for measuring the level of knowledge of adolescents, which uses the value of SP2 or variants of the two samples that were combined (pooled). Mean difference estimated is 10 point, with 95 % α and 90 % β , it showed 29.05 as minimal sample size.

To anticipate the dropout sample, then it is added 10 % the total, at least 32 samples for each group. However, in the implementation of this research will use the students of class X and XI which conform to the inclusion criteria. The numbers of the students per class in each school are approximately 40 students. So the total of all samples is 80 students in the intervention group and 80 in the control group. Inclusion and exclusion criteria of the intervention group are as follows: the enrolled students in Senior High School A and still in class X and XI, had the experience of having a boyfriend, willing to be respondents of the research and join personal and social skill training; while criteria of exclusion are students, who have not completed all the personal and social skills training. Inclusion and exclusion criteria control groups are as follows: The enrolled students of Senior High School B and still in class X and XI and had the experience of having a boyfriend.

2.2. Methods

2.2.1. Intervention

(1) Trials of personal and social skills training modules

Personal and social skills training modules and modified from Merchant and Dorkings study [10] entitled narcotics an in-depth study. Merchant and Dorkings gave interventions in teenagers in order to avoid the influence of drugs, while in this study it is addressed to teenagers to prevent adolescent pregnancy. So, before the intervention, it was tried out to ten students of SHS C in Jetis Yogyakarta. Trials of this modules aim to provide an assessment of whether the modules are in accordance with the purpose of the module use, also provide feedback about the terms in the modules that are not yet understood by teenagers.

Training for school nurses about personal and social skills and also how to be a facilitator for teenagers. The school nurses will be trained with the skills of personal and social skills summarized in modules of personal and social skills consisting of twelve materials, namely: i) the introductory materials to group, ii) materials of unity building in the group by "trus" game, iii) the materials explain the rules of the game, responsibilities and law, iv) the learning materials of survival skills of the pressure group, v) the materials increase coping through assertiveness, vi) the materials are to understand stress and learn to overcome, vii) the materials build confidence, viii) teenage reproductive health and consequences of teen pregnancy, ix) the materials of coping skills are to overcome the boredom and enjoy free time, x) the materials improve the communication skills of teenagers, xi) the materials of the role of prayer, religion and understanding parents, xii) conclusions and the training activities closing. The materials add it on how to be a facilitator for teenagers. The school nurses were trained for two days by an adolescent psychologist who has experience in health centers in providing teenage counseling. The training process is done in the classroom with the help of the module, powerpoint and role play.

(2) Schools health nursing

The intervention group will receive schools health nursing; schools health nursing will be provided for six months. Nurses will be every day during the school day with the students. The main task of the school nurse is to provide personal and social skills training to the students, gradually in their free time that does not interfere with teaching and learning the time of the students. An additional task of the school nurses is promotive, preventive, curative and rehabilitative for students, teachers and other school personnel's health. The control group will be given regular health education interventions that are usually done in school.

(3) Data collection

At the beginning of the research, first, the students were given an explanation about the purpose of the study and approval of the parents and students to participate in this study. Data collection will begin with a pre-test to all students both in the intervention and control groups. Then for six months, there will take place school health nursing in the intervention group and routine health education in the control group. After 6 months have passed, there was post-test.

(4) Measured outcome

The primary outcome is confidence behavior, healthy courtship behavior, behavior in decision-making and behavior to say no to premarital sex and to overcome the pressure of the group.

Secondary Outcome is knowledge about sexuality, attitudes about sexuality, complementary data is also carried out by specific evaluation of the role of school nurses in providing school health nursing.

2.3. Data analysis

2.3.1. Development of a model intervention

This process was done by studying the relevant literature and consulting with experts in this field. Other than before the intervention took place, it was conducted focus group discussions with teachers, parents, and students to gather information about the importance of school health nursing and suggestions of teachers, parents and students to the program in the school health nursing. The results of these focus groups discussion are to develop a new model for preventing adolescent pregnancy.

2.3.2. Study monitoring

The first was to recruit nurses and do training to school nurses by a team of psychologists who were experienced about the personal and social skills and how to be facilitators for teenagers. **The second** is to build a partnership with the schools, make the cooperation letter approved jointly by the schools, researchers, and known by the Head of the Department of the Maternity and Children and the Dean of the Faculty of Medicine, University of Gadjah Mada, both for the interventions and control group. In addition, the researchers also socialized the research plan to all members of the schools and also to request the support of all. **The third** is to assign the school nurses to provide intervention, provide continuous support to the school nurses during interventions, and facilitate with specific tools or materials required to provide intervention. During the 6 mo intervention took place, researchers will periodically conduct monitoring and supervision by coming directly to the schools and doing active communication by phone or mobile messaging.

2.3.3. Data analysis

A paired t-test will be used to analyze the comparative values in each paired group, pretest and posttest values (in the intervention group) and also pretest and posttest values (in the control group). An unpaired t-test will be used to see a comparison of the two unpaired groups, by comparing between the increasing value in pretest and posttest of the intervention group with pretest and posttest value of control group. Before testing this hypothesis, all measurement results will be tested for normality by the terms of the t-test. If the data is not normal, it will be the alternative test, the Wilcoxon test for paired t-test and Mann Whitney test for the unpaired t-test. To see the influence of other factors, such as knowledge and attitudes on the dependent variable, that is the attitude; then it will be done a correlation analysis by Pearson test.

3. Discussion

The high incidence of adolescent pregnancy is closely linked with teenage sexual behavior. Adolescent pregnancy adversely impacts on both for teenagers and children born to their social life. Birth in teenage amounts to approximately 11 % in worldwide and 23 % of the teen birth complications gets the disease (may have an impact on lifelong disability) [1]. In Ethiopia and Nigeria, 25 % of the fistula is at age less than 15 yr and 50 % of fistula cases occurred at the age of less than 18 yr, which can cause incontinence, odor and other issues that impact on psychological problems and social isolation [11]. Babies born from teenage mothers are also often in low birth weight and in serious health problems that can affect the physical, emotional, intellectual development of children, and the last one is the risk of infant mortality of teenage mothers that will be higher compared to older mothers [12]. The rate of preterm birth, low birth weight and asphyxia also higher in children born from teenage mothers. These conditions increase the possibility of death and infant health that will occur in the future [13]. The social impact of adolescent pregnancy is a social stigma. Many pregnant teenagers do not want or are not allowed to get in the school during pregnancy. The reason is that they are afraid of ridicule of friends and the community [13]. The number of suicide may also arise due to the occurrence of pregnancy in teenagers. Pregnancy in teenagers who are not married in culture becomes the background of the Homicide to protect the family honor [14]. According to a systematic review conducted by Harden [14], social and economic impacts may occur in teenagers during child care. These things include

unemployment, poverty, and various discrimination according to socio-demographic basis, ethnic, socioeconomic position, level of education and teenagers' place.

So many losses and negative impacts caused by teenage pregnancies need to consider appropriate interventions to prevent adolescent pregnancy. One of the interventions is the intervention in schools. School is a second home for the children, and the school represents the second environment affecting the children's life. There is a strong relationship between the time of the first sexual intercourse with unemployment teenagers and teenagers with lower socioeconomic status. Teenage students were also at risk for early sexual intercourse although it was a smaller percentage, 14 % in men and 4 % in women [15]. There was no significant difference between the level of education and sexual activity undertaken by girls, while the achievement report of teenagers is associated with teenage sexual activity. Teenagers who do not engage in sexual activity have high score [16].

Associated with formal education, teenage education that is more than nine years has no relationship to the risk of pregnancy in teenagers. Several studies have argued that young school girls engage in sex with older partners, young women having little or no negotiating power with their partners to insist on condoms usage a situation. Access to reproductive health services is another factor which contributes to adolescent pregnancy. Young women always want to be able to access sexual and reproductive health information and services, but they are being exposed to public stigma [17].

The interventions of teen pregnancy prevention in schools are not only formal education which was held at the school but also other interventions, one of them is the intervention of school health nursing. Schools health nursing will be held in the study intervention aimed at providing social and personal skills abilities to the students to avoid teenage pregnancies. In line with the role of the school nurses: making promotive, preventive, curative and rehabilitative efforts to the students [8]. One of the outcomes of this study is self-efficacy of the teenagers to avoid premarital sex; previous studies demonstrated that girl teenagers who have high sexual self-efficacy would report a low number of sexual behaviors. 52 % of them reported no sexual activity and had a high sexual self-efficacy. While as many as 25 % who had low sexual self-efficacy, ever had two or more sexual activities [18]. In the interventions of school health nursing, the school nurses are also expected to provide health promotion, for example, providing health education related to reproductive health for students individually, and in groups with scientific health education [8].

4. Conclusions

There is an increase in confidence behavior, healthy courtship behavior, decision-making behaviors and behaviors that say no to premarital sex in groups receiving school health nursing interventions compared with groups not receiving this intervention. Changes in confident behavior, healthy courtship behavior, decision-making behavior and behavior say not in premarital sex is expected to prevent adolescents from pregnancy.

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