Methods of Preventing Sexually Transmitted Disease (STD): a Systematic Review

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Keywords: Preventing sexually transmitted diseases

Abstract: Sexually Transmitted Diseases (STDs) is also called venereal, which usually occurs because of frequent intercourse with multiple sexual partners, and sexual intercourse that has been infected by STDs. The search of journal articles is done electronically using several databases: Proquest, Medline, Google Scholar, Science Direct and ebsco. The year limit used is 10 years (year 2009 - 2016). Literature search results obtained 15 selected journal articles from 987 journal articles found. There are 15 studies raised in this study. Some have control groups and there are some effects of lack of education on sexually transmitted diseases in sexual intercourse so that some study groups can be compared. Nine out of fifteen randomly control trial (RCT). The combined findings of this study provide support for the prevention of STDs, including providing counseling about reproductive health of contraceptives / condoms, Clinics running for STDs prevention programs for female sex workers. In improving further research, it is necessary to determine the optimal intensity of reproductive examination or provide reproductive health education.

1 BACKGROUND

Reproductive Health is a wholly physical, mental, and social health, and it is not solely free of disease or disability related to reproductive systems, functions, and processes. The scope of reproductive health services according to the 1994 International Conference Population and Development (ICPD) in Cairo includes the handling and prevention of sexually transmitted infections including HIV / AIDS, reproductive health, prevention and management of complications of abortion, prevention and treatment of infertility, reproductive health of elderly, early detection of reproductive tract cancers and other reproductive health such as sexual violence, female circumcision and so on (MOH RI, 2015).

Sexually Transmitted Disease (STD) is also called venereal which is from the word of venus, the goddess of love from ancient roman. Transmission of this disease usually occurs because of the person making contact with multiple partners frequently. It can be also because of sexual intercourse that had previously been contracted by one of the STD diseases. (Ajen Dianawati, 2013).

Sexually Transmitted Diseases (STD) or venereal diseases have long been recognized and some of them are very popular in Indonesia such as syphilis and gonorrhea. Consequently, the more modern civilization and science are, the more new diseases are found, and the term of venereal diseases is transformed into sexually transmitted disease (STD) or sexually transmitted infection (STI). (Somelus, 2009).

Cause of STD Transmission is One of the consequences of unhealthy sexual activity is the emergence of sexually transmitted diseases. Transmission of this disease usually occurs because of the frequency of someone having sex with multiple partners. It could also be due to sexual intercourse with people who have previously been exposed to this disease. (Ajen Dianawati, 2013). According to Aria Pranata (2010), the high risk group of STD is (1) Age (20 - 34 years in men, 16-24 years in women, 20-24 years in both sexes), (2) tourist, (3) Commercial sex worker or prostitute, (4) Narcotic addict, (5) Homosexual.

Types of STD are (1) Sexually Transmitted Diseases Caused By Organisms and Bacteria such as HIV, Gonorrhea, Syphilis, Vaginitis, Chlamydia,
Candidiasis, Chancroid, and Granula inguinale, (2) Sexually Transmitted Diseases Caused By Virus such as Herpes, Viral Hepatitis and Lymphogranuloma venereum and (3) Sexually Transmitted Diseases Caused by Parasites such as Trichomoniasis, Pediculosis.

2 METHODS

Literature searches are performed in major database such as PROQUEST, SCIENCEDIRECT, SAGEPUB, MEDLINE, EBSCO and GOOGLE SCHOLAR by entering keywords: sexually transmitted diseases, culture, sexually transmitted disease prevention methods, sexual behavior, age, condoms, The year limit used is 10 years (year 2009 -2017) in the period of 4 months used for the completion of the task.

From the literature search results, it was obtained 15 selected journal articles from 987 journal articles found. There are 15 studies raised in this study and some have control groups. There are some influences of lack of education about sexually transmitted diseases in sexual intercourse so that some research groups can compare nine of the fifteen trials selected by using Randomized Trial control (RCT). The combined findings of this study provide support for the prevention of sexually transmitted diseases. In improving further research, it is necessary to determine the optimal intensity of reproductive examination or to provide reproductive health education.

3 RESULTS

Potter et al., 2016) has evaluated evidence of effectiveness of sexually transmitted infection prevention programs in junior high schools implemented by school staff in South Carolina. From 24 schools, representing 3,143 students and participating in random research were from early 2011 to 2014. Research result is that there is no statistically significant effect on vaginal sex initiation among baseline in the grade 2 of junior high school. However, the intervention in the comparison conditions was obtained report of the last 3 months that students start sex after moving to the grade 3 of junior high. Seven of the 26 psychosocial effects include 3 knowledge, 1 attitude, 1 self-efficacy and 2 personal limits.

In the research of Marion, Finnegan, Campbell, and Szalacha in 2009, There was a significant relationship in the women's screening program to detect STI. In the research of Abe, Barker, Chan, & Eucogco, in 2016, researchers found significant impacts in knowledge, which focused on a basic understanding of STI prevention. The average percentage of the correct answers was 73.6 for the treatment group and 60.4 for the control group (P <0.001). The investigators found there is no statistically significant effect on behavior outcomes (initiation of sexual activity or involvement in high-risk sexual behavior).

Based on the research of Senn, Valliere, Berdoz, & Genton in 2011, there were 5,148 eligible tourists seen from 2006 to 2008. 1681 agreed to participate and 1115 (66%) conducted subject studies. Overall, 18(17%) of 1115 respondents did casual sexual intercourse abroad and 46 (4.1%) of 1115 respondents did not have sexual intercourse. Women tourists with past history did more often sex without protection/ contraceptive. Regarding the effect of intervention in this study, the consistent prevalence of using condom contraceptive education was 28% motivation group, 24% in condom use group and 24% and control groups (p = 0.7). Clinical Program had a significant impact in STI prevention.

In the study (College & Nadu, 2016) of 150 sexually transmitted disease prevalence participants, 77.8% of those completing school had a good awareness of STI prevention and 22.2% fell into PMS. Statistical analysis has shown that formal education for high school level had P significant = 0.0068 (P <0.05)

(Kershaw et al., 2010) There were 295 parents and teenage pregnancy who got STD incident during the 18-month period. The results of this study indicate that combining components that strengthen relationship skills in prevention programs can help reduce the risk of HIV / STD and emotional and behavioral problems of women and children. Certainly, male partners should be included in the prevention process. Given the importance of relationships in mothers, children, and reproductive health outcomes, both members of the relationship, it needs to be included in order to achieve long-lasting health.

On the result of the study (Wilson et al., 2009), Partner notification programs using condom contraception in having sex may help to reduce the risk of STI further.

Research (Town & Africa, 2011) of HIV prevention assigned to STI clinic patients has the potential to reduce HIV infection. Counseling should be improved for STI disease prevention techniques. Socializing effectively, concisely, and properly done interventions by changing their behavior at highest risk of HIV infection should remain a public health priority.

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In the research results (Lau, Li, Choi, & Gu, 2014), The theory-based intervention is potentially efficacious, but relatively short in following-up periods. The randomized scale of clinical trials and subsequent translational studies are indispensable in the future.

In the study (Brown et al., 2012), it has a significant value for the prevention of STI with the level of knowledge and norms of adolescents.

The results of the study (García et al., 2012) show that interventions conducted by laboratory checking later to control sexually transmitted infections (STI) are very significant.

From the study (Gottlieb et al., 2014) there were 499 million sexually transmitted infections (STI; gonorrhea, chlamydia, syphilis and trichomoniasis) that occurred globally in 2008. In addition, more than 500 million people have STI viruses. Strategies of STI control are primary prevention and STI case management. STI prevention effort is new vaccine requirements for future prevention efforts.

Research result (Diclemente et al., 2014) which uses interview method by telephone shows visit at clinic by checking laboratory and medicinal treatment informs significant value to reduce STD risk further.

From the results of research Susanto et al, 2012, research design uses quasi experiment with randomized control group design with pretest and posttest design. Research sample of 45 respondents of treatment and control group is taken by cluster sampling. The result of mann whitney test with alpha 0.05 concluded that there is influence of giving of program of corner of adolescent to fulfill requirement of adolescent’s reproductive health (p 0.022). Based on the results of the study, it is suggested to improve the development of youth health services in schools that are integrated with the UKS program.

From the research (Karundeng, 2013) 56 people with Purposive sampling technique show that health education give a significant influence on the level of knowledge and attitude of adolescent neighbors of sexually transmitted disease in SMK Fajar Bolaang Mongondow Timur.

3.1 Summary of Discovery

From several articles conducted by the review there have been some positive effects from methods of preventing sexually transmitted, such as Initiation of formal education on sex education at the school level which can improve current status and lead to better prevention of STD in research (College & Nadu, 2016). There is a significant association in the women’s screening program for detecting STI (Marion, Finnegan, Campbell, & Szalacha, 2009), Clinical travelling Programs strongly have a significant impact on STI prevention (Senn, Valliere, Berdoz, & Genton, 2011)

3.2 Recommendations For Further Research

From some studies, adolescents between the ages of 18-20 have been detected in sexually transmitted diseases (STD), the core question in the next study is how methods to prevent sexual disease transmission focusing on adolescents. Health workers act as planners, drivers and implementers of health development, so that without the availability of personnel in appropriate numbers and types, it will affect the development of health services. Therefore, the Government has an obligation to organize and manage the efforts of health services that can be reached by the community. People from all walks of life have equal rights and opportunities to get health care.

Surely, the health apparatus (doctors, nurses, other health workers) can not work alone for the problem of STD. It should socialize STD involving educators, students, and other educational institutions in a chain.

3.3 Applications In Nursing Practice

Sexually transmitted diseases are still an Indonesian public health problem. Sexually transmitted diseases do not recognize administrative boundaries, so eradication of communicable diseases requires cooperation among regions, for example between provinces, districts and even countries. Some of the infectious diseases that are the main problem in Indonesia are HIV / AIDS.

Sureveilans Epidemiology is a systematic and continuous analysis of disease or health problems and conditions that affect the occurrence of the increase and transmission of disease or health problems, in order to perform effective and efficient countermeasures through the process of data collection, processing and dissemination of epidemiological information to health program providers, promotion of health / reproductive health education and condom use to commercial sex workers (CSWs).

4 CONCLUSIONS

Transmission of Sexually Transmitted Diseases usually occurs because of the frequent person's relationship with multiple partners. It can be also because of sexual intercourse that had previously
contracted one of the STD disease. (Ajen Dianawati, 2013)

From 15 studies raised in this study, some have control groups and there are some effects of lack of education on sexually transmitted diseases in sexual intercourse so that some research groups can be compared for research in the prevention of sexually transmitted diseases. Programs that can be used in further research are giving counseling about reproductive health of contraception / condom, travelling clinic for prevention program of STD for woman in prostitution.

REFERENCES


College, S. M., & Nadu, T. (2016). Randomized questionnaire based cross - sectional research study on awareness of sexually transmitted diseases amongst the general population between those who completed their high school education and those who have not, 17–20. https://doi.org/10.4103/0253-7184.176222


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<thead>
<tr>
<th>No</th>
<th>Situation / Title</th>
<th>Country</th>
<th>Types of Research</th>
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<tbody>
<tr>
<td>1</td>
<td>(Potter et al., 2016) It’s Your Game. Keep It Real in South Carolina: A Group Randomized Trial Evaluating the Replication of an Evidence-Based Adolescent Pregnancy and Sexually Transmitted Infection Prevention Program</td>
<td>Columbia</td>
<td>RCT</td>
<td>24 schools, with a total population was 3,143 students and they participated in a random system</td>
<td>Compare the impact of IYG in rural South Carolina at Grade 3 and Grade 2 junior high levels. See the initiation levels of having sex with STD cases</td>
<td>It’s Your Game Follow_Up, Questionnaires</td>
<td>Seven of the 26 psychosocial outcomes (3 knowledge, 1 attitude, 1 self-ability, 2 personal limits) were positively affected in the eighth grade; 4 remain meaningful in the ninth grade.</td>
<td>There was no statistically significant effect on vaginal sex initiation among baselines in grade 2 junior high. However, the intervention in the condition of comparison informed report last 3 months that students start sex after moving in grade 3 junior high</td>
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<td>2</td>
<td>(Marion, Finnegan, Campbell, &amp; Szalacha, 2009) The Well Woman Program: A Community-Based Randomized Trial to Prevent Sexually Transmitted Infections in Low-Income African American Women</td>
<td>Chicago (Amerika Serikat)</td>
<td>RCT</td>
<td>By controlling, the controlled population selection with age 20-27 years and doing the health checkup of women in the clinic</td>
<td>Women's examination program, researchers compared the effectiveness of WWP in the prevention of sexually transmitted infections (STIs).</td>
<td>Counseling and examination</td>
<td>That there were about 75% of American woman as participants tested was positive for STIs, especially for trichomoniasis. In 15 months, the estimated probability of WWP participants having STI was less than 20% on the MI participants</td>
<td>There is a significant relationship in the women’s examination program to detect STIs</td>
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<td>3</td>
<td>(Abe, Barker, Chan, &amp; Eucogco, 2016)</td>
<td>Hawaii/AS</td>
<td>RCT</td>
<td>The sample consists of 36 secondary schools and Cultural responsive intervention targets on Questionnaires</td>
<td>From the survey results, A psychometric evaluation is conducted to review items on knowledge, attitude, and to</td>
<td>This program has a statistically significant impact on knowledge of</td>
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<tr>
<th>Study Number</th>
<th>Study Design</th>
<th>Setting</th>
<th>Participants</th>
<th>Intervention</th>
<th>Main Outcome</th>
<th>Findings</th>
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<tr>
<td>4</td>
<td>RCT</td>
<td>Switzerland</td>
<td>5,148 visible tourists from 2006 to 2008</td>
<td>Motivational brief intervention for the prevention of sexually transmitted infections in travelers</td>
<td>The main outcome is the prevalence of casual sex and predictor.</td>
<td>The Travelling Program much has a significant impact on STI prevention.</td>
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<td>Jerman</td>
<td>1,681 agreed to participate in the sample</td>
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<td>5</td>
<td>RCT</td>
<td>Tamil Nadu, India</td>
<td>150 subjects participated</td>
<td>Randomized questionnaire based cross-sectional research study on awareness of sexually transmitted diseases amongst the general population between</td>
<td>To compare STD awareness among the general populations with high school qualifications.</td>
<td>They have a good awareness of STDs. About 77.8% of those completing school. Statistical analysis has shown formal education for high school level statistically significant P = 0.0068 (P &lt;0.05) in people falling into STD. Initiation of formal education on sex education at the school level can improve the current status and cause better prevention of STDs.</td>
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<td>Study (Year)</td>
<td>Location</td>
<td>Design</td>
<td>Participants</td>
<td>Interventions</td>
<td>Data Collection</td>
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<td>Kershaw et al. (2010)</td>
<td>USA</td>
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<td>295 parents in teenage pregnancy who got incident of STDs during the 18 months</td>
<td>Interventions to increase father’s involvement and skill with infants during the transition period to parenthood</td>
<td>Questioner and interview</td>
<td>The results show that adolescents who were associated with someone other than their infant’s father was more likely to have a relationship dissolution for 18 months compared with those in relation to the baby's father (OR = 1.69, P&lt;0.05). Parenting teenagers who ended their relationship with their infant dads were 3 times more likely to get STDs during the study compared to adolescent parenting that remained with their infant's father (39% vs. 13%). Relatively, nonparenting adolescents who terminate their relationship are only 1.4 times more likely to get STDs compared with nonparenting teenagers who stay with their partners (44% vs 32%). The results of this study indicate that combining components that strengthen relationship skills in prevention programs can help reduce the risk of HIV / STD and emotional and behavioral problems in women and children. However, male partners should be included in the prevention process. It is importance to pay attention to relationships in mothers, children, and reproductive health outcomes. Both members of the relationship need to be included in order to achieve long-lasting health.</td>
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<td>Wilson et al. (2009)</td>
<td>New York</td>
<td>RCT</td>
<td>600 patients with cases of Neisseria gonorrhoeae</td>
<td>Interventions performed were sexual intercourse</td>
<td>Follow-Up, Questionnaires</td>
<td>Results of sex partner notification in the last 1 month 86% control, 92% intervention, adjusted odds Partner notification programs using condom contraception in</td>
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<td>Controlled Trial for Reducing Risks for Sexually Transmitted Infections Through Enhanced Patient-Based Partner Notification</td>
<td>Chlamydia trachomatis were recruited from STI clinics without contraceptive protection by looking at the results of 6 months of control gradually</td>
<td>ratio [AOR] = 1.8; 95% had susceptibility to condom use [CI] = 1.02, 3.0 and more likely to report no sexual unprotected sexual intercourse at 6 months (38% control, 48% intervention; AOR = 1.5; 95% CI = 1.1, 2.1). Infected chlamydia was detected in 6% of intervention and 11% of control participants on follow-up (AOR = 2.2; 95% CI = 1.1, 4.1), with the greatest benefit seen among men (for sex interactions, P = .03).</td>
<td>having sex can help reduce the risk of STIs further</td>
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<td>(Town &amp; Africa, 2011) Randomized Clinical Trial of Brief Risk Reduction Counseling for Sexually Transmitted Infection Clinic Patients in Cape Town, South Africa</td>
<td>Participants of 414 men and 203 women received service Interventions used was giving HIV-STD risk education, patients completed an assessment of computerized sexual behavior. More than 85% of participants were maintained at 12 months of follow-up. follow-up and counseling In the results found, there were 24% fewer incidents of STIs and significant reductions in unprotected vaginal and anal intercourse among participants who received risk reduction counseling relative to members of the control condition. Moderator of analysis shows shorter live results for heavy drinkers than light drinkers. The result is not moderated by gender</td>
<td>HIV prevention is left to patients of STI clinics. They have the potential to reduce HIV infection. Counseling should be improved for STI disease prevention techniques. Socializing done interventions effectively, concisely, and properly by changing behavior for those at highest risk of HIV infection should remain a public health priority</td>
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<td>9 (Lau, Li, Choi, Guangzhou RCT) Participants A randomized Interview, Results Compared with the The theory-based</td>
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A Randomized Controlled Trial Evaluating the Efficacy of a Theory-based Intervention Promoting Condom Use Among Chinese Monogamous Female Sexually Transmitted Infection Patients were randomly allocated to the intervention group (n = 88) or control group (n = 88). Using inclusion criteria, controlled trial (RCT) was performed. Participants were randomly allocated to the intervention group (n = 88) or control group (n = 88). All participants were interviewed by phone, at the beginning and month 2 and 3 after the completion of the baseline survey. Three group intervention sessions were based on information-motivational-behavior skills (IMB). Participants from the control group were provided with telephone control group, the intervention group reported a higher prevalence of condom use which consistent with the sex partner last month at month 2 (75.3 vs 59.8%, RR = 1.26, 95% CI = 1.01, 1.57) and month 3 (77.8 vs 54.6%, RR = 1.42, 95% CI = 1.13, 1.80), while the baseline among group differences was not statistically significant. Some other secondary outcomes such as “intention to request condom use within the next month even if sex partners do not like using condoms” were also statistically significant. Furthermore, the majority (94%) of the intervention group members were satisfied with the intervention. Intervention is potentially efficacious, but relatively short. The randomized scale of clinical trials and subsequent translational studies was indispensable in the future.
<table>
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<tr>
<th>No.</th>
<th>Study Title</th>
<th>Location</th>
<th>Design</th>
<th>Sample Selection</th>
<th>Knowledge and Norms</th>
<th>Results</th>
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<tr>
<td>10</td>
<td>Predicting Discordance Between Self-reports of Sexual Behavior and Incident Sexually Transmitted Infections with African American Female Adolescents: Results from a 4-city Study</td>
<td>Atlanta, USA</td>
<td>RCT</td>
<td>American female teens (N = 964) were recruited in four municipalities</td>
<td>Know the knowledge and culture of norms on American adolescent girls for STI prevention</td>
<td>Questionnaires conducted at bivariate assessment points, significant cognitive social construction foundation at STI level, level of knowledge and norms of adolescents. In a multivariate logistic regression analysis controlled for age, lower in the knowledge level (AOR = 0.82, 95% CI = 0.70-0.96; p = 0.015), the belief that fewer adolescents are involved in sex ( AOR = 0.76, 95% CI = 0.61-0.96; p = 0.018), and the belief of people would wait until marriage to do the sexual intercourse (AOR = 1.41, 95% CI = 1.12-1.76; p = .003) independent of reporting.</td>
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<td>11</td>
<td>Prevention of sexually transmitted infections in urban communities (Peru PREVEN): a multicompont community-randomised controlled trial</td>
<td>Seattle, Amerika Serikat</td>
<td>RCT</td>
<td>Samples were taken randomly from adults (aged 18-29 years) and in WPS in Peruvian city with over 50,000 people traced</td>
<td>Interventions performed by laboratory checks later to control sexually transmitted infections (STIs)</td>
<td>The results of this study indicate that interventions conducted by laboratory checks later to control sexually transmitted infections (STIs) are significant.</td>
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available for 12,930 young adults. We reported a non-significant decrease in STI prevalence in young adults, adjusted for baseline prevalence, in urban interventions compared with urban control (relative risk 0.84, 95% CI 0.69 - 1.02; p = 0.096).

12 (Gottlieb et al., 2014)

Toward global prevention of sexually transmitted infections (STIs): The need for STI vaccines

Switzerland

Sample of 500 patients of STI prevention with primary use and case management with vaccine needs

Questionnaire, clinic visit

there were 499 million sexually transmitted infections (STI; gonorrhea, chlamydia, syphilis and trichomoniasis) that occurred globally in 2008. In addition, more than 500 million people have STI viruses. Strategies of STI control are primary prevention and STI case management. STI prevention effort is new vaccine requirements for future prevention efforts.

13 (Diclemente et al., 2014)

Efficacy of a Telephone-Delivered Sexually Transmitted Infection/Human Immunodeficiency Virus Prevention Maintenance Intervention for Adolescents

Amerika Serikat

RCT

There are 701 populations with PMS / Georgia cases, whereas American youth are 14 to 20 years old

Interview, telephone

the results of this study indicate that clinic visits with laboratory checks and medications have significant values to reduce the risk of future PSM.
<table>
<thead>
<tr>
<th>A Randomized Clinical Trial</th>
<th>Jember</th>
<th>quasi experiment with RCT</th>
<th>Treatment group after intervention result showed risky behavior that there were 16 (35.6%) people while behavior was not risky at 29 (64.4%) people.</th>
<th>proportion of protected condom sex acts within 90 days (mean difference = 0.08; 95% CI, 0.06-0.11; P = 0.02) and 6 months (mean difference = 0.08, 95% CI, 0.06-0.10; P = 0.04) before fewer judgments and episodes of transient sexual acts on drugs and / or alcohol (mean difference = -0.61; 95% CI, -0.98 for -0.24; P &lt;0.001).</th>
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<tr>
<td>(Susanto, dkk, 2012)</td>
<td>Pojok remaja : upaya peningkatan ketrampilan kesehatan Reproduksi</td>
<td>Research sample 45 respondents of treatment and control group taken by cluster sampling</td>
<td>using structured questionnaires</td>
<td>The result of mann whitney test with alpha 0.05 concluded there is influence of adolescent corner program to fulfill requirement of adolescent reproductive health (p = 0.022)</td>
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<td>14</td>
<td>Bolaang Mongondow Timur, Sulawesi Utara</td>
<td>Pre experiment with one group pre-test approach - post test design.</td>
<td>The populations in this study were all students in SMK Fajar Bolaang Mongondow Timur in April 2014 which amounted to 105 people. Samples used in this study amounted to 56</td>
<td>Diketahui pengaruh pendidikan kesehatan terhadap tingkat pengetahuan dan sikap remaja tentang penyakit Menular seksual di SMK Fajar. The results of this study indicate that the respondents increased with good knowledge from 13 respondents (23.2%) to 48 respondents (85.7%) and improvement of respondents with good attitude from 8 to 15 respondents (26, 8 respondents (14.3%) %) after informing health education. Wilcoxon test results was p-value = 0.000</td>
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<td>Bolaang mongondow timur</td>
<td>people with purposive sampling technique.</td>
<td>There is the influence of health education on the level of knowledge and attitudes of adolescents about sexually transmitted diseases</td>
<td>&lt;0.05 0.000 &lt;0.05 indicating a significant difference between knowledge in adolescents and attitude before and after informing health education</td>
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