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The Titeer game as an effort to prevent teen pregnancy☆

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Abstract
Objective: This study is aimed to analyze the effectiveness of Titeer game toward preventing of teenage pregnancy.
Method: A quasi experiment with pre-posttest control group was used in this study. One hundreed and thirty eight of tenagers aged 2–10 years were recruited as participants (69 of tenagers each group). Titeer game was given to intervention group during a month. Conventional intervention (leaflet) were provided to control group. The illustrative questionnaires were measured before intervention, 2 and 10 weeks after intervention to measure knowledge, attitude, self-eficacy, life skill, peer influenced, behavior, and prevent of pregnancy of tenagers. Independent T-Test and General Linear Model Repeated Measured (GLM-RM) was used to complete of analysis.
Results: Knowledge, attitude, self efficacy, life skill peer influenced, and pregnancy prevention were significantly increase 2 and 10 of weeks after intervention.
Conclusion: The Titeer game could be increase of preventing tenagers' pregnancy aged 2–10 years.

Introduction

In Indonesia, the ASFR (Age Specific Fertility Rate) for teens aged 15–19 years old is 36 per 1000 women, with 13.1% women having their first pregnancy at the agerange and 36.7% having given birth once.[1] Sexual intercourse and an increase in active sexual behavior among teenagers contribute to teenage marriage and pregnancy. Figure of

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premarital sexual behavior among teenager aged 15–19 years old increased from 3.7% to 4.5% probably due to lack of innovative services and guidance on reproductive health, with only 45% of unmarried young women at the age range knowing the place for teenage information and counseling. Life skills and self-efficacy of Indonesian teenagers are also relatively poor, which renders them susceptible to premarital sex among peer friends.[4] This is evident from a study concerning reasons for sexual intercourse. About 57.5% men said to do sex out of curiosity, while about 38% girls confessed that it just happened, and another 12.6% admitted being forced by their partner.[5]

Teenage pregnancy leads to high rate of maternal mortality, infant mortality, and various risks for the babies. Therefore, strategies to prevent teen pregnancy, which include enhancing knowledge and building positive attitudes as well as personal development, are of central importance.[6,7] The actual applications of this programare health promotion and teenage counseling, but teenagers often feel uncomfortable sharing their personal sex-related concerns and are afraid of judgment when having face-to-face counseling with officers. As an alternative, technology-based health promotion in the form of mobile health game application is used to provide necessary information on reproductive health with the end goal to prevent teenage pregnancy. The innovationis advantageous in that it provides education on reproductive health accessible from smartphones, which are very familiar among adolescents.

This research was developed based on the theory of Adolescent Prevention Strategies.[8,9] The general objective of this research is to determine the effectiveness of the Titeer game model as an effort to prevent teenage pregnancy. The specific goalis to determine the effect of the game on the knowledge, positive attitudes, self-efficacy, life skills, as well as negative influence of peers.

Methods

This research is a quasi experiment with pre-posttest control group; that is, the intervention group was provided with health promotion in form of mobile game, and the control group was provided with health promotion information through leaflet. At this stage, the researchers measured the effectiveness of the Titeer game on knowledge, attitudes, self-efficacy, life skills, and the influence of peers in relation to the adolescent reproductive health. Measurements were carried out before and after the game was introduced (week 2 and week 10).

Participants

In this study, Rumbai sub-district was determined as the region, in which two villages were randomly selected, and teenagers from both villages serve as the intervention group and the control group. Teens from Maharani village serve as the former group, while those from Sri Meranti village serveas the latter. Based on the formula, the authors obtained a sample size of 138 respondents, with 69 individuals in each group. Sample size measured with differences between two means (Independent Groups).

Instruments

The illustrative questionnaire for interview-surveys with young people was used to measure knowledge, attitude, self-efficacy, life skill peer influenced, tenager's pregnancy prevention. The illustrative questionnaire for interview-surveys consists of 150 items with gutman for knowledge variable and likert scales for another variable.

(Strongly agree = 4, agree = 3, disagree = 2, and strongly disagree = 1). There are 50 unfavorable with reverse score.

The questionnaire was given to 30 teenagers to conducting validity and reliability. Product-Moment test and Alpha Cronbach was done to measure validity and reliability. Correlation coefficient (r) between item with total items of illustrative questionnaire for interview-surveys were 0.381–0.8[1] (r table = 0.361). Meanwhile Alpha Cronbach's value of knowledge, attitude, self-efficacy, life skill, peer influence, and pregnancy prevention were respectively 0.833; 0.792; 0.870; 0.819; 0.818; 0.809.

Data analysis

Independent T-test was used to identify the gap average difference between the control group and the intervention group. General Linear Model Repeated Measure (GLM-RM), a multivariate analysis with repeated measurements (pre-test, the 2nd week and 10th week). The ethical consideration was made by Health Research Ethics Committee Faculty of Medicine Andalas University of Indonesia (No. 480/KEP/FK/2018).

Results

More than half of the respondents are teenagers hose ages range from 17 to 25 years old, and most of them are in the control group. In addition, more than 50% of respondents are women, and most of them are in the intervention group. Most respondents are Moslem and Malay.

Table 1 shows that there is a significant improvement in knowledge, attitude, self efficacy, life skill, peer influence, and pregnancy prevention on the 2nd and the 10th week after intervention.

Fig. 1 can explain the differences in the value of teen pregnancy prevention in all study variables. It is noticeable from the figure that the value in all graphs was higher on the measurement after 2 weeks of intervention rather than after 10 weeks of intervention.

The *Titeer* game is proven to help respondents prevent teen pregnancy based on the measurement ofthe effect of the game on the value of teen pregnancy prevention. On all variables of assessment, the intervention group who was exposed to the game hasa considerably higher value in comparison to the control group receiving no intervention at all.

Discussion

Differences in the Characteristics of Respondents between the Intervention Group and the Control Group.

Table 1 Mean values of knowledge, attitudes, self efficacy, life skills, peer influences and prevention of teenage pregnancy between intervention group ($n=69$), control group ($n=69$) before and after intervention (the 2nd week and 10th week) after given the titeer game.

Knowledge	Group	Mean (ǣ)	Sd	Δ (%)	*P* *T* test	*P* Multivariate
Before	Intervention	48.78	9.106	0.17	0.918	
	Control	48.94	9.119			
After (the 2nd week)	Intervention	54.10	8.289	4.31	0.001	0.000
	Control	49.62	7.346			
After (the 10th week)	Intervention	56.47	7.523	3.19	0.006	
	Control	52.98	7.142			
Attitude						
Before	Intervention	43.07	5.841	0.07	0.954	
	Control	43.01	5.917			
After (the 2nd week)	Intervention	47.95	3.362	3.83	0.000	0.000
	Control	44.42	4.612			
After (the 10th week)	Intervention	49.40	3.121	3.11	0.000	
	Control	46.42	4.005			
Self-efficacy						
Before	Intervention	44.14	4.911	0.25	0.798	
	Control	43.92	5.039			
After (the 2nd week)	Intervention	53.37	8.481	3.67	0.002	0.000
	Control	49.59	5.191			
After (the 10th week)	Intervention	61.37	7.671	3.37	0.002	
	Control	57.37	6.962			
Life skills						
Before	Intervention	35.15	8.282	0.15	0.936	
	Control	35.05	6.314			
After (the 2nd week)	Intervention	39.44	5.114	3.39	0.004	0.000
	Control	36.85	5.300			
After (the 10th week)	Intervention	43.47	4.809	4.03	0.000	
	Control	40.11	5.295			
Peer influences						
Before	Intervention	40.27	6.496	0.77	0.568	
	Control	40.89	6.294			
After (the 2nd week)	Intervention	50.00	8.205	3.97	0.005	0.000
	Control	46.18	7.266			
After (the 10th week)	Intervention	54.69	8.780	3.77	0.014	
	Control	50.71	10.011			
Pregnancy prevention						
Before	Intervention	26.55	6.576	0.15	0.939	
	Control	26.63	6.773			
After (the 2nd week)	Intervention	34.46	9.406	4.75	0.041	0.000
	Control	31.33	8.362			
After (the 10th week)	Intervention	38.89	10.261	5.93	0.005	
	Control	34.53	7.271			

This is the first study in Indonesia which evaluates the effectiveness of the Titeer game toward the outcome and the prevention effort of teen pregnancy. Most of the previous research reports the intervention effect toward knowledge, attitude, and self-efficacy.

The results of the study can ascertain that the teenagers in both intervention group and control group share a number of characteristics, which means that they are arguably comparable in nature. The results of chi squre test also suggest teenagers both groups do not have any differences in characteristics, proven by p value which bigger than 0.05. Therefore, it is valid to test the effectiveness of the model in both groups.

Differences in Knowledge, Attitude, Self Efficacy, Life Skills, Peer Influences and Teen Pregnancy Prevention Behavior between the Intervention Group and Control Group.

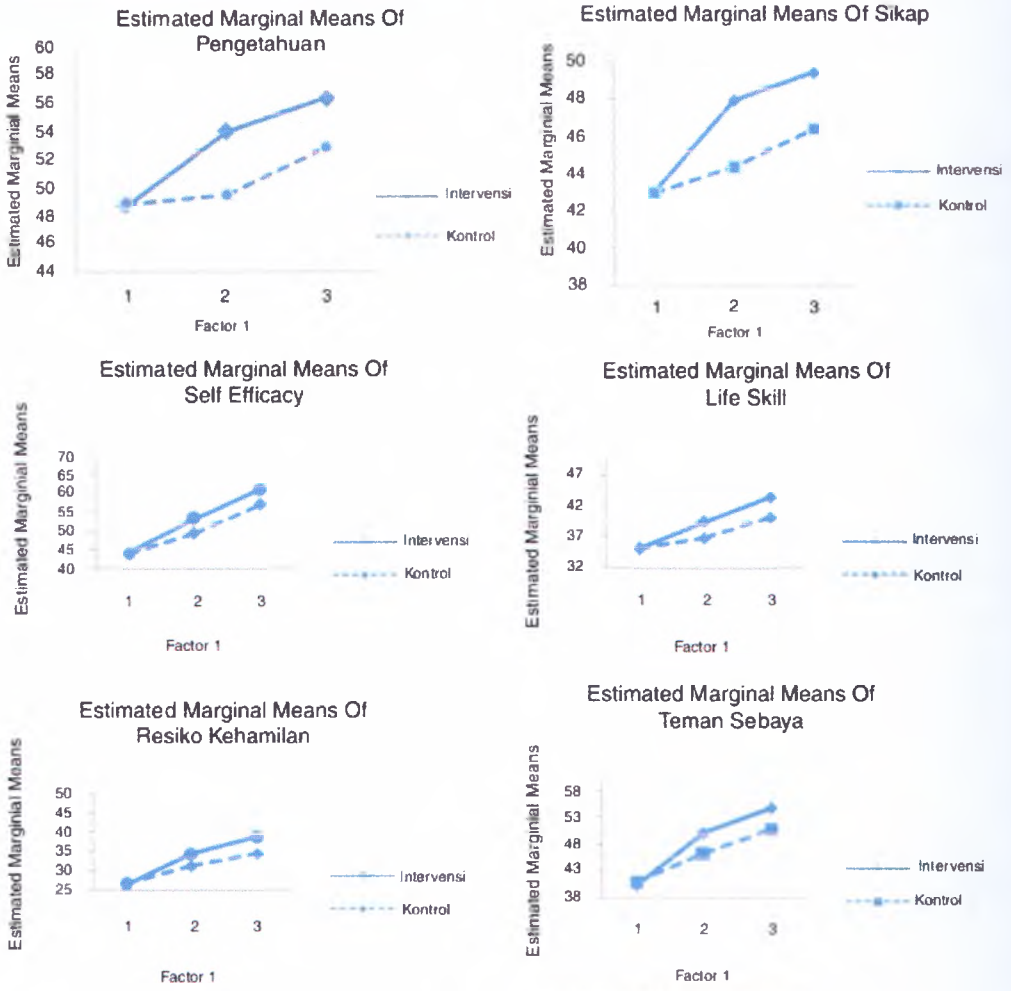

Figure 1 Increases of average value of prevention of teenage pregnancy.

The group receiving intervention in the form of the Titeer game was found to exhibit better knowledge of reproductive health than the group that did not receive the intervention.

A logical consequence from the noticeable differences in knowledge of reproductive health between the intervention group and the control group is that it is necessary for pertaining stakeholders, in this case school, to introduce the game Titeer as a strategic policy that can be applied operationally especially at certain schedules, for example, during activities held in the School Health Unit (UKS). Students can access the application with the assistance of cadres (peer educators and peer counselors).

The results of this study on the variable of attitude supporta finding from a study that states a game application brought significant changes in attitude, reducing sexism in adolescents by 12%. The study highlights the usefulness of an information and communication technology (ICT) to combat sexism and to develop prosocial competencies related to premarital sex.

The game Titeer is able to enhance knowledge and improve attitudes of teenagers toward premarital sexual relations. The permissive attitude toward sexual intercourse before marriage that becomes a current tends among adolescents lately can be changed through cognitive, affective, and conative evaluation responses from the game.

The same results were also discovered in the self-efficacy variable. The group that received the Titeer game was more effective in increasing their self-efficacy than the control group that received no intervention at all. This is in accordance with a study which states that self-efficacy is significantly able to enhance knowledge on pregnancy prevention behavior in teenage rom the beginning to 6-12-months as the knowledge on the subject was found to be

followed by around 2% of teenagers in the intervention group compared to those in the control group.

The group introduced to the Titeer game was found to have more positive influence ontheir peers than the group that did not have a chance tointeract with thegame. A previous study aligns with this found that peers' behavior significantly predicts "sexual initiation" in teenage. As explained earlier, peers have an extremely important impacton the behavior of pregnancy prevention among teenagers This study revealed that, in terms of teenage pregnancy prevention variable, the value of measurement on the 2nd week after the intervention is bigger than that after the 10th week of intervention. The intervention group had a greaterimpacton preventing teenage pregnancy than the control group. This findingaligns with what another studyfound. The study maintains that, compared to the control group, adolescents in PTC (Power Through Choices) intervention showed a significantly greater increase ($p < 0.05$) in pregnancy prevention value from pre-intervention to post-intervention.

Conclusion

These findings verify that the intervention group is clearly distinguished from the control group in terms of behavior of pregnancy preventiony. Teenagers exposed to the game Titeer are far more literate than those who are not, sothe exposed teenage can translate the knowledge into concrete practicesthat averturnwanted pregnancy. As a consequence, it is necessary to have a policy that endorses the use of the Titeer game by BKKBN in general. In particular, the endorsement from the deputy of KBKR that directly relate to the teen pregnancy program is also necessary. The endorsement will allow this application to reach massive number of youth audience throughout the country. Thisis ideally done along with the execution of youth empowerment programs that promoteindependence and further develop themto be more positive individuals for a better future life.

Conflict of interest

The authors declare no conflict of interest.

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References

1. [illegible]. Kemenkes. Indonesian Demographic and Health Survey; 2012 Adolescent Reproductive Health. SDKI. 2013:16.
2. BKKBN. Panduan tata cara pencatatan dan pelaporan Pendataan Keluarga Tahun 2015. BKKBN. 2015;c:1–4.
3. Kemenkes RI. Information data of Indonesian. Kemenkes RI. 2015.
4. Decker M, Berglas N, Brindis C. A call to action: developing and strengthening new strategies to promote adolescent sexual health. Societies. 2015;5:686–712.
5. Koh H. The teen pregnancy prevention program: an evidence-based public health program model. J Adolesc Heal. 2014;54 Suppl.:S1–2.
6. Navarro-perez JJ, Carbonell A, Oliver A. The effectiveness of a psycho-educational app to reduce sexist attitudes in adolescents. Rev Psicodidactica. 2019;24:9–16.
7. Green J, Oman RF, Lu M. Long-term improvements in knowledge and psychosocial factors of a teen pregnancy prevention intervention implemented in group homes. J Adolesc Heal. 2017. Disponible en: https://doi.org/10.1016/j.jadohealth.2017.01.004
8. Johnson-Baker KA, Markham C, Baumler E, Swain H. Rap music use, perceived peer behavior, and sexual initiation among ethnic minority youth. J Adolesc Heal. 2016;58:317–22.
9. Oman RF, Vesely SK, Green J. Short-term impact of a teen pregnancy-prevention intervention implemented in group homes. J Adolesc Heal. 2016. Disponible en: https://doi.org/10.1016/j.jadohealth.2016.07.002

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