

## Research Article

# The effect of peer education to anxiety of teenagers in post menarche in sub district Kasihan Bantul, Indonesia

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## ABSTRACT

**Background:** Menarche is an important event in puberty of teenagers. The coming of menarche often causes negative reactions and anxiety. Most teenagers get information about menarche from her friend so that the information obtained is not necessarily true and accurate. In order to reduce anxiety it should be given the right information with various methods and media. These raised our interest to determine the effect of peer education on adolescent anxiety post-menarche.

**Methods:** A quasi experimental equivalent pre-post test control group design was used in this study with quantitative and qualitative approaches. Time of data retrieval was August-September 2014. Subject were classified into two groups that were treatment group was located in SMP Muhammadiyah and control group was located in SMP Mataram Kasihan region, district Bantul. The division of the group is done by raffle. Intervention for the treatment group of peer education and booklet. The total sample in this study was 86 adolescents post menarche taken by purposive sampling in accordance with the inclusion and exclusion criteria. The anxiety instrument being used TMAS (Taylor Manifest Anxiety Scale). Analysis data: univariate, bivariate and qualitative analysis to strengthen the result of the study with indepth interview for 5 participants. Statistical test using chi square.

**Results:** The result showed that percentage of respondents who experience anxiety when pre-test 43 (100%) and post-test was 34 (79.1%) versus 3 (7.0%). The result of chi square test with p value 0.000 ( $p < 0.05$ ) means that there was significant differences in anxiety reduction before and after a given peer education. The results of the qualitative analysis among teenagers after attending peer education told that they feeling happy, peer education reduced anxiety, confusion and fear because of peer education increased knowledge, provide an overview and motivation of the problems, means discussion, sharing stories and experiences.

**Conclusions:** Peer education and booklet could reduce anxiety post menarche of teenagers.

**Keywords:** Peer education, Menarche, Adolescent, Anxiety

## INTRODUCTION

The most important events of puberty in the girls is the first menstruation (menarche), as biological markers of sexual maturity.<sup>1</sup> The coming of menarche often cause of anxiety, it is because adolescents lack enough

information about the physical and psychological changes associated menarche.<sup>2,3</sup>

Several studies have shown the prevalence of anxiety was high to the experience of menarche. Another study said that anxiety of menarche occurred after post menarche.<sup>4</sup>

This was due to the menstrual cycle is not regular, the length of time and amount of menstrual blood loss during menstruation is not balanced, and menstrual disorders often expressed by teenagers such as: dysmenorrhoea, menorrhagia, hypo-menorrhoea, oligomenorrhoea and uterine bleeding.<sup>5</sup>

Menarche and anxiety predicted as suicide in adolescents, behavior harmful to themselves, sexual abuse, drug used, smoked, alcohol and caffeine.<sup>4,6,7,8</sup> Anxiety is an individual response to unpleasant situation and experienced by all living things in everyday life, is a subjective experience of the individual and can't be observed directly, as well as an emotional state without a specific object.<sup>9</sup> Anxiety of teenage post menarche needed attention because of most teenage got information of menarche from peers, so the information obtained wasn't necessarily true and quality.<sup>10</sup> The results of previous research explained 24.1% teenage got information of the menarche from her friends, 29.3% from her teachers and 11.5% didn't get the information.<sup>11</sup>

The information provided with adequate regarding of menarche was expected to help reduce anxiety of teenage. In providing information methods and media used can affect the understanding of group. In this study, researchers interested using health education through peer education and media booklet. From several studies described that peer education can improve knowledge, attitudes, beliefs and behaviors in maintaining and protecting health.<sup>12-14</sup> Peer education also effective to provide motivation, support for anxiety and depressive disorders.<sup>15-17</sup>

To resolve this problem one of the efforts by health workers is to provide health education with appropriate methods and media so anxiety of teenage could be solved and they were able to resolve her problems. Peer education is expected to improve the understanding of menarche in the teenage.

The above phenomena make researchers interested in conducting research related "The effect of peer education to anxiety of teenagers post menarche in sub district Kasihan Bantul. The results of this study can be used to develop nursing care in the further through health promotion, especially in the field maternity of nursing so can be improve status of health, knowledge and reducing anxiety of menarche in the teenagers.

## METHODS

### *Design and sample*

This study was quasi experimental with pretest-posttest control group design. The total sample in this study was 86 teenagers post menarche with purposive sampling according to the inclusion criteria;

- Junior high school girls 12-15 years old.

- Had experienced menstruation, less than 2 years.
- Ready to participate in research.
- Exclusion criteria, a student was unable to attend at the time of the study implemented.

The samples were divided into two groups (peer group), namely the treatment group (n = 43) located in SMP Muhammadiyah given intervention with peer education and media booklet and the control group (n=43) located in SMP Mataram, interventions given after the research has completed. Samples peer educator as much as 5 people who will help the course of the peer education. The sample size adjusted based on the number of peer group. For the qualitative sample are teenagers grade 1-3 who has attended peer education. Participants were drawn from representatives of each group of peer education. Participants' election by purposive sampling. Samples were taken for the interview is 5 students having reached saturation or saturation level.

### *Design peer educator training (PET)*

Peer educator training guide was designed by researchers who refer to the "Manual Facilitator: Active Learning Process Adolescent Reproductive Health; Materials Handbook To Facilitate Active Learning Activities For Children and Adolescents Ages 10-14 Years, BKKBN; Guidelines and Life Skills Education modules for the Prevention of HIV and AIDS for teachers SMP; Module 1; Peer Education; Training modules for Peer Educators; Training Module; Peer Education: Outreach, Communication and Negotiation.<sup>18-22</sup>

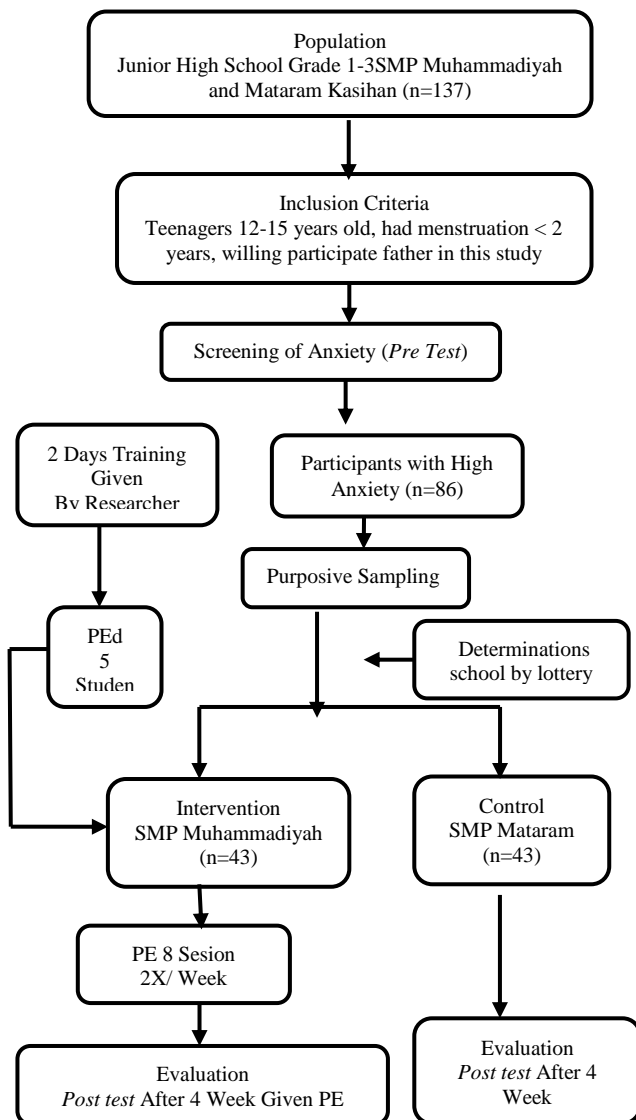
Peer Educator Training (PET) is training provided by the researchers, aims to improve the knowledge of menarche and menstruation develop the ability/skill in presenting the material and improve the ability to cope with problems related to menarche. PET is given for 2 days (615 min). Peer educators were recruited from among students aged 12-15 years and had experienced menarche. Peer educators are chosen based on the principal and classroom teacher. 5th peer educator is a student who included well in school and was active in the management of intra-school student organization (OSIS) and scout.

### *Instrument*

Anxiety measuring instrument used TMAS (Taylor Manifest Anxiety Scale). Anxiety has measured before given the treatment and after 4 weeks of treatment given. The instrument used was a qualitative interview guide that contains a list of questions to get qualitative data about teenagers in post menarche through in-depth interviews conducted by the researchers.

*Quantitative data analysis include:* Univariate and bivariate. Statistical test using chi square. As for the qualitative data analysis descriptively in followed by some direct quotes from informants. To analysis the data

used seven stages according Colaizi (1978), step 1). Read the entire results transcript for understand your feelings and discover the meaning of the participants; step 2). Focusing back on every description of a statement about the phenomenon under study to investigate the phenomenon exists (extracted significant statement); step 3). Trying to decipher the meaning of each significant statement Formulated known as stage concepts or coding; step 4). The meaning of that is formulated to be stored in the form of categories, groups of themes (specific clusters of themes) and theme (themes); step 5). Combining the results to describe the phenomenon of complete (exhaustive description); step 6). Formulate a description of the phenomenon (exhaustive description) into a clear statement or identify the essence of the adolescent experience; step 7). The final stage is to validate the data collected by the participants.<sup>23-25</sup> Qualitative analysis to strengthen the results of quantitative analysis by in-depth interviews in 5 participants. Chronology in brief course of study can be seen in Figure 1.



Note: PEd: Peer Educator; PE: Peer Education

Figure 1: The course of study plan.

## RESULTS

### Characteristics of quantitative and qualitative research subjects

Respondents in this study were teenagers of post menarche in Sub District Kasihan, Bantul which amounts to 86 respondents. The characteristics of the quantitative subjects of the study include; as shown in Table 1.

As for the qualitative research subjects in this study amounted to 5 persons namely 1-3 grade students who have attended peer education. The characteristics of the study subjects are shown in Table 2.

### Respondents anxiety before and after given peer education

Before given peer education, first anxiety screening through by pre-test. Then respondents with high anxiety, divided into two groups, namely the intervention group was given treatment peer education and booklets while the control group was given health education and booklets after the research was completed. Then each group was measured anxiety (post-test) were performed on the 4th week. Based on the measurement results indicate that respondents who experience anxiety in the intervention group 3 (7.0%) decreased compared to the control group 34 (79.1%) after a given treatment at week 4. From the results of statistical analysis using chi square test p value 0.000 obtained values ( $p < 0.05$ ) means that there is a significant decrease in anxiety or significant after the given peer education, as shown in Table 3.

### Effect of external variables (menstrual cycle and long periods) to anxiety of teenagers post menarche after given peer education

To be seen the effect of external variables (menstrual cycles and long of menstruation) anxiety post menarche used chi-square analysis. From the results of the analysis showed that respondents with a regular menstrual cycle has the same number of scores between anxious and unanxious that 25.6% of respondents with a long while with normal menstrual mostly unanxious 41 (47.7%) than those who have a menstrual cycle abnormal 8 (9.3%). P value menstrual cycle 0.181 and long periods 0.718 ( $p > 0.05$ ) means that there are no significant effects with anxiety post menarche.

### Qualitative analysis

The qualitative data obtained in this study with in-depth interviews. The interview was intended to obtain information about anxiety of teenagers post menarche and implementation of peer education. Data obtained from in-depth interviews were expected to strengthen the quantitative results. Interviews were conducted in five participants who have attended peer education.

**Table 1: The characteristics of research subject.**

Characteristics	Frekuensi				p
	Intervention (n=43)		Control (n=43)		
	n	%	n	%	
Age of Respondent					
10-13 years old	25	58.2	37	86.0	0.048
14-16 years old	18	41.9	6	14.0	
17-19 years old	0	0	0	0	
Age of Menarche					
Normal (10-14 years old)	43	100	43	100	-
Abnormal (<10 years old or ≥ 15 years old)	0	0	0	0	
Parental Education					
Father					0.554
High	22	51.2	16	37.2	
Low	21	48.8	27	62.8	
Mother					
High	19	44.2	15	34.9	0.780
Low	24	55.8	28	65.1	
Parental Employment					
Father					0.392
PNS	0	0	0	0	
ABRI	0	0	0	0	
Private	39	90.7	37	86.0	
Farmer	1	2.3	3	7.0	
Unemployed	3	7.0	3	7.0	
Mother					0.223
PNS	0	0	0	0	
ABRI	0	0	0	0	
Private	18	41.9	19	44.2	
Farmer	0	0	3	7.0	
Unemployed	25	58.1	21	48.8	
Economic Status					
Upper Lower	11	25.6	11	25.6	0.789
Middle Lower	32	74.4	32	74.5	
The Menstrual Cycle					
Routine (21-35 days)	16	37.2	18	41.9	0.718
Unroutine (< 21 days or > 35 days)	27	62.8	25	58.1	
Long Periods					
Normal (2-7 days)	36	83.7	37	86.0	0.382
Abnormal (≥8 days)	7	16.3	6	14.0	
Resources					
Exposed	42	97.7	43	100.0	0.382
Unexposed	1	2.3	0	0.0	

Based on interviews with participants then performed data analysis with method developed by Collaizi (1978). This study resulted in five themes, namely: the feelings of teenagers before menarche, adolescent feeling at the beginning of the first menstruation, menstrual teenage feeling less than 2 years, the efforts made adolescents overcome anxiety and feelings of teenagers after attending peer education.

*a) Theme 1: Feelings teens before getting menarche.*

The first theme identified from interviews related to respondent's feelings before they get first menstruation

(menarche). It is felt by the respondents before they get menarche are: normal, curious and scared. Feelings conveyed by participants are as follows:

*"... Hmm.. in different..but i curious how it feels ..." (P1)*

*"Fear if i got menstruation i can't pray full ..." (P2)*

*"..Afraid if at the time of menstruation i have not gotten the period .." (P3)*

*"I'm afraid to hear stories from friends, they said if menstrual stomachache ..." (P4)*

*"..Afraid because do not know about menstruation ..." (P5)*

**Table 2: The characteristics of research subject.**

Characteristics	Total /Percentage
Age of Respondent	
10-13 years old	5 (100%)
14-16 years old	0 (0%)
17-19 years old	0 (0%)
Age of Menarche	
Normal (10-14 years old)	5 (100%)
Abnormal (<10 years old or ≥ 15 years old)	0 (0%)
The Menstrual Cycle	
Routine (21-35 days)	1 (20%)
Unroutine (< 21 days or > 35 days)	4 (80%)
Long Periods	
Normal (2-7 days)	4 (80%)
Abnormal (≥8 days)	1 (20%)
Resources	
Exposed	5 (100%)
Unexposed	0 (0%)

**Table 3: Chi Square: anxiety pre-intervention and post-intervention.**

Group	Control n (%)	Intervention n (%)	P value
Pre test			
Anxiety	43 (100%)	43 (100%)	-
Not Worried	0 (0%)	0 (0%)	
Post test (week-4)			
Anxiety	34 (79.1%)	3 (7.0%)	0.000
Not Worried	9 (20.9%)	40 (93.0%)	

**Table 4: Analysis chi square: the effect of the menstrual cycle and long periods to the anxiety of teenagers post menarche.**

External variables	Level of Anxiety		P value
	Anxiety (%)	Un anxiety (%)	
The Menstrual cycle			
Routine	22 (25.6%)	22 (25.6%)	0.181
Unroutine	15 (17.4%)	27 (31.4%)	
Long Periods			
Normal	32 (37.2%)	41 (47.7%)	0.718
Abnormal	5 (5.8%)	8 (9.3%)	

*b) Theme 2: Feelings of teenagers in the early first menstruation.*

Various feelings conveyed by participants at the first menstruation were shocked, crying, confused, anxious, shocked, not calm. This is consistent with the statements made by the participants as follows:

"... I was very shocked because the blood out of my pussy, I was crying, confused, scared, do not know what we should do .." (P1)

"..... Confused, anxious, shocked because during prayer sensed something out, I felt uneasy that time ..." (P3)

"..Palpitation, confused, anxious, worried ..." (P4)

*c) Theme 3: Feelings teenagers during menstruation <2 years.*

From interviews to the participants that the current problems perceived by adolescents related to her menstrual (menstruation <2 years) is a psychological and physical problems. It can be seen from what is conveyed by the participants as follows:

"...I feel worried because my monthly menstrual irregularities, I'm afraid there was nothing ..." (P1)

"... I was confused because only 2 times menstruation, frequent stomach pain as twisted, emotional ride, if you are menstruating no appetite, irregular menstruation I also .." (P2)

"... I love the emotion, I am also afraid if you're menstruating penetrate pants ... stomach ache, waist stiffness" (P3)

"... Sometimes I feel scared, because the blood that comes out is sometimes a lot and sometimes a little, irregular menses month, in next month isn't menstruating .." (P4)

*d) Theme 4: The efforts made adolescents cope with anxiety.*

From the statements of participants researchers found two sub-categories of the efforts made by the participants when faced with anxiety problems related to menstruation are looking for resources and management of menstruation.

*1) Sources of information*

Various sources of information obtained by the participants regarding menstruation comes from the mother, sister and friend, as submitted by the participants as follows:

"... I asked my mother ..." (P1)

"... Asked to sister about menstruation ..." (P3)

"... At school I was also asked to friends who are menstruation .." (P4)

*2) Management of menstruation*

The information sought by the participants as an attempt to overcome the problem is the management of anxiety menstrual periods. It is like that delivered by the participants:

"... How to put a sanitary napkins ... how to overcome abdominal pain during menstruation ....." (P1)



"... How to clean the genitals after urination and defecation if the blood flowing ... why there is a blood clot when got menstruation ..." (P2)

"... What is a good of sanitary napkins for used and how many times a day changes sanitary napkins ..." (P5).

e) *Theme 5: Feelings teenagers after attending peer education*

It is felt by participants after attending peer education is that they feel good, but it also is revealing that peer education reduces anxiety, fear and anxiety. In addition, the participants said the benefits they receive during follow peer education are: to share stories, discussions, sharing experience, increase knowledge, educational activities, providing motivation and a lot of picture that needs to be held back. It is as expressed by the participants as follows:

"... Glad to be able to share stories, share experiences and discuss menstruation ..." (P1)

"... The activities are very helpful because I get a lot of knowledge that I feel less anxious and afraid. It turns out my irregular menstruation is normal ..." (P2)

"... Glad to be able to discuss with friends, taught a lot of batteries, useful, when there is an event like this again ..." (P3)

"... The activity was nice, very educational, rewarding and motivating ..." (P4)

"... Peer education provides an overview lot to me about menstruation as well as books that were distributed relieve anxiety, nervousness, fear and confusion me for this ..." (P5.)

## DISCUSSION

### 1. Respondents anxiety before and after given peer education

#### a) Respondents anxiety before given intervention

Anxiety in adolescents post menarche is a feeling of anxiety, shame, anxiety, tension felt by young women as they get menarche (first menstruation). Menarche is a normal physiological process that will be experienced by all young women and an experience that is often difficult to forget.<sup>11</sup> Even before the child is understood, but the incidence of menarche is often a traumatic experience and many girls reject the physiological process. Qualitative analysis results of this study indicate that the anxiety experienced by adolescents caused by the menstrual cycle is not regular, abdominal pain, aching waist during menstruation, fear translucent pants when menstruation and related information that they get menarche is still small. It is supported by the second theme of adolescent feeling when menstruation less than 2 years. In addition, most adolescents get information menarche of mothers, sisters and friends. The statement was supported theme 4 of the efforts made adolescents cope with anxiety.

The results are consistent with previous argument which states that the greater the anxiety menarche occurs in post menarche.<sup>21</sup> This is due to the menstrual cycle is not regular, spend a lot of blood and clot, experienced dysmenorrhoea.<sup>5</sup> Other research also states that the menstrual cycle is one of the factors causing anxiety post-menarche adolescents.<sup>16</sup>

This research is also consistent with previous research, showed that 28.74% of adolescents have menstrual cycles routine, 3.45% had polymenorrhoea, 8.62% had a menstrual period more than 7 days, 22.99% teens spend a lot of blood during menstruation, 72.99% had dysmenorrhoea.<sup>26</sup> The results of another study also said that 44% of teenagers post menarche experiencing high anxiety with the problem of primary dysmenorrhoea.<sup>27</sup>

Causes of anxiety in the respondent also according to the previous results because of due to lack of enough information about the physical and psychological changes associated menarche, social dimensions as the notion that menarche is a personal experience that does not want to tell the other person, as well as feelings of fear and anxiety if ridiculed by her male friend if they knew she was menstruating.<sup>6</sup> Other research also explained that most teens already obtain information before they get menarche 55.1% of his mother, his 17.4%, 14.2% older sister, but the information they get inadequate because most of them mothers 52.4% illiterate and only 9.5% of primary school graduate.<sup>11</sup>

#### b) Respondents anxiety after given intervention

Chi-square test results showed that there was a decrease in anxiety scores post-treatment. From the post test results obtained value p value 0,000. P value <0.05 means there is a significant decrease in anxiety or significant after given health education through peer education in the intervention group.

The results provide important information about the effect of peer education on teen angst post menarche. Peer education is the process of implementing informal educational activities and organized can be done individually or in small groups with friends during a specific time period. Peer education activities can be done anywhere, in a variety of settings both formal and non-formal, with a variety of different activities, anytime as long as it is in an environment that is conducive.<sup>22</sup>

After obtaining peer education, respondents stated pleased to share stories, strain the experience, related discussion menstruation problems encountered, as well as having the knowledge and understanding of menarche and menstrual so as to reduce feelings of anxiety, fear, anxiety, confused. Besides peer education also provide motivation. The statement above is supported by the theme 5 on adolescent feelings after attending peer education.

Previous research explained peer education effective for adolescents to foster a positive attitudes towards health.<sup>13</sup> Results of this study are also consistent with other studies stated that peer education can improve knowledge, attitudes, beliefs and behaviors in maintaining and protecting health.<sup>12-14</sup> Peer education is also effective to provide motivation, support to anxiety and depression disorders.<sup>15-17</sup>

The use of methods and media to delivery of health education through peer education may also influence the respondents' anxiety. This study combines the delivery of health education by peers (peer educators) with lectures, brainstorming, question and answer as well as the provision of a booklet in a language easily understood. The incorporation of such methods in accordance with the purposes and benefits. Where the delivery of health education through a peer (peer education), because peer education is a place for teens to discuss an issue either a pleasant problem or problems sad.

Submission of peer education with lecture method because it is a way of delivering a message that is most common for sharing knowledge and health facts. However, this method has a drawback, because it is often made unilaterally without giving an opportunity to the participants to actively participate. Therefore this method would be more effective when coupled with a debriefing with the participants, resulting in a two-way communication.<sup>28</sup>

Giving booklet it has several advantages such as: 1) resources at relatively low cost and easy to use 2) developed to help health professionals provide information and health education, 3) health education tool that is simple and gives maximum results, 4) can be simple studied all the time, 5) contains information evidence based.<sup>29</sup> Thus the post-menarche adolescents can learn the booklet at any time so that knowledge of menarche increases and decreases anxiety. This is consistent with previous argument stating that health education with booklets media effectively to improve knowledge and reduce anxiety because it is a health media containing information more easily understand it and get the right coping face problems being experienced.<sup>30</sup> Results of this study are also consistent with other research which states that in patients with myocardial infarction were given health education with face-to-face and booklets more reduced than the control group.<sup>31</sup> Appropriate use of educational media is very helpful smoothness and success level of the educational process.

## **2. Effect of external variables (menstrual cycle and long periods) to anxiety of teenagers post menarche after given peer education**

Bivariate analysis with chi-square test for long periods and menstrual cycle p value were 0.181 and 0.718 ( $p > 0.05$ ) means that there is no significant effect anxiety of

teenage post menarche with long periods and menstrual cycles. According to the results of previous studies presented that the menstrual cycle and long periods become one causes of anxiety that occurs in teenage post-menarche.<sup>4,32</sup> However, in this study these factors do not have a significant direct impact on anxiety in adolescent, this can be caused by previous respondents already get earlier information of menarche, share experiences with peers and learn booklet given by the researchers that make respondent not feel anxious anymore.

Basically menarche is a normal physiological process that will be experienced by every woman. At the beginning of menstruation most teens have irregular menstrual cycles, long periods and the amount of blood loss fluctuations. After one to two years after menarche will be more regular menstrual cycles.<sup>5</sup> With the information they got so make them aware and feel less anxious again to the conditions they are facing because it is still within normal limits.

These results are also in line with the result of previous research with a quasi-experimental methods, said that the menstrual health education is effective increasing knowledge and behaviour in maintaining health during menstruation.<sup>33</sup> With the health education that respondents are becoming more understood that menstruation is a natural phenomenon and has effect on anxiety and mental health of a person. Another argument stated that health education administered face to face and accompanied by a booklet media can reduce anxiety experienced by a person due to the problems faced and able to change bad habits for the better.<sup>31</sup>

## **CONCLUSION**

Peer educations have effect on anxiety in teenagers of post menarche. Menstrual cycle and long periods no effect on anxiety in adolescents post menarche after getting peer education.

## **Suggestions**

- 1 For respondent can use peer education as an option to communicate the sensitive personal problems without any shame, comfortable discussing, sharing experiences and knowledge in order not to fall into reproductive health issues.
- 2 For school can prepare their student to face the arrival of menarche, provide assistance to students in moral formation, manner associated with right reproduction education and can use peer education as alternatives UKS program which effective to improve and reduce anxiety in adolescents before and after menstruation.
- 3 For Nurses
  - a. Nurses in primary health care can work together with the school to be able to screening of anxiety in teenagers before and after

- menstruation to detect early problems that may arise.
- b. Maternity nurse can provide counselling, health education and make peer education as part of intervention to resolve the anxiety in adolescents before and after menstruation.
  - c. As a maternity nurse competence to prepare a peer educator who expected will be able to deliver health information related right of menarche to a peer group by providing TOT (training of trainers) in school.
- 4 For further research can be able to perform a similar study by the same method and different materials such as nutrition in adolescents, reproductive health, HIV/AIDS and others who can support the facilitator in providing education.

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