



## CHAPTER IV

### RESULTS

#### **4.1 Phase 1: Situational analysis of reproductive health (RH) situation among Myanmar migrant adolescent and youth in Samut Sakorn Province, Thailand.**

(Specific objective number 1)

Situational Analysis for PEARL Model to Reduce Unintended Pregnancy among young Myanmar migrants, Samut Sakorn Province, Thailand was conducted by qualitative study.

The objective of the study was to assess the information for the situation of Myanmar migrants focusing specifically on adolescent age (15- 19 years old) and youth age (20-24 years old) in Samut Sakorn Province by key informant interviews. The empirical evidence and the set of recommendations resulting from this analysis were served as basis for developing PEARL MODEL intervention to reduce the adolescent unintended pregnancy among Myanmar migrants in Samut Sakorn Province.

The overall objective of the study was to get the information for the situation of adolescent and youth Myanmar migrants in relation to their knowledge, behavior, practice and supportive services to reduce unintended pregnancy.

According to provincial health office data, there were 1,507 antenatal care cases, 1,517 delivery cases and 113 abortion cases among 7,000 migrant women in 2009.

**4.1.1 Methods:** Qualitative method was used including: key informant interviews, in-depth case studies - in which an individual may be interviewed several times.

Participatory, and in particular, visual approaches was used in the interviews; additionally, life-history approaches were used.

**4.1.2 Respondents:** included:

- 15-24 years old Myanmar Migrants, 15 – 19 years aged group represented for adolescent and 20-24 years old represented for youth
- Both Female and Male
- Can communicate with Myanmar Language

**4.1.3 Recruitment of respondents:**

Although data was not yet available on undocumented migrants, given the underground nature of their status in the host country, this research had the comparative advantage of counting on the support of local offices, NGO in the target areas. The identification and recruitment of respondents were carried out in conjunction with the provincial migrant's health office, Samut Sakorn through the networks and knowledge of existing undocumented migrants.

**4.1.4 Data collection and analysis:**

A set of topic guidelines (Appendix- A & B) were prepared beforehand for each respondent type as well as for the in depth interview; appropriate visual techniques will also be identified. Where appropriate, and with informed consent, the interviews were recorded. For data analysis, NIVO version 9 qualitative analyzing management soft ware was used. A set of coding emerging from the interviews and responding to the questions raised above were identified; content analysis will then be carried, searching for these themes in the data.

Respondents of this study were Myanmar migrants from Samut Sakorn, Muang district, Maha Chai tambon. There are 30 respondents for in-depth interview in community side and 5 respondents in health care provider side. From 30 respondents, 10 respondents are adolescent aged (15-19 years old) and 20 respondents were youth. In gender issue, 12 respondents were male and 18 respondents were female. When looking in marital status, 10 respondents were single, 9 respondents were single having girlfriend or boyfriend, 6 respondents were married and 5 respondents were separated. For education, 10 respondents were illiterate, 8 had primary education, 6 had secondary education and 6 had high school education. Most of them have lived in Thailand for more than years with the overall period ranging from 2 months – 5 year.

Table 14 General characteristics of respondents in situational analysis

Characteristics	Age 15-19 n=10	Age 20-24 n=20
<b>Gender</b>		
Male	4	8
Female	6	12
<b>Marital status</b>		
Single	7	3
Single with girl/boy friend	3	6
Separated	0	5
Married	0	6
Widow/Widower	0	0
<b>Registration status</b>		
Undocumented	8	5
Documented	2	15

#### 4.1.5 Summary of the weakness found

1. At the present, young people are at high risk for a number of negative health consequence associated with early and unsafe sex activities, including infection with HIV, sexual transmitted infection and unintended pregnancy and increasing rate of abortion. Generally, migrant population as a whole is vulnerable group of engaging in risky behaviors.

**“Most of migrants are 18 – 35 years old, working aged group and also reproductive aged group. So we have to do reproductive health. In 2010, we are doing research for gender and family planning.”**

Document Provider 2, Paragraph 7, 195 Characters

2. Adolescent age group (15-19 years) was found more single respondents. Married, separated and single having boy or girl friends were mostly in youth age group (20 – 24 years). Most of adolescent age single respondents have no experience for sexual intercourse.

3. Single respondents have association between gender different and sexual risk behavior. But in married respondents have sexual risk behavior in both genders.

**“I have no experience sexual intercourse before married. We did not use condom. He drinks alcohol sometimes. He did not drink and take drug when we have sex. I trust him. He will not go to female sex workers and I think he will not have others diseases. So I did not tell about sexual intercourse without condom.”**

(21 years old, female, married)

4. Married and separated conditions were found in most of youth age group. (20-24 years old). When they shared their experience and thinking about why they easily accepted to marry and having sex,

**“Now we already separated. When I arrived to here, I felt new experience and excitement. So it may be encouraged to have boyfriend and married.”**

(20 years old, female, separated)

Most of adolescent age group (15-19 years old) were found single, single having boy or girl friend.

**“I have some friends and boyfriend. I got boyfriend last 2 months. How can I say why? May be we met all time in industry. That’s why it is easy to love him. We have no sexual intercourse because I afraid. I afraid to have pregnancy and I have no experience. ”**

(16 years old, female, single having boyfriend)

5. Leisure activities and personal goal: In the study population area, most of them are worked in fishery industries and fishery boat. They have holiday time in every Sunday. Leisure activity is influence in young people’s behavior changing. Their spending time activities are related with their personal goals for their life. Some have no personal goal, female prefer to see romantic VCD and male drink alcohol with their friends especially on Sunday, holiday, to forget difficulties and for happiness.

Table 15 Experience of sexual relationship in situational analysis

Practices in Family Planning Methods	Respondents	
	15-19 years	20-24 years
Family Planning pills	1	6
Emergency pills	0	0
Condom using	2	2
Injection	1	2
Natural planning	0	0

Most of female (single, single having boyfriend) respondents was rarely having sexual relationship according to their answers. But male respondents have the experience of sexual relationship with female sex workers. Some of male respondents have sexual relationships with their girl friends sometimes. Using condom when sexual relationship is answered as a barely behavior. Male respondents have an experience with female sexual workers. Most of them were influenced by friends. (Table 12)

7. According to their knowledge on family planning and save sex, in adolescent group (15-19), less than 30% have knowledge on condom use and nearly zero percent has knowledge on other methods such as oral pills, injection depo, emergency pills and natural family planning. On the other hand, in youth (20-24), 65 % of them only know about condom use but 70% of them do know about other methods for save sex and family planning. Married and separated women know about oral contraceptive pills. Most of them got this information from their environment and friends and they bought from medicine shop. Some of them have no correct information. But most of them did not use injection and did not know about too much for injection. Some of them are answered

about side effect of injection. Adolescent respondents and single female respondents were found lack of knowledge and information about family planning. Single female respondents think misunderstanding to ask this information from each other.

8. According to their knowledge on STIs and HIV/AIDS, half of them do not know types, transmission and prevention in both adolescent and youth group. Some respondents did not know about HIV/AIDS and also have no wiliness to participation in health education section. According to their answer, they do not see about HIV/AIDS people in their environment and so they lack of concentration about this information. They don't care about how important this HIV/AIDS.

9. According to their knowledge on disadvantages of induced abortion, they have very few knowledge in both group. As on unwanted pregnancy and abortion, most of them told about their attitude to abortion as a negative process. But it depends on their livelihood condition and experience. Women who had experience in abortion answered

**“I aborted my pregnancy. I knew my pregnancy aged 2 months. We have no plan for this one. So I did it. It was dangerous experience. I did not go to hospital and I tried outside. She said my pregnancy was easy to abort. But I was afraid. Finally it was aborted. Now I have to thanks this condition. If I will be with baby, my life will be worse.”**

(21 years old, female, separated)

**“In here, we come to work and save money because of our family economic condition. We are young and we have to face a lot of mistake because we are far from home.”**

(22 years old, female, single)

## Behavior

Table 16 Leisure activity among respondents in situational analysis

Behavior Table Variables	Respondents	
	15-19 (n=10)	20-24 (n=20)
Alcohol drinking	2	4
Drinking alcohol during sex	1	1
Smoking	2	3
Condom using during sex	2	2
Drug using during sex	0	0
Spending their free time		
Gathering ( talking /alcohol drinking)	6	13
Studying in free classes	5	2
Taking a rest at room ( sleeping)	2	4
Watching Myanmar VCD/Video	6	12

10. Leisure activity is influence in young people's behavior changing. Their spending time activities are related with their personal goals for their life. And then all of those are associated with their education level. Half of respondents spend their free time in watching Myanmar VCD especially romantic series. Most of them are married respondents. Some of respondents have alcohol drinking and there were no respondents in using narcotic drugs and cigarette smoking. But they have no taking alcohol and taking drugs during sexual intercourse. (Table 13 )

**“I don't think too much about personal goal. But I want to become convenient life. I watch Myanmar VCD or video when I have free time. I like romantic VCD or video.”**

Document FD 19, Paragraph 1, 345 Characters

(24 years old, female, married)



**“Sometimes I drink alcohol with my friends. We need happiness to forget difficulties. I never go female sex workers until now. Honestly, I live with my girl friend sometimes. But I try to control because we did not marry. I need to save money to marry. But her sister does not like my drinking alcohol. I do not drink every day. But we drink Sunday that is holiday.”**

Document FD 9, Paragraph 5-9, 977 Characters

(24 years old, male, single)

11. According to access to health care service: Documented migrants can get 30 Baht health service and undocumented migrants have to pay all service fees. They can go hospitals and clinics. They can buy medicine in shop. Most of them rarely to go hospital in minor illness even they have registered. They buy medicine from outside and they go to clinics. For family planning, they buy family planning pills from clinics.

12. As on Health care facilities: In Samut Sakorn, there are one government hospital, one community hospital, one autonomous hospital, 56 health posts in the side of government. There are 5 private hospitals, 108 clinics, 29 dental clinics, 66 midwifery clinics and 142 drug stores.

From government health care facility, documented migrants get medical checkup for registration and hospital service with 30 Baht /one visit. Undocumented migrants need to pay the cost that they took the treatment. Both documented and undocumented migrants can get disease prevention and education services in community.

**“We have clear policy for migrants especially for medical checkup in registration and disease prevention. We emphasize on equity and the way to entry of**

**health approach. For undocumented migrants, they live illegally and they can be caught by police according to Thai government responsibility.”**

Document Provider2, Paragraph 1. 695 Characters

NGOs give the services for health, human right and law.

**“For health services, our provincial health office gives service for medical checkup for register, health promotion especially TB, HIV and other endemic diseases. Hospital gives mobile clinics. Rat-Thai NGO works for HIV and migrant workers law. LBM works for migrant workers’ law and right. IOM finished its project last 8 months. IOM worked especially for hospital linkage for migrant workers. Other clinics and primary health center also have. Later, Thai education system becomes universal education and migrant children also got a chance to study. Other free classes also have according to their communities.”**

Document Provider 3; Paragraph 1-4, 1902 Characters

Provincial health office and NGOs mostly favor for disease prevention especially HIV/AIDS. For reproductive health issue, they have to give special project and health education within limited budgets situation.

**“We have HIV prevention and care, STI and HIV drug adherence counseling and home visit activities for reproductive health. PHAMIT fund gives 5 years round. Last 5 years round, their priorities contain reproductive health and so our organization has Family planning projects. For this 5 years round fund, reproductive health did not contain as a priority and they emphasize HIV/STI.**

**That's why; we did not run family planning projects in community and health education in community. But we give free services for family planning pills, condom in OPD if they come to OPD."**

Document Provider 1; Paragraph 1-4. 1600 Characters

**"For reproductive health, we did not implement. We gave especially for register health checkup, TB and HIV. It is due to Budget condition. We have a project to implement Gender and reproductive health for this year. Now we start in-depth interviews. According to register medical checkup data, there are total 70,000 people and 30,000 people are female. In 2009, 313 abortion cases have as the record. Mostly they are 17-23 years old."**

Document Provider 2, Paragraph 7, 196 Characters

12. According to the provider side experience, abortion is illegal in Thailand. Most of aborted Myanmar migrant's women are 20-30 years old. They tried to be aborted with injection and tablets nowadays. But it can be incomplete abortion. Some abortion cases were done in one community in Bangkok.

**"They come to our clinic with unwanted pregnancy. Most of their problems are pregnancy with their boyfriends and their husband passed away. Mostly 20-30 years old are faced. Anyway, they try to abort and aborted. Abortion is ill-legal in Thailand. Last 3 or 4 years, their method to do abortion is entering stick inside the vagina. It is really dangerous. Later, they drink Kay the Pan (Myanmar traditional medicine) and Thai traditional medicine. Now they drink abortion pills and use vaginal tablets. For these medicines, they buy from medicine shops. These drugs**

selling are illegal selling. Medicine shops sell to people who used to buy these drugs. These drugs can be incomplete abortion. At that time, they come to OPD and I examine and refer to hospital. Most of Myanmar migrant's workers are young. And they did not get family planning information, knowledge inside Myanmar before coming to work in Thailand. Educated migrant's workers are rare. And then they are away from parents and guardians. They have a risk to have sex with their girlfriends or boyfriends without family planning /prevention. When they have pregnancy, they will try to abortion and become unwanted pregnancy problem."

Document Provider 1; Paragraph 7-10, 1656 Characters

**"Last year, there were 1,108 delivery cases in hospital and 86 abortion cases due to incomplete abortion in hospital among Myanmar migrants"**

Document Provider 4, Paragraph 3, 375 Characters

All providers concern about reproductive health especially family planning issue.

**"I will tell you one story "She is 24 years old and she came to clinic to check pregnancy urine test. Urine test result was positive and she did not want this child. She said her husband and her are already separated. Her family from Myanmar did not know their marriage in here. She is ready to do abortion anyway." So, reproductive health is important issue in Myanmar migrants especially for adolescent. Our NGOs did not have projects for reproductive health as a priority due to funding. If health education, family planning training will be had in the community, it will get more benefit and reduce unwanted pregnancy.**

Document Provider 1; Paragraph 7-10, 1656 Characters

**“From our office, we start the research about gender and family planning. Reproductive health education must have in migration people. We also try to fill the gap for migrant’s health.”**

Document Provider 2, Paragraph 2, 456 Characters

**“Reproductive education should have in Migrants people. All migrants’ people are reproductive aged and working group aged. In Samut Sakorn, I found there are at least one or two wedding ceremonies every Sunday. They need to know family planning, HIV.”**

Document Provider 5, Paragraph 2, 283 Characters

In analysis of situational status, According to cultural issue, most of them have no sexual relationship before married. Age is one of associated factors and youth aged (20-24) mostly found married, separated cases. Male respondents have more sexual behavior than female respondents. Family and social support is one factor to relate two ways. Family especially living together with relatives or parents reduces high risk of sexual behavior and social environment supports can get health information especially family planning pills. But this social support can be risk to have an information and experience to get high risk of sexual behavior. Education is an important fact in sexual behavior, knowledge and attitude. It has highly related with leisure activities and personal goal. Most of respondents have lack of knowledge in family planning methods. Married, separated couples have no exactly knowledge about family planning even they used family planning pills from their environment information. Some respondents had an

experience of having baby even they used family planning pills and some had an experience of abortion. Most of non-educated participants have lack of knowledge of HIV/AIDS. One of respondents is taking antiretroviral treatment from hospital. And then rarely respondents used condom when they have sexual intercourse. Documented and undocumented respondents have a different health care service in government hospitals. Recently, reproductive health care service is not implemented in community both government and NGOs sides.

#### **4.1.6 SWOT Analysis of situation analysis**

##### **Internal Environment**

##### **Strength**

- Samut Sakorn Province has strong health care facility to migrant workers both government side and NGOs side.
- Strong cooperation with government health care, local NGOs and international NGOs for migration health.
- Possession of strong experience in health care both quality and quantity.
- Having strong evidence data in Provincial migrant health office for documented migrants.
- Free education classes in community for migrant young people.

##### **Weakness**

- Diversification of health care is difficult to implement to complete health care facilities for migrant workers.

- Limited budget to implement reproductive health care.
- Limited situation to access all migrants' population both documented and undocumented.
- Limited time arrangement for health education section with working hours.
- Education level to catch all correct health information when giving health education.
- Scattering population in community
- Different ethnicity, i.e. Mon, Karen , Burmese and Yachine to build correct communication and building trust .
- Arrangement of documented and undocumented migrant (for example – the researcher have to see safely environment for undocumented migrants if there have health campaign or education section).
- Increasing number of abortion
- Increasing number of under 20 years pregnancy rate

### **External Environment**

#### **Opportunity**

- Easily communicate with Ministry of Public Health, Bangkok.
- United nation organization such as UNICEF, UNFPA and UNHCR etc
- Other International and National NGOs in Bangkok those are helping for migrants

- National Verification Process between Thailand and Myanmar is started in 2009.

### Threats

- Migrate to other province
- Political crisis

Table 17 Propose implementation Action with SWOT matrix

	Opportunity	Threats
Strength	<ul style="list-style-type: none"> <li>- Corporation with government health care ,local NHOs and international NGOs</li> <li>- Corporation with free classes or migrant school</li> </ul>	<ul style="list-style-type: none"> <li>- Appropriated time management in health education section especially in holiday time</li> <li>- Participation as a portion in free classes or migrant school for health education section</li> </ul>
Weakness	<ul style="list-style-type: none"> <li>- Peer volunteers especially educated young migrants in community for health care facilitators</li> <li>- Each ethnicity peer volunteers in each community among migrants population</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>



#### **4.1.7 Action approach for strategies**

- To develop a model for sustainable health promotion by participatory education on adolescent reproductive life programme (PEARL) to prevent unintended pregnancy among Myanmar Migrant Adolescent and Youth in Samut Sakorn Province

##### **Conglomerate strategy**

PEARL was pursued the strategy by diversifying with peer volunteers and facilitators in adolescent and youth aged group in Myanmar migrant.

##### **Joint venture**

PEARL was enter into a joint venture with provincial health office, migrant school and migrant free education classes by using health education technique with peer volunteers and facilitators in adolescent and youth groups.

**4.2 Phase 2: To determine the effects of the PEARL programme to prevent unintended pregnancy among Myanmar migrant adolescent and youth in Samut Sakorn Province, Thailand.** (Specific objective number 2)

The study design of this research was a research and development (Action Research), after development of the model, PEARL, implementation was done between the two intervention groups comparing with control group there had no intervention. The effectiveness of this program was assessed by pretest, post 1 month, post 3 months and post 6 months during the period from 17 July 2010 to 22 January 2011.

The study results were presented in 2 parts, as follow:

**4.2.1 Part 1** Characteristics of the samples

**4.2.2 Part 2** The effectiveness of the PEARL program to prevent unintended pregnancy among Myanmar migrant adolescent and youth in Samut Sakorn Province, Thailand, by comparing KAP (knowledge on adolescent pregnancy, Attitude towards adolescent pregnancy) scores and safe sex practice behavior, among the 3 study groups.

The effective of PEARL program by comparing impacts on adolescent pregnancy (rate of unplanned pregnancy, rate of induced abortion and percentage of contraceptive practice) before and after program implementation in the intervention group 1 and intervention group 2

**4.2.1 Part 1** Characteristics of the samples

The sample characteristics are presented in Table (18). The experimental group I, PEARL, was in Golden Price community, the experimental group II, Teaching only was in Kroat community, and control group was in Krathum Bean community. These three communities are 15 kilometers far from each other. Of the 33 participants in each group.

48.49% (n=16) of the “PEARL” participants, 60.615 9 (n=20) of the “Teaching only” and 45.45 (n=15) of the “Control” participants were female and nearly equal among the groups. The average age of the three groups were same; 19.55, 19.97 and 19.91 in “PEARL”, “Teaching only” and “Control” respectively. Moreover, of the 33 participants in each group. 42.42% (n=14) of the “PEARL” participants, 54.55 (n=18) of the “Teaching only” participants, and 51.51% (n=17) of the “Control” participants were adolescent (15-19 years) and the remaining were youth (20-24 years).

As for the marital status, 87.88% (n=29) in “PEARL” group. 54.55% (n=18) in “Teaching only” group, and 81.82% (n=27) in “Control” group were single, it was seem that more married participants in “Teaching only” group but there was no statistical difference among the groups. Regarding “having boy/girl friends” were nearly similar among the groups, as 21.21% (n=7) in “PEARL” group, 18.18% (n=6) in “Teaching only) group, and 15.15% (n=5) in “Control” group did not have boy/girl friend.

As for living with whom (now), most of the “PEARL” group stayed with relatives 33.33% (n=11), followed by friends or roommate, parents, husband or wife, father, mother and alone; 27.27% (n=9), 18.18% (n=6), 9.09% (n=3), 6.06% (n=2), 3.03% (n=1), and 3.03% (n=1), respectively. Most of the participants in “Teaching only” group stayed with their husband/wife 30.30% (n=10) followed by relatives, parents, mother, and friends or roommate; 27.27% (n=9), 18.18% (n=6), 15.15% (n=5), and 9.09% (n=3), respectively. As in control, most of the participants were living with parents 33.33% (n=11) followed by relatives, husband or wife, friends or roommate, father, and mother; 24.24% (n=8), 18.18% (n=6), 15.15% (n=5), 6.06% (n=2), and 3.03% (n=1), respectively.

As for the continuous living in Thailand, most of the participants in all groups has been living from 6 months to 2 years duration, 69.70% (n=23) in “PEARL” group, 51.51% (n=17) in “Teaching only” group, and 48.49% (n=16) in “Control” group. The average of month staying in Thailand was  $32.82 \pm 20.20$ ,  $42.36 \pm 32.31$ , and  $37.88 \pm 21.63$  in “PEARL”, “Teaching only”, and “Control”, respectively. (Mean  $\pm$  SD). All of the participants in three groups were Buddhist.

Regarding their occupation, most of the participants in all groups were working in fishery and chicken tin food processing industries; 93.94% (n=31) in “PEARL” group, 90.91% (n=30) in “Teaching only”, and 90.91% (n=30) in “Control”. Remaining were 6.06% (n=2) working as shop keeper and fisherman in “PEARL” group, 9.09% (n=3) working as one shop keeper and two construction workers in “Teaching only” group, and 9.09% (n=3) working as three construction workers in “Control” group. There were no statistical significant differences in duration of stay in Thailand and occupation among the groups.

As for the education level, most of the participants in all 3 groups were studied in secondary school, 42.43% (n=14) in “PEARL”, 39.40% (n=13) in “Teaching only”, and 45.46% (n=15) in “Control” followed by; 30.30 % (n=10) high school, 24.24% (n=8) primary school, and 3.03% (n=1) had no education in “PEARL” group, 33.33 % (n=11) primary school, 24.24% (n=8) high school, and 3.03% (n=1) had studied college in “Teaching only” group, compared with 33.33 % (n=11) high school, 18.18% (n=6) primary school, and 3.03% (n=10) had no education in “Control” group. There were no statistical significant differences in education level among the three groups.

The average income of the all the participants among the three groups were nearly equal, 5351.52 baths in “PEARL” group, 5566.06 in “Teaching only” group and 5378.79 in “Control”. As a range for income; 4000 to 8000 baths in “PEARL” group, “0 to 10000 baths in “Teaching only” group because one of the participant was a student and had no income, and 2500 to 10000 baths in “Control” group.

All of all, as for comparing group difference of general characteristic among the three groups, there were no statistical significant difference in gender ( $p=0.428$ ), age and group of age ( $p=0.785$ ,  $0.591$ ), marital status ( $p=0.173$ ), having boy/girl friend ( $p=0.816$ ), living arrangement ( $p=0.103$ ), duration of stayed in Thailand ( $p=0.103$ ), occupation ( $p=0.873$ ), level of education ( $p=0.873$ ), and income ( $p=0.823$ ).

Table 18 General characteristics of the participants among the three groups

General characteristics		PEARL (n= 33) %	Teaching only (n= 33) %	Control (n= 33) %	p-value
<b>Gender</b>					
	Female	(16) 48.49	(20) 60.61	(15) 45.45	p=0.428 <sup>a</sup>
	Male	(17) 51.51	(13) 39.39	(18) 54.55	
<b>Group Age</b>					
	Adolescent (15-19 years)	(14) 42.42	(18) 54.55	(17) 51.51	p=0.591 <sup>a</sup>
	Youth (20-24 years)	(19) 57.58	(15) 45.45	(16) 48.49	
<b>Age</b>	Mean±SD	19.55±2.438	19.97±2.995	19.91±2.566	p= 0.785 <sup>b</sup>
	Mini, Maxi	16, 24	15, 24	16, 24	
<b>Marital status</b>					
	Single	(29) 87.88	(23) 69.70	(27) 81.82	p=0.173 <sup>a</sup>
	Married	(4) 12.12	(10) 30.30	(6) 18.18	
<b>Have boy/girl friend</b>					
	Yes	(7) 21.21	(6) 18.18	(5) 15.15	p=0.816 <sup>a</sup>
	No	(26) 78.79	(27) 81.82	(28) 84.85	
<b>Living status (now)</b>					
	Father	(2) 6.06	0	(2) 6.06	p=0.103 <sup>a</sup>
	Mother	(1) 3.03	(5) 15.15	(1) 3.03	
	Relatives	(11) 33.33	(9) 27.27	(8) 24.24	
	Friends or roommate	(9) 27.27	(3) 9.09	(5) 15.15	
	Alone	(1) 3.03	0	0	
	Husband or Wife	(3) 9.09	(10) 30.30	(6) 18.18	
	Parents	(6) 18.18	(6) 18.18	(11) 33.33	
<b>Living duration in Thailand</b>					
	6 months to 2 years	(23) 69.70	(17) 51.51	(16) 48.49	p=0.103 <sup>a</sup>
	2 - 4 years	(8) 24.24	(6) 18.18	(10) 30.30	
	More than 4 years	(2) 6.06	(10) 30.30	(7) 21.21	
	Mean±SD	32.82±20.20	42.36±32.31	37.88±21.63	p=0.140 <sup>b</sup>
	Mini, Maxi	07 to 99	12,120	12 to 84	
<b>Religious</b>					
	Buddhist	(33) 100	(33) 100	(33) 100	
<b>Occupation</b>					
	Fishery and chicken industry	(31) 93.94	(30) 90.91	(30) 90.91	p=0.873 <sup>a</sup>
	Others	(2) 6.06	(3) 9.09	(3) 9.09	

<b>Educational Level</b>				
=< Primary school	(9) 27.27	(11) 33.33	(7) 21.21	p=0.873 <sup>a</sup>
Secondary school	(14) 42.43	(13) 39.40	(15) 45.46	
=> High school	(10) 30.30	(9) 27.27	(11) 33.33	
<b>Total monthly income</b>				
=< 5000 Bahts	(18) 54.54	(16) 48.49	(16) 48.49	p=0.851 <sup>a</sup>
> 5001 bahts	(15) 45.46	(17) 51.51	(17) 51.51	
Mean±SD	5351.52±999.1	5566.06± 1565.132	5378.79±1864.430	p= 0.823 <sup>b</sup>
Mini:Maxi	4000-8000	0-10000	2500-10000	

<sup>a</sup> Chi-square test

<sup>b</sup> one-way ANOVA

Table 19 Number of participants enrolled in each step of the research project

<b>Groups</b>	<b>Pretest</b>	<b>Post 1</b>	<b>Post 3</b>	<b>Post 6</b>
		<b>month</b>	<b>months</b>	<b>months</b>
<b>PEARL</b>	33	33	32*	32
<b>Teaching</b>	33	33	33	32**
<b>only</b>				
<b>Control</b>	33	33	33	32***

\* 17 years, female, single, went back to Myanmar

\*\* 19 years, female, married, went back to Myanmar

\*\*\* 17 years, female, single, went back to Myanmar

During the study period 6 months, there were 33 participants enrolled in each group at pretest and one month after intervention. Whereas, during the interview of 3 months after intervention there were only 32, 33 and 33 participants interviewed among “PEARL” group, “Teaching only” group and “Control” group respectively. One of the participants, 17-year-old single female went to Myanmar. During the interview of post 6

months after intervention, there were 32 participants in each group, whereas 19-year-old married female from “Teaching only” group and 17-year-old single female from control group went back to Myanmar. (Table 19)

Table 20 Descriptive Statistics of Knowledge on puberty (KOP)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	5.8788 $\pm$ 2.5465	6.6667 $\pm$ 2.5577	7.0606 $\pm$ 2.8829
Post 1 month	13.3030 $\pm$ 1.1588	12.2424 $\pm$ 1.9531	6.4688 $\pm$ 2.4885
Post 3 months	13.9697 $\pm$ 2.6278	8.6667 $\pm$ 1.9948	7.0938 $\pm$ 3.1455
Post 6 months	13.2121 $\pm$ 3.0286	8.5455 $\pm$ 2.6586	7.3438 $\pm$ 2.7790
Total sum of score = 17			

As for description of mean and standard deviation of sum of scores of knowledge on puberty among the three groups;

**Before the experiment** There were 5.8788  $\pm$  2.5465, 6.6667  $\pm$  2.5577, and 7.0606  $\pm$  2.8829 in “PEARL” group, “Teaching only” group, and “Control” group respectively.

**After the one month experiment** There were 13.3030  $\pm$  1.1588 in the “PEARL” group, followed by 12.2424  $\pm$  1.9531 in the “Teaching only” group, and 6.4688  $\pm$  2.4885 in “Control” group.

**After the three months experiment** There were 13.9697  $\pm$  2.6278 in the “PEARL” group, followed by 8.6667  $\pm$  1.9948 in the “Teaching only” group, and 7.0938  $\pm$  3.1455 in “Control” group.

**After the six months experiment** There were 13.2121  $\pm$  3.0286 in the “PEARL” group, followed by 8.5455  $\pm$  2.6586 in the “Teaching only” group, and 7.3438  $\pm$  2.7790 in “Control” group. (Table 20)



Table 21 Descriptive Statistics of (KOAYP)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	3.8182 $\pm$ 0.6826	2.8182 $\pm$ 2.1426	4.0606 $\pm$ 0.9663
Post 1 month	4.8485 $\pm$ 0.3641	4.3636 $\pm$ 0.8951	3.4848 $\pm$ 1.7875
Post 3 months	4.8182 $\pm$ 0.8823	4.2121 $\pm$ 1.4089	3.6970 $\pm$ 1.5101
Post 6 months	4.8182 $\pm$ 0.8823	4.5455 $\pm$ 0.9385	4.0001 $\pm$ 1.1456

KOAYP: Knowledge on Adolescent and Youth Pregnancy

Total sum of score = 5

As for description of mean and standard deviation of sum of scores of knowledge on adolescent and youth pregnancy among the three groups;

***Before the experiment*** There were 3.8182  $\pm$  0.6826, 2.8182  $\pm$  2.1426, and 4.0606  $\pm$  0.9663 in “PEARL” group, “Teaching only” group, and “Control” group respectively.

***After the one month experiment*** There were 4.8485  $\pm$  0.3641 in the “PEARL” group, followed by 4.3636  $\pm$  0.8951 in the “Teaching only” group, and 3.4848  $\pm$  1.7875 in “Control” group.

***After the three months experiment*** There were 4.8182  $\pm$  0.8823 in the “PEARL” group, followed by 4.2121  $\pm$  1.4089 in the “Teaching only” group, and 3.6970  $\pm$  1.5101 in “Control” group.

***After the six months experiment*** There were 4.8182  $\pm$  0.8823 in the “PEARL” group, followed by 4.5455  $\pm$  0.9385 in the “Teaching only” group, and 4.0001  $\pm$  1.1456 in “Control” group. (Table 21)

Table 22 Descriptive Statistics of (KOPP)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	10.3333 $\pm$ 2.9012	9.2424 $\pm$ 4.5417	8.7813 $\pm$ 2.7560
Post 1 month	14.5152 $\pm$ 1.2021	13.4849 $\pm$ 1.7699	7.7813 $\pm$ 3.6698
Post 3 months	13.9697 $\pm$ 2.6278	8.6667 $\pm$ 1.9948	6.9688 $\pm$ 3.1055
Post 6 months	15.1212 $\pm$ 2.8587	9.2424 $\pm$ 4.5417	8.8750 $\pm$ 3.7994

KOPP: Knowledge on Pregnancy Prevention

Total sum of score = 17

As for description of mean and standard deviation of sum of scores of knowledge on pregnancy prevention among the three groups;

***Before the experiment*** There were 10.3333  $\pm$  2.9012, 9.2424  $\pm$  4.5417, and 8.7813  $\pm$  2.7560 in “PEARL” group, “Teaching only” group, and “Control” group respectively.

***After the one month experiment*** There were 14.5152  $\pm$  1.2021 in the “PEARL” group, followed by 13.4849  $\pm$  1.7699 in the “Teaching only” group, and 7.7813  $\pm$  3.6698 in “Control” group.

***After the three months experiment*** There were 13.9697  $\pm$  2.6278 in the “PEARL” group, followed by 8.6667  $\pm$  1.9948 in the “Teaching only” group, and 6.9688  $\pm$  3.1055 in “Control” group.

***After the six months experiment*** There were 15.1212  $\pm$  2.8587 in the “PEARL” group, followed by 9.2424  $\pm$  4.5417 in the “Teaching only” group, and 8.8750  $\pm$  3.7994 in “Control” group. (Table 22)

Table 23 Descriptive Statistics of Knowledge on Induced abortion (KOIA)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	3.7879 $\pm$ 0.8929	3.4242 $\pm$ 1.9690	3.8182 $\pm$ 0.9828
Post 1 month	4.7879 $\pm$ 0.4152	4.8182 $\pm$ 0.3917	3.1818 $\pm$ 1.8106
Post 3 months	4.8182 $\pm$ 0.8823	4.001 $\pm$ 1.6394	3.4849 $\pm$ 1.5436
Post 6 months	4.8182 $\pm$ 0.8823	4.001 $\pm$ 1.6394	3.4849 $\pm$ 1.5436
Total sum of score = 5			

As for description of mean and standard deviation of sum of scores of knowledge on induced abortion among the three groups;

***Before the experiment*** There were 3.7879  $\pm$  0.8929, 3.4242  $\pm$  1.9690, and 3.8182  $\pm$  0.9828 in “PEARL” group, “Teaching only” group, and “Control” group respectively.

***After the one month experiment*** There were 4.7879  $\pm$  0.4152 in the “PEARL” group, 4.8182  $\pm$  0.3917 in the “Teaching only” group, and 3.1818  $\pm$  1.8106 in “Control” group.

***After the three months experiment*** There were 4.8182  $\pm$  0.8823 in the “PEARL” group, followed by 4.001  $\pm$  1.6394 in the “Teaching only” group, and 3.4849  $\pm$  1.5436 in “Control” group.

***After the six months experiment*** There were 4.8182  $\pm$  0.8823 in the “PEARL” group, followed by 4.001  $\pm$  1.6394 in the “Teaching only” group, and 3.4849  $\pm$  1.5436 in “Control” group. (Table 23)

Table 24 Descriptive Statistics of ATUPP

Timing	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	62.1818 $\pm$ 5.6261	65.6970 $\pm$ 8.2101	62.8788 $\pm$ 6.9361
Post 1 month	68.4848 $\pm$ 6.6385	68.1212 $\pm$ 6.3135	61.0606 $\pm$ 6.2297
Post 3 months	73.3030 $\pm$ 14.1056	65.4545 $\pm$ 7.7504	61.6667 $\pm$ 9.1674
Post 6 months	78.1818 $\pm$ 15.3592	62.1515 $\pm$ 12.1787	61.7879 $\pm$ 14.4778

ATUPP: Attitude towards unintended Pregnancy Prevention

Total sum of score = 95

As for description of mean and standard deviation of sum of scores of attitude towards unintended pregnancy prevention among the three groups;

***Before the experiment*** There were 62.1818  $\pm$  5.6261, 65.6970  $\pm$  8.2101, and 62.8788  $\pm$  6.9361 in “PEARL” group, “Teaching only” group, and “Control” group respectively.

***After the one month experiment*** There were 68.4848  $\pm$  6.6385 in the “PEARL” group, followed by 68.1212  $\pm$  6.3135 in the “Teaching only” group, and 61.0606  $\pm$  6.2297 in “Control” group.

***After the three months experiment*** There were 73.3030  $\pm$  14.1056 in the “PEARL” group, followed by 65.4545  $\pm$  7.7504 in the “Teaching only” group, and 61.6667  $\pm$  9.1674 in “Control” group.

***After the six months experiment*** There were 78.1818  $\pm$  15.3592 in the “PEARL” group, followed by 62.1515  $\pm$  12.1787 in the “Teaching only” group, and 61.7879  $\pm$  14.4778 in “Control” group. (Table 24)

Table 25 Descriptive Statistics of Attitude towards Induced Abortion (ATIA)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	17.2424 $\pm$ 3.1027	16.6364 $\pm$ 3.6642	16.4545 $\pm$ 3.3550
Post 1 month	17.0606 $\pm$ 3.1911	16.7576 $\pm$ 3.5534	15.5152 $\pm$ 3.0323
Post 3 months	19.4545 $\pm$ 3.7341	16.9697 $\pm$ 2.5555	16.4545 $\pm$ 3.4195
Post 6 months	21.1515 $\pm$ 4.4590	16.8182 $\pm$ 4.2680	14.7879 $\pm$ 4.6486
Total sum of score = 25			

As for description of mean and standard deviation of sum of scores of attitude towards induced abortion among the three groups;

***Before the experiment*** There were 17.2424  $\pm$  3.1027, 16.6364  $\pm$  3.6642, and 16.4545  $\pm$  3.3550 in “PEARL” group, “Teaching only” group, and “Control” group respectively.

***After the one month experiment*** There were 17.0606  $\pm$  3.1911 in the “PEARL” group, followed by 16.7576  $\pm$  3.5534 in the “Teaching only” group, and 15.5152  $\pm$  3.0323 in “Control” group.

***After the three months experiment*** There were 19.4545  $\pm$  3.7341 in the “PEARL” group, followed by 16.9697  $\pm$  2.5555 in the “Teaching only” group, and 16.4545  $\pm$  3.4195 in “Control” group.

***After the six months experiment*** There were 21.1515  $\pm$  4.4590 in the “PEARL” group, followed by 16.8182  $\pm$  4.2680 in the “Teaching only” group, and 14.7879  $\pm$  4.6486 in “Control” group. (Table 25)

Table 26 Descriptive Statistics of Norm for safe sex (NORM)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	11.0303 $\pm$ 3.1867	10.9091 $\pm$ 2.6382	10.2727 $\pm$ 3.8019
Post 1 month	13.1515 $\pm$ 2.7964	13.6667 $\pm$ 2.3936	12.4848 $\pm$ 2.6707
Post 3 months	15.1212 $\pm$ 3.3238	13.4545 $\pm$ 1.8216	12.8182 $\pm$ 2.8772
Post 6 months	16.4242 $\pm$ 3.6403	12.7879 $\pm$ 3.3049	13.0606 $\pm$ 3.8238
Total= 25			

Table 27 Descriptive Statistics of Intension to refuse sex (INTRS)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	20.0000 $\pm$ 4.7236	21.1818 $\pm$ 5.9079	18.7879 $\pm$ 6.2087
Post 1 month	21.5455 $\pm$ 5.9377	18.6364 $\pm$ 6.6135	17.1818 $\pm$ 6.8395
Post 3 months	22.6364 $\pm$ 5.2608	20.2727 $\pm$ 4.6252	16.7879 $\pm$ 6.6744
Post 6 months	25.9697 $\pm$ 5.4800	17.2424 $\pm$ 4.4019	16.7879 $\pm$ 8.0303
Total sum of score = 30			

As for description of mean and standard deviation of sum of scores of norm for safe sex behavior and induced abortion among the three groups;

**Before the experiment** There were 11.0303  $\pm$  3.1867, 10.9091  $\pm$  2.6382, and 10.2727  $\pm$  3.8019 in “PEARL” group, “Teaching only” group, and “Control” group respectively.

**After the one month experiment** There were 13.1515  $\pm$  2.7964 in the “PEARL” group, 13.6667  $\pm$  2.3936 in the “Teaching only” group, and 12.4848  $\pm$  2.6707 in “Control” group.

**After the three months experiment** There were 15.1212  $\pm$  3.3238 in the “PEARL” group, followed by 13.4545  $\pm$  1.8216 in the “Teaching only” group, and 12.8182  $\pm$  2.8772 in “Control” group.

**After the six months experiment** There were  $16.4242 \pm 3.6403$  in the “PEARL” group, followed by  $12.7879 \pm 3.3049$  in the “Teaching only” group, and  $13.0606 \pm 3.8238$  in “Control” group. (Table 26)

As for description of mean and standard deviation of sum of scores of intention to refuse sex in next 6 months among the three groups;

**Before the experiment** There were  $20.0000 \pm 4.7236$ ,  $21.1818 \pm 5.9079$ , and  $18.7879 \pm 6.2087$  in “PEARL” group, “Teaching only” group, and “Control” group respectively.

**After the one month experiment** There were  $21.5455 \pm 5.9377$  in the “PEARL” group, followed by  $18.6364 \pm 6.6135$  in the “Teaching only” group, and  $17.1818 \pm 6.8395$  in “Control” group.

**After the three months experiment** There were  $22.6364 \pm 5.2608$  in the “PEARL” group, followed by  $20.2727 \pm 4.6252$  in the “Teaching only” group, and  $16.7879 \pm 6.6744$  in “Control” group.

**After the six months experiment** There were  $25.9697 \pm 5.4800$  in the “PEARL” group, followed by  $17.2424 \pm 4.4019$  in the “Teaching only” group, and  $16.7879 \pm 8.0303$  in “Control” group. (Table 27)

Table 28 Descriptive Statistics of Intension to use condom (INTUC)

	PEARL	Teaching only	Control
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Pretest	$6.8182 \pm 1.4021$	$7.3030 \pm 2.2289$	$6.5455 \pm 2.2092$
Post 1 month	$8.4545 \pm 1.5226$	$6.0606 \pm 1.5194$	$6.3333 \pm 2.5454$
Post 3 months	$8.1515 \pm 2.1083$	$6.9697 \pm 1.7227$	$6.1818 \pm 2.4680$
Post 6 months	$9.1212 \pm 1.8330$	$5.5455 \pm 1.6219$	$6.5151 \pm 2.8518$
Total sum of score = 10			

As for description of mean and standard deviation of sum of scores of intention to use condom in next 6 months among the three groups;

*Before the experiment* There were  $6.8182 \pm 1.4021$ ,  $7.3030 \pm 2.2289$ , and  $6.5455 \pm 2.2092$  in “PEARL” group, “Teaching only” group, and “Control” group respectively.

*After the one month experiment* There were  $8.4545 \pm 1.5226$  in the “PEARL” group, followed by  $6.0606 \pm 1.5194$  in the “Teaching only” group, and  $6.3333 \pm 2.5454$  in “Control” group.

*After the three months experiment* There were  $8.1515 \pm 2.1083$  in the “PEARL” group, followed by  $6.9697 \pm 1.7227$  in the “Teaching only” group, and  $6.1818 \pm 2.4680$  in “Control” group.

*After the six months experiment* There were  $9.1212 \pm 1.8330$  in the “PEARL” group, followed by  $5.5455 \pm 1.6219$  in the “Teaching only” group, and  $6.5151 \pm 2.8518$  in “Control” group. (Table 28)

**4.2.2** The effects of the PEARL programme to prevent unintended pregnancy among Myanmar migrant adolescent and youth in Samut Sakorn Province, Thailand.

**4.2.2.1** Objective: To compare “Before program KAP scores” among intervention group 1 (PEARL, (PEARL= Peer Volunteers plus Unintended Pregnancy Prevention (UPP) education), intervention group 2 (UPP teaching only), and control group.

Hypothesis: There are no different between “Before program KAP scores” among the three groups. (PEARL Vs UPP teaching only Vs control group)



Table 29 Pairwise comparisons among groups for Pretest (KOP)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	5.8788 $\pm$ 2.5465	Teaching	-0.7879	-2.3876	.8118	.699
		Control	-1.1818	-2.7815	.4179	.225
Teaching	6.6667 $\pm$ 2.5577	PEARL	0.7879	-.8118	2.3876	.699
		Control	-0.3939	-1.9936	1.2058	1.000
Control	7.0606 $\pm$ 2.8829	PEARL	1.1818	-.4179	2.7815	.225
		Teaching	0.3939	-1.2058	1.9936	1.000

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

KOP: Knowledge on puberty

Before the beginning of the intervention, sum of scores of pretest knowledge on puberty among the three groups were not significant different (p-value >0.05). The “PEARL” group, “Teaching only” group and “Control” group were 5.8788  $\pm$  2.5465, 6.6667  $\pm$  2.5577, and 7.0606  $\pm$  2.8829, respectively. (Table 29)

Table 30 Pairwise comparisons among groups for Pretest (KOAYP)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	3.8182 $\pm$ 0.6826	Teaching	<b>1.0000<sup>b</sup></b>	.0246	1.9754	.043
		Control	-.2424	-.7483	.2635	.564
Teaching	2.8182 $\pm$ 2.1426	PEARL	<b>-1.0000<sup>b</sup></b>	-1.9754	-.0246	.043
		Control	<b>-1.2424<sup>b</sup></b>	-2.2560	-.2288	.012
Control	4.0606 $\pm$ 0.9663	PEARL	.24242	-.2635	.7483	.564
		Teaching	<b>1.2424<sup>b</sup></b>	.2288	2.2560	.012

Based on observed means

<sup>b</sup>: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test

KOAYP: Knowledge on Adolescent Youth pregnancy

Before the beginning of the intervention, sum of scores of pretest knowledge on adolescent and youth pregnancy among the three groups were significant different. The “PEARL” group, “Teaching only’ group and “Control” group were  $3.8182 \pm 0.6826$ ,  $2.8182 \pm 2.1426$ , and  $4.0606 \pm 0.9663$ , respectively. There were statistically significant different (p-value <0.05) between “PEARL” group and “Teaching only” group, “Teaching only” group and “Control” group,. On the other hand, there were no significant different (p-value >0.05) between “PEARL” group and “Control” group. (Table 30)

Table 31 Pairwise comparisons among groups for Pretest(KOPP)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	$10.3333 \pm 2.9012$	Teaching	1.0909	-1.21	3.399	.573
		Control	1.6364	-.069	3.342	.064
Teaching	$9.2424 \pm 4.5417$	PEARL	-1.0909	-3.39	1.217	.573
		Control	0.5455	-1.73	2.823	.912
Control	$8.7813 \pm 2.7560$	PEARL	-1.6363	-3.34	.0698	.064
		Teaching	-0.5455	-2.82	1.732	.912

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test,

KOPP: Knowledge on pregnancy prevention

Before the beginning of the intervention, sum of scores of pretest knowledge on pregnancy prevention among the three groups were not significant different (p-value >0.05). The “PEARL” group, “Teaching only’ group and “Control” group were  $10.3333 \pm 2.9012$ ,  $9.2424 \pm 4.5417$ , and  $8.7813 \pm 2.7560$ , respectively. (Table 31)

Table 32 Pairwise comparisons among groups for Pretest (KOIA)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	3.7879 $\pm$ 0.8929	Teaching	0.3636	-.5686	1.2958	.706
		Control	-0.0303	-.5966	.5360	.999
Teaching	3.4242 $\pm$ 1.9690	PEARL	-0.3636	-1.2958	.5686	.706
		Control	-0.3939	-1.3410	.5532	.665
Control	3.8182 $\pm$ 0.9828	PEARL	0.0303	-.5360	.5966	.999
		Teaching	0.3939	-.5532	1.3410	.665

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test

KOIA: Knowledge on Induced abortion

Before the beginning of the intervention, sum of scores of pretest knowledge on induced abortion among the three groups were not significant different (p-value >0.05). The “PEARL” group, “Teaching only’ group and “Control” group were 3.7879  $\pm$  0.8929, 3.4242  $\pm$  1.9690, and 3.8182  $\pm$  0.9828, respectively. (Table 32)

Table 33 Pairwise comparisons among groups for Pretest(ATUPP)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	62.1818 $\pm$ 5.626	Teaching	-3.5152	-7.773	.7428	.134
		Control	-0.6969	-4.509	3.1153	.958
Teaching	65.6970 $\pm$ 8.210	PEARL	3.5152	-.7428	7.7731	.134
		Control	2.8182	-1.767	7.4042	.354
Control	62.8788 $\pm$ 6.936	PEARL	0.6969	-3.115	4.5092	.958
		Teaching	-2.8182	-7.404	1.7678	.354

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test

ATUPP: Attitude towards unintended pregnancy prevention

Before the beginning of the intervention, sum of scores of pretest attitude towards unintended pregnancy prevention among the three groups showed no significantly different ( $p$ -value  $>0.05$ ). The “PEARL” group, “Teaching only” group and “Control” group were  $62.1818 \pm 5.6261$ ,  $65.6970 \pm 8.2101$ , and  $62.8788 \pm 6.9361$ , respectively. (Table 33)

Table 34 Pairwise comparisons among groups for Pretest (ATIA)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	$17.2424 \pm 3.1027$	Teaching	0.6061	-1.4225	2.6346	1.000
		Control	0.7879	-1.2407	2.8165	1.000
Teaching	$16.6364 \pm 3.6642$	PEARL	-0.6061	-2.6346	1.4225	1.000
		Control	0.1818	-1.8468	2.2104	1.000
Control	$16.4545 \pm 3.3550$	PEARL	-0.7879	-2.8165	1.2407	1.000
		Teaching	-0.1818	-2.2104	1.8468	1.000

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

ATIA: Attitude towards induced abortion

Before the beginning of the intervention, sum of scores of pretest attitude towards induced abortion among the three groups were also not significant different ( $p$ -value  $>0.05$ ). The “PEARL” group, “Teaching only” group and “Control” group were  $17.2424 \pm 3.1027$ ,  $16.6364 \pm 3.6642$ , and  $16.4545 \pm 3.3550$ , respectively. (Table 34)

Table 35 Pairwise comparisons among groups for Pretest (NORM)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	11.0303 $\pm$ 3.1867	Teaching	0.1212	-1.8247	2.0672	1.000
		Control	0.7576	1.1884	2.7035	1.000
Teaching	10.9091 $\pm$ 2.6382	PEARL	-0.1212	-2.0672	1.8247	1.000
		Control	0.6363	1.3096	2.5823	1.000
Control	10.2727 $\pm$ 3.8019	PEARL	-0.7576	-2.7035	1.1884	1.000
		Teaching	-0.6363	-2.5823	1.3096	1.000

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

NORM: Norm for safe sex and induced abortion

Before the beginning of the intervention, sum of scores of pretest norm for safe sex and induced abortion among the three groups were not significant different ( $p$ -value  $>0.05$ ). The “PEARL” group, “Teaching only” group and “Control” group were  $11.0303 \pm 3.1867$ ,  $10.9091 \pm 2.6382$ , and  $10.2727 \pm 3.8019$ , respectively. (Table 35)

Table 36 Pairwise comparisons among groups for Pretest (INTRS)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	13.9318 $\pm$ 1.5510	Teaching	-1.1818	-4.571	2.207	1.000
		Control	1.2121	-2.177	4.601	1.000
Teaching	12.7046 $\pm$ 1.5510	PEARL	1.1818	-2.20	4.571	1.000
		Control	2.3939	-.995	5.783	.265
Control	12.1591 $\pm$ 1.5510	PEARL	-1.2121	-4.60	2.177	1.000
		Teaching	-2.3939	-5.78	.9952	.265

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

INTRS: Intention to refuse sex

Before the beginning of the intervention, sum of scores of pretest intention to refuse sex in next 6 months among the three groups were not significant different (p-value  $>0.05$ ). The “PEARL” group, “Teaching only’ group and “Control” group were 13.9318  $\pm$  1.5510, 12.7046  $\pm$  1.5510, and 12.1591  $\pm$  1.5510, respectively. (Table 36)

Table 37 Pairwise comparisons among groups for Pretest (INTUC)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	6.8182 $\pm$ 1.4021	Teaching	0.4849	-	.6433	.645
		Control	0.2727	1.6130	1.3936	.908
Teaching	7.3030 $\pm$ 2.2289	PEARL	0.4849	-0.8482	0	.645
		Control	0.7576	1.6130	2.0957	.425
Control	6.5455 $\pm$ 2.2092	PEARL	-0.2727	-0.6433	.8482	.908
		Teaching	-0.7576	1.3936	.5805	.425

Based on observed means

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test

INTUC: Intention to use condom

Before the beginning of the intervention, sum of scores of pretest intention to use condom in next 6 months among the three groups also showed no significantly different (p-value >0.05). The “PEARL” group, “Teaching only” group and “Control” group were 6.8182  $\pm$  1.4021, 7.3030  $\pm$  2.2289, and 6.5455  $\pm$  2.2092, respectively. (Table 37)

Table 38 Pairwise comparisons among groups for Pretest (Test Statistics <sup>a,b</sup>)

Variable	Groups	N	Mean rank	$\chi^2$ (df)	p-value
KOAYP	PEARL	33	41.61	4.795 2	.091
	Teaching	33	51.67		
	Control	33	56.73		
KOPP	PEARL	33	56.42	3.758 2	.153
	Teaching	33	50.74		
	Control	33	42.83		
KOIA	PEARL	33	47.89	.473 2	.789
	Teaching	33	52.50		
	Control	33	49.61		
ATUPP	PEARL	33	44.82	3.383 2	.184
	Teaching	33	57.29		
	Control	33	47.89		
INTUC	PEARL	33	48.59	2.189 2	.335
	Teaching	33	55.70		
	Control	33	45.71		

a. Kruskal Wallis Test

b. Grouping Variable: Group GRP :

Additionally, in case of assumed not equal variance, kruskal Wallis test was also done apart from Dunnett T3 for knowledge on adolescent and youth pregnancy, knowledge on pregnancy prevention, knowledge on induced abortion, attitude towards unintended pregnancy prevention, and intention to use condom in next 6 months, also showed no statistical significant different (p-value>0.05). (Table 38)



**4.2.2.2 Objective:** To compare KAP scores before and after the program within intervention group 1 group. (PEARL)

**Hypothesis:** The after intervention assessment of KAP (knowledge on adolescent pregnancy, Attitude towards adolescent pregnancy, safe sex practice for preventing adolescent pregnancy) scores on safe sex to prevent unintended pregnancy will be higher than “before program KAP scores” in the intervention group 1 (PEARL).

Table 39 Comparison of sum of scores between pretest and post 6 months in PEARL group (Paired *t* -test)

		N	Mean $\pm$ SD	t	df	p-value <sup>a</sup>
KOP	Pretest	33	5.8788 $\pm$ 2.5465	-12.077	32	<.001
	Post 6 mo	32	13.2121 $\pm$ 3.0286			
KOAYP	Pretest	33	3.8182 $\pm$ 0.6826	-5.014	32	<.001
	Post 6 mo	32	4.8182 $\pm$ 0.8823			
KOPP	Pretest	33	10.3333 $\pm$ 2.9012	-6.312	32	<.001
	Post 6 mo	32	15.1212 $\pm$ 2.8587			
KOIA	Pretest	33	3.7879 $\pm$ 0.8929	-4.600	32	<.001
	Post 6 mo	32	4.8182 $\pm$ 0.8823			
ATUPP	Pretest	33	62.1818 $\pm$ 5.6261	-5.234	32	<.001
	Post 6 mo	32	78.1818 $\pm$ 15.3592			
ATIA	Pretest	33	17.2424 $\pm$ 3.1027	-3.853	32	<.001
	Post 6 mo	32	21.1515 $\pm$ 4.4590			
NORM	Pretest	33	11.0303 $\pm$ 3.1867	-6.085	32	<.001
	Post 6 mo	32	16.4242 $\pm$ 3.6403			
INTRS	Pretest	33	19.9899 $\pm$ 3.2629	-4.284	32	<.001
	Post 6 mo	32	20.0000 $\pm$ 3.5016			
INTUC	Pretest	33	6.8182 $\pm$ 1.4021	-5.473	32	<.001
	Post 6 mo	32	9.1212 $\pm$ 1.8330			

<sup>a</sup> Sig (2-tailed)

KOP knowledge on Puberty, KOAYP Knowledge on Adolescent and youth Pregnancy, KOPP Knowledge on Pregnancy Prevention, KOIA Knowledge on Induced Abortion ATUPP Attitude towards Unintended Pregnancy Prevention, NORM on safe sex and induced abortion, INTRS Intension to Refuse Sex INTUC Intension to Use Condom, ATIA Attitude towards Induced Abortion

Comparison of the mean scores categorized by knowledge on puberty, knowledge on adolescent and youth pregnancy, knowledge on pregnancy prevention, knowledge on induced abortion, attitude towards unintended pregnancy prevention, attitude towards induced abortion, norm on safe sex and induced abortion, intention to refuse sex in next 6 months and intention to use condom in next 6 months within the “PEARL” group, before and after 6 months intervention, found:

After the 6 months intervention, mean score for knowledge on puberty was higher than pretest,  $13.2121 \pm 3.0286$  and  $5.8788 \pm 2.5465$ , respectively, with statistical significance ( $p$ -value  $< 0.001$ ).

After the 6 months intervention, there had a higher mean score for knowledge on adolescent and youth pregnancy than pretest, at  $4.8182 \pm 0.8823$  and  $3.8182 \pm 0.6826$ , respectively, which was also statistically significance ( $p$ -value  $< 0.001$ ).

After the 6 months intervention, mean score for knowledge on pregnancy prevention was higher than pretest,  $15.1212 \pm 2.8587$  and  $10.3333 \pm 2.9012$ , respectively, with statistical significance ( $p$ -value  $< 0.001$ ).

After the 6 months intervention, there had a higher mean score for knowledge on induced abortion than pretest, at  $4.8182 \pm 0.8823$  and  $3.7879 \pm 0.8929$ , respectively, which was also statistically significance ( $p$ -value  $< 0.001$ ).

After the 6 months intervention, mean score for attitude towards unintended pregnancy prevention was higher than pretest,  $78.1818 \pm 15.3592$  and  $62.1818 \pm 5.6261$ , respectively, with statistical significance ( $p$ -value  $< 0.001$ ).

After the 6 months intervention, mean score for attitude towards unintended pregnancy prevention was higher than pretest,  $78.1818 \pm 15.3592$  and  $62.1818 \pm 5.6261$ , respectively, with statistical significance (p-value <0.001).

After the 6 months intervention, there had a higher mean score for attitude towards induced abortion than pretest, at  $21.1515 \pm 4.4590$  and  $17.2424 \pm 3.1027$ , respectively, which was also statistically significance (p-value <0.001).

After the 6 months intervention, mean score for norm on safe sex and induced abortion was higher than pretest,  $16.4242 \pm 3.6403$  and  $11.0303 \pm 3.1867$ , respectively, with statistical significance (p-value <0.001)

After the 6 months intervention, there had a higher mean score for intention to refuse sex in next 6 months than pretest, at  $20.0000 \pm 3.5016$  and  $19.9899 \pm 3.2629$ , respectively, which was also statistically significance (p-value <0.001)

After the 6 months intervention, there had a higher mean score for intention to use condom in next 6 months than pretest, at  $9.1212 \pm 1.8330$  and  $6.8182 \pm 1.4021$ , respectively, which was also statistically significance (p-value <0.001) (Table 39)

**4.2.2.3 Objective:** To compare KAP scores before and after the program within intervention group 2 group. (Participatory education on unintended pregnancy prevention/teaching only)

**Hypothesis:** The after intervention assessment of KAP (knowledge on adolescent pregnancy, Attitude towards adolescent pregnancy, safe sex practice for preventing adolescent pregnancy) scores on safe sex to prevent unintended pregnancy will be higher than “before program KAP scores” in the intervention group 2. (Teaching only)

Table 40 Comparison of sum of scores between pretest and post 6 months in Teaching only group (Paired *t* -test)

		N	Mean $\pm$ SD	t	df	p-value <sup>a</sup>
KOP	Pretest	33	6.6667 $\pm$ 2.5577	-3.176	32	<b>.003</b>
	Post 6 mo	32	8.5455 $\pm$ 2.6586			
KOAYP	Pretest	33	2.8182 $\pm$ 2.1426	-4.045	32	<b>&lt;.001</b>
	Post 6 mo	32	4.5455 $\pm$ 0.9385			
KOPP	Pretest	33	9.2424 $\pm$ 4.5417	-6.312	32	<b>.001</b>
	Post 6 mo	32	12.8485 $\pm$ 2.6707			
KOIA	Pretest	33	3.4242 $\pm$ 1.9690	-1.267	32	.214
	Post 6 mo	32	4.001 $\pm$ 1.6394			
ATUPP	Pretest	33	65.6970 $\pm$ 8.2101	1.357	32	.184
	Post 6 mo	32	62.1515 $\pm$ 12.1787			
ATIA	Pretest	33	16.6364 $\pm$ 3.6642	-.172	32	.864
	Post 6 mo	32	16.8182 $\pm$ 4.2680			
NORM	Pretest	33	10.9091 $\pm$ 2.6382	-2.721	32	<b>.010</b>
	Post 6 mo	32	12.7879 $\pm$ 3.3049			
INTRS	Pretest	33	21.1818 $\pm$ 5.9079	3.146	32	<b>.004</b>
	Post 6 mo	32	17.2424 $\pm$ 4.4019			
INTUC	Pretest	33	7.3030 $\pm$ 2.2289	3.656	32	<b>.001</b>
	Post 6 mo	32	5.5455 $\pm$ 1.6219			

<sup>a</sup> Sig (2-tailed)

KOP knowledge on Puberty, KOAYP Knowledge on Adolescent and youth Pregnancy, KOPP Knowledge on Pregnancy Prevention, KOIA Knowledge on Induced Abortion ATUPP Attitude towards Unintended Pregnancy Prevention, NORM on safe sex and induced abortion, INTRS Intension to Refuse Sex INTUC Intension to Use Condom, ATIA Attitude towards Induced Abortion

Comparison of the mean scores categorized by knowledge on puberty, knowledge on adolescent and youth pregnancy, knowledge on pregnancy prevention, knowledge on induced abortion, attitude towards unintended pregnancy prevention, attitude towards

induced abortion, norm on safe sex and induced abortion, intention to refuse sex in next 6 months and intention to use condom in next 6 months within the “Teaching only” group, before and after 6 months intervention, found:

After the 6 months intervention, mean score for knowledge on puberty was higher than pretest,  $8.5455 \pm 2.6586$  and  $6.6667 \pm 2.5577$ , respectively, with statistical significance (p-value  $<0.003$ ).

After the 6 months intervention, there had a higher mean score for knowledge on adolescent and youth pregnancy than pretest, at  $4.5455 \pm 0.9385$  and  $2.8182 \pm 2.1426$ , respectively, which was also statistically significance (p-value  $<0.001$ ).

After the 6 months intervention, mean score for knowledge on pregnancy prevention was higher than pretest,  $9.2424 \pm 4.5417$  and  $8.2424 \pm 4.9437$ , respectively, with statistical significance (p-value  $<0.001$ ).

After the 6 months intervention, there had a higher mean score for knowledge on induced abortion than pretest, at  $4.001 \pm 1.6394$  and  $3.4242 \pm 1.9690$ , respectively, which was not statistically significance (p-value  $=0.214$ ).

After the 6 months intervention, mean score for attitude towards unintended pregnancy prevention was lower than pretest,  $62.1515 \pm 12.1787$  and  $65.6970 \pm 8.2101$ , respectively, which was statistical insignificance (p-value  $=0.184$ ).

After the 6 months intervention, there had a similar mean score for attitude towards induced abortion compared with pretest, at  $16.8182 \pm 4.2680$  and  $16.6364 \pm 3.6642$ , respectively, which was also not statistically significance (p-value  $=0.864$ ).

After the 6 months intervention, mean score for norm on safe sex and induced abortion was higher than pretest,  $12.7879 \pm 3.3049$  and  $10.9091 \pm 2.6382$ , respectively, with statistical significance (p-value  $<0.01$ )

After the 6 months intervention, there had a lower mean score for intention to refuse sex in next 6 months than pretest, at  $17.2424 \pm 4.4019$  and  $21.1818 \pm 5.9079$ , respectively, which was also statistically significance (p-value  $<0.004$ )

After the 6 months intervention, there had a lower mean score for intention to use condom in next 6 months than pretest, at  $5.5455 \pm 1.6219$  and  $7.3030 \pm 2.2289$ , respectively, which was also statistically significance (p-value  $<0.001$ ). (Table 40)

**4.2.2.4 Objective:** To compare KAP scores before and after the program within control group. (Control)

**Hypothesis:** The after intervention assessment of KAP (knowledge on adolescent pregnancy, Attitude towards adolescent pregnancy, safe sex practice for preventing adolescent pregnancy) scores on safe sex to prevent unintended pregnancy will be same as “before program KAP scores” in the control group.

Table 41 Comparison of sum of scores between pretest and post 6 months in Control group

		N	Mean $\pm$ SD	t	df	p-value <sup>a</sup>
KOP	Pretest	33	7.0606 $\pm$ 2.8829	-.366	32	.716
	Post 6 mo	32	7.3438 $\pm$ 2.7790			
KOAYP	Pretest	33	4.0606 $\pm$ 0.9663	.229	32	.820
	Post 6 mo	32	4.0001 $\pm$ 1.1456			
KOPP	Pretest	33	8.7813 $\pm$ 2.7560	-.110	31	.913
	Post 6 mo	32	8.8750 $\pm$ 3.7994			
KOIA	Pretest	33	3.8182 $\pm$ 0.9828	1.000	32	.325
	Post 6 mo	32	3.4849 $\pm$ 1.5436			
ATUPP	Pretest	33	62.8788 $\pm$ 6.9361	.352	32	.727
	Post 6 mo	32	61.7879 $\pm$ 14.4778			
ATIA	Pretest	33	16.4545 $\pm$ 3.3550	1.661	32	.107
	Post 6 mo	32	14.7879 $\pm$ 4.6486			
NORM	Pretest	33	10.2727 $\pm$ 3.8019	-3.336	32	<b>.002</b>
	Post 6 mo	32	13.0606 $\pm$ 3.8238			
INTRS	Pretest	33	18.7879 $\pm$ 6.2087	1.118	32	.272
	Post 6 mo	32	16.7879 $\pm$ 8.0303			
INTUC	Pretest	33	6.5455 $\pm$ 2.2092	.050	32	.960
	Post 6 mo	32	6.5151 $\pm$ 2.8518			

<sup>a</sup> Sig (2-tailed)

KOP knowledge on Puberty, KOAYP Knowledge on Adolescent and youth Pregnancy, KOPP Knowledge on Pregnancy Prevention, KOIA Knowledge on Induced Abortion, ATUPP Attitude towards Unintended Pregnancy Prevention, NORM on safe sex and induced abortion, INTRS Intension to Refuse Sex, INTUC Intension to Use Condom, ATIA Attitude towards Induced Abortion

Comparison of the mean scores categorized by knowledge on puberty, knowledge on adolescent and youth pregnancy, knowledge on pregnancy prevention, knowledge on induced abortion, attitude towards unintended pregnancy prevention, attitude towards

induced abortion, norm on safe sex and induced abortion, intention to refuse sex in next 6 months and intention to use condom in next 6 months within the “Control” group. before and after 6 months intervention, found:

After the 6 months intervention, mean score for knowledge on puberty was more or less similar with pretest,  $7.3438 \pm 2.7790$  and  $7.0606 \pm 2.8829$ , respectively, which was not statistically significant difference (p-value =0.716).

After the 6 months intervention, there had more or less similar mean score for knowledge on adolescent and youth pregnancy compared with pretest. at  $4.0001 \pm 1.1456$  and  $4.0606 \pm 0.9663$ , respectively, which was also statistically insignificant (p-value =0.820).

After the 6 months intervention, mean score for knowledge on pregnancy prevention was more or less similar with pretest,  $8.8750 \pm 3.7994$  and  $8.7813 \pm 2.7560$ , respectively, which was not statistically significant difference (p-value =0.913).

After the 6 months intervention, there had a more or less similar mean score for knowledge on induced abortion than pretest, at  $3.4849 \pm 1.5436$  and  $3.8182 \pm 0.9828$ , respectively, which was not statistically significance (p-value =0.325).

After the 6 months intervention, mean score for attitude towards unintended pregnancy prevention was lower than pretest,  $61.7879 \pm 14.4778$  and  $62.8788 \pm 6.9361$ , respectively, which was also statistically insignificant difference (p-value =0.727).

After the 6 months intervention, there had a lower mean score for attitude towards induced abortion compared with pretest, at  $14.7879 \pm 4.6486$  and  $16.4545 \pm 3.3550$ , respectively, which was also not statistically significance (p-value =0.107).



After the 6 months intervention, mean score for norm on safe sex and induced abortion was higher than pretest,  $13.0606 \pm 3.8238$  and  $10.2727 \pm 3.8019$ , respectively, with statistical significance (p-value  $<0.002$ )

After the 6 months intervention, there had a lower mean score for intention to refuse sex in next 6 months than pretest, at  $16.7879 \pm 8.0303$  and  $18.7879 \pm 6.2087$ , respectively, which was also statistically insignificant (p-value =0.272)

After the 6 months intervention, there had a similar mean score for intention to use condom in next 6 months than pretest, at  $6.5151 \pm 2.8518$  and  $6.5455 \pm 2.2092$ , respectively, which was not statistically significant difference (p-value =0.960). (Table 41)

**4.2.2.5 Objective:** To compare “After program KAP scores” among “PEARL” group, “Teaching only” group, and “Control” group.

**Hypothesis:**

The after program KAP scores are higher in “PEARL” group than “Teaching only” group.

The after program KAP scores are higher in “PEARL” group than “Control” group.

The after program KAP scores are higher in “Teaching only” group than “Control” group.

Table 42 Pairwise comparisons among groups for Post 6 months (KOP)

Groups	Mean ± SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	13.2121 ± 3.0286	Teaching	<b>4.6667</b>	2.9781	6.3552	< .001
		Control	<b>5.9091</b>	4.2205	7.5976	< .001
Teaching	8.5455 ± 2.6586	PEARL	<b>-4.6667</b>	-6.3552	-2.9781	< .001
		Control	1.2424	-.4461	2.9310	.228
Control	7.3438 ± 2.7790	PEARL	<b>-5.9091</b>	-7.5976	-4.2205	< .001
		Teaching	-1.2424	-2.9310	.4461	.228

Based on observed means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

KOP: Knowledge on puberty

After the 6 months intervention, sum of scores of knowledge on puberty among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were  $13.2121 \pm 3.0286$ ,  $8.5455 \pm 2.6586$ , and  $7.3438 \pm 2.7790$ , respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value <0.001).

There had a higher mean score in “Teaching only” than “Control’ group”, but which was statistically insignificant (p-value =0.228). (Table 42)

Table 43 Pairwise comparisons among groups for Post 6 months (KOAYP)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	4.8182 $\pm$ 0.8823	Teaching	0.2727	-.3243	.8697	.805
		Control	<b>0.8182</b>	.2212	1.4152	<b>.004</b>
Teaching	4.5455 $\pm$ 0.9385	PEARL	-0.2727	-.8697	.3243	.805
		Control	0.5455	-.0516	1.1425	.085
Control	4.0001 $\pm$ 1.1456	PEARL	<b>-0.8182</b>	-1.4152	-.2212	<b>.004</b>
		Teaching	-0.5455	-1.1425	.0516	.085

Based on observed means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

KOAYP: Knowledge on Adolescent Youth pregnancy

After the 6 months intervention, sum of scores of knowledge on adolescent and youth pregnancy among the three groups had a significant different. The “PEARL” group was 4.8182  $\pm$  0.8823, followed by “Teaching only” group 4.5455  $\pm$  0.9385, and “Control” group 4.0001  $\pm$  1.1456. There were significant different (p-value =0.004) between, “PEARL” group and “Control’ group”. There had higher mean scores in “PEARL” group than “Teaching only” group and “Teaching only” than “Control’ group”, but which was statistically insignificant (p-value =0.805 and p-value =0.085), respectively (Table 43).

Table 44 Pairwise comparisons among groups for Post 6 months (KOPP)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	15.1212 $\pm$ 2.8587	Teaching	<b>2.2727</b>	.6044	3.9410	<b>.004</b>
		Control	<b>6.2462</b>	4.1928	8.2996	<b>&lt; .001</b>
Teaching	12.8485 $\pm$ 2.6707	PEARL	<b>-2.2727</b>	-	-.6044	<b>.004</b>
		Control	<b>3.9735</b>	3.9410	5.9822	<b>&lt; .001</b>
Control	8.8750 $\pm$ 3.7994	PEARL	<b>-6.2462</b>	-	-	<b>&lt; .001</b>
		Teaching	<b>-3.9735</b>	8.2996	4.1928	<b>&lt; .001</b>

Based on observed means

*I* : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test

KOPP: Knowledge on pregnancy prevention

After the 6 months intervention, sum of scores of knowledge on pregnancy prevention among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were 15.1212  $\pm$  2.8587, 12.8485  $\pm$  2.6707, and 8.8750  $\pm$  3.7994, respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value =0.004), “PEARL” group and “Control’ group” (p-value <0.001), and “Teaching only” and “Control’ group” (p-value <0.001) (Table 44).

After the 6 months intervention, sum of scores of knowledge on induced abortion among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were 4.8182  $\pm$  0.8823, 4.001  $\pm$  1.6394, and 3.4849  $\pm$  1.5436, respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value =0.044), “PEARL” group and “Control’ group” (p-value <0.001).

There had a higher mean score in “Teaching only” than “Control’ group”, but which was statistically insignificant (p-value =0.472) (Table 45)

Table 45 Pairwise comparisons among groups for Post 6 months (KOIA)

Groups	Mean ± SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	4.8182 ± 0.8823	Teaching	<b><i>0.8182</i></b>	.0182	1.618	<b>.044</b>
		Control	<b><i>1.3333</i></b>	.5702	2.096	<b>&lt; .001</b>
Teaching	4.001 ± 1.6394	PEARL	<b><i>-0.8182</i></b>	-	-.0182	<b>.044</b>
		Control	0.5152	1.6182	1.475	.472
Control	3.4849 ± 1.5436	PEARL	<b><i>-1.3333</i></b>	-	-.5702	<b>&lt; .001</b>
		Teaching	-0.5152	2.0965	.4450	.472
				1.4753		

Based on observed means

***I*** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test

KOIA: Knowledge on Induced abortion

Table 46 Pairwise comparisons among groups for Post 6 months (ATUPP)

Groups	Mean ± SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	78.1818 ± 15.3592	Teaching	<b><i>16.0303</i></b>	7.5907	24.4699	<b>&lt; .001</b>
		Control	<b><i>16.3939</i></b>	7.9543	24.8336	<b>&lt; .001</b>
Teaching	62.1515 ± 12.1787	PEARL	<b><i>-16.0303</i></b>	-24.4699	-7.5907	<b>&lt; .001</b>
		Control	0.3636	-8.0760	8.8033	1.000
Control	61.7879 ± 14.4778	PEARL	<b><i>-16.3939</i></b>	-24.8336	-7.9543	<b>&lt; .001</b>
		Teaching	-0.3636	-8.8033	8.0760	1.000

Based on observed means

***I*** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni

ATUPP: Attitude towards unintended pregnancy prevention

After the 6 months intervention, sum of scores of Attitude towards unintended pregnancy prevention among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were  $4.8182 \pm 0.8823$ ,  $4.001 \pm 1.6394$ , and  $3.4849 \pm 1.5436$ , respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value =0.044), “PEARL” group and “Control” group” (p-value <0.001). There had a higher mean score in “Teaching only” than “Control’ group”, but which was statistically insignificant (p-value =0.472) (Table 46)

Table 47 Pairwise comparisons among groups for Post 6 months (ATIA)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	$21.1515 \pm 4.4590$	Teaching	<b>4.3333</b>	1.6572	7.0095	< .001
		Control	<b>6.3636</b>	3.6875	9.0398	< .001
Teaching	$16.8182 \pm 4.2680$	PEARL	<b>-4.3333</b>	-7.0095	-1.6572	< .001
		Control	2.0303	-.6458	4.7064	.203
Control	$14.7879 \pm 4.6486$	PEARL	<b>-6.3636</b>	-9.0398	-3.6875	< .001
		Teaching	-2.0303	-4.7064	.6458	.203

Based on observed means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

ATIA: Attitude towards induced abortion

After the 6 months intervention, sum of scores of Attitude towards induced abortion among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were  $21.1515 \pm 4.4590$ ,  $16.8182 \pm 4.2680$ , and  $14.7879 \pm 4.6486$ , respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control”

group” (p-value <0.001). There had a higher mean score in “Teaching only” than “Control’ group”, but which was not statistically significant (p-value =0.203) (Table 47)

Table 48 Pairwise comparisons among groups for Post 6 months (NORM)

Groups	Mean ± SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	16.4242 ± 3.6403	Teaching	<b>3.6364</b>	1.4792	5.7935	< .001
		Control	<b>3.3636</b>	1.2065	5.5208	.001
Teaching	12.7879 ± 3.3049	PEARL	<b>-3.6364</b>	-5.7935	-1.4792	< .001
		Control	-0.2727	-2.4299	1.8844	1.000
Control	13.0606 ± 3.8238	PEARL	<b>-3.3636</b>	-5.5208	-1.2065	.001
		Teaching	0.2727	-1.8844	2.4299	1.000

Based on observed means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

NORM: Norm for safe sex and induced abortion

After the 6 months intervention, sum of scores of norm for safe sex and induced abortion among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were 16.4242 ± 3.6403, 12.7879 ± 3.3049, and 13.0606 ± 3.8238, respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value =0.001). There had a similar mean score between “Teaching only” and “Control’ group”, which was not statistically significant (p-value =1.000) (Table 48)

Table 49 Pairwise comparisons among groups for Post 6 months (INTRS)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	25.9697 $\pm$ 5.4800	Teaching	<b>8.7272</b>	5.7266	11.7279	< .001
		Control	<b>9.1818</b>	5.0224	13.3413	< .001
Teaching	17.2424 $\pm$ 4.4019	PEARL	<b>-8.7272</b>	-11.7279	-5.7266	< .001
		Control	0.4546	-3.4793	4.3884	.989
Control	16.7879 $\pm$ 8.0303	PEARL	<b>-9.1818</b>	-13.3413	-5.0224	< .001
		Teaching	-0.4546	-4.3884	3.4793	.989

Based on observed means

*I*: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Dunnett T3 test

INTRS: Intension to refuse sex

After the 6 months intervention, sum of scores of intention to refuse sex in next 6 months among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were 25.9697  $\pm$  5.4800, 17.2424  $\pm$  4.4019, and 16.7879  $\pm$  8.0303, respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value =0.001). There had a higher mean score in “Teaching only” than “Control’ group”, but which was not statistically significant (p-value =0.989) (Table 49)

After the 6 months intervention, sum of scores of intention to use condom in next 6 months among the three groups were significant different. The “PEARL” group, “Teaching only” group and “Control” group were 9.1212  $\pm$  1.8330, 5.5455  $\pm$  1.6219, and 6.5151  $\pm$  2.8518, respectively. There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value =0.001). There had a lower mean score in “Teaching only” than “Control’ group”, but which was not statistically significant (p-value =0.257) (Table 50)



Table 50 Pairwise comparisons among groups for Post 6 months (INTUC)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	9.1212 $\pm$ 1.8330	Teaching	<b>3.5758</b>	2.5318	4.6198	< .001
		Control	<b>2.6061</b>	1.1542	4.0580	< .001
Teaching	5.5455 $\pm$ 1.6219	PEARL	<b>-3.5758</b>	-4.6198	-2.5318	< .001
		Control	-0.9697	-2.3780	.4386	.257
Control	6.5151 $\pm$ 2.8518	PEARL	<b>-2.6061</b>	-4.0580	-1.1542	< .001
		Teaching	0.9697	-.4386	2.3780	.257

Based on observed means

**I**: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons: Dunnett T3

INTUC: Intension to use condom

Table 51 Pairwise comparisons among groups for Post 6 months (Test Statistics<sup>a,b</sup>)

Variable	Groups	N	Mean rank	$\chi^2$ (df)	p-value	
KOPP	PEARL	32	77.35	62.365	2	< .001
	Teaching	32	48.09			
	Control	32	22.23			
KOIA	PEARL	32	66.30	26.676	2	< .001
	Teaching	32	49.39			
	Control	32	34.30			
INTRS	PEARL	32	75.95	40.649	2	< .001
	Teaching	32	36.30			
	Control	32	37.74			
INTUC	PEARL	32	74.29	40.875	2	< .001
	Teaching	32	30.79			
	Control	32	44.92			

a. Kruskal Wallis Test

b. Grouping Variable: Group GRP :

Additionally, in case of assumed not equal variance, kruskal Wallis test was also done apart from Dunnett T3, for knowledge on pregnancy prevention, knowledge on

induced abortion, intention to refuse sex and intention to use condom in next 6 months, also showed statistical significant different results ( $p$ -value  $<0.001$ ). (Table 51)

**4.2.2.6** Pairwise comparisons of mean scores among timing (within groups) and among groups (between groups) were analyzed by General Linear Model, repeated measures (4 factors \* 3 groups)

Table 52 Pairwise comparisons among timing of Knowledge on puberty (KOP)

Times KOP	Mean $\pm$ SD	Times KOP	Mean Difference	95% CI <sup>a</sup>		p- value <sup>a</sup>
				Lower	Upper	
Pretest	6.609 $\pm$ 1.4937	1 month	<b>-4.062</b>	-4.936	-3.189	<b>&lt; .001</b>
		3 months	<b>-3.301</b>	-4.234	-2.368	<b>&lt; .001</b>
		6 months	<b>-3.092</b>	-4.054	-2.129	<b>&lt; .001</b>
1 month	10.671 $\pm$ 1.125	Pretest	<b>4.062</b>	3.189	4.936	<b>&lt; .001</b>
		3 months	0.761	-0.183	1.706	0.194
		6 months	<b>0.971</b>	-0.046	1.988	<b>0.07</b>
3 months	9.910 $\pm$ 1.5223	Pretest	<b>3.301</b>	2.368	4.234	<b>&lt; .001</b>
		1 month	-0.761	-1.706	0.183	0.194
		6 months	0.21	-0.631	1.05	1
6 months	9.700 $\pm$ 1.6429	Pretest	<b>3.092</b>	2.129	4.054	<b>&lt; .001</b>
		1 month	<b>-0.971</b>	-1.988	0.046	<b>0.07</b>
		3 months	-0.21	-1.05	0.631	1

Based on estimated marginal means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons: Bonferoni

Concl: 1. Pretest is significant lower than post 1 month, 3 months and 6 months

2. Post 1 month is not significant from 3 months and 6 months

3. Post 3 months is not significant from 6 months

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of knowledge on puberty among the four timing were  $6.609 \pm 1.4937$ ,  $10.671 \pm 1.1259$ ,  $9.910 \pm 1.5223$ , and  $9.700 \pm 1.6429$ , respectively. (Table 52) It was found that pretest was significant lower than post 1 month, post 3 months and post 6 months (p-value  $<0.001$ ). Whereas, post 1 month was not significant lower from post 3 months and post 6 months (p-value  $>0.05$ ). And also post 3 months was not significant lower from post 6 months (p-value  $>0.05$ ).

Table 53 Pairwise comparisons among groups for Knowledge on puberty (KOP)

Groups KOP	Mean $\pm$ SD	Groups KOP	Mean Difference	95% CI <sup>a</sup>		p- value <sup>a</sup>
				Lower	Upper	
PEARL	$11.591 \pm 1.3959$	Teaching	<b>2.561</b>	1.7242	3.397	<b>&lt; .001</b>
		Control	<b>4.544</b>	3.7011	5.387	<b>&lt; .001</b>
Teaching	$9.030 \pm 1.3959$	PEARL	<b>-2.5606</b>	-3.397	1.7242	<b>&lt; .001</b>
		Control	<b>1.9834</b>	1.1405	2.8263	<b>&lt; .001</b>
Control	$7.047 \pm 1.4132$	PEARL	<b>-4.544</b>	-5.387	3.7011	<b>&lt; .001</b>
		Teaching	<b>-1.9834</b>	2.8263	1.1405	<b>&lt; .001</b>

Based on estimated marginal means

**I**: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

Pairwise comparison of the mean scores for knowledge on puberty, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group  $11.591 \pm 1.3959$ , followed by “Teaching only” group  $9.030 \pm 1.3959$ , and “Control” group  $7.047 \pm 1.4132$ . There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value <0.001), and “Teaching only” and “Control’ group” (p-value <0.001). (Table 53) (Figure 9)

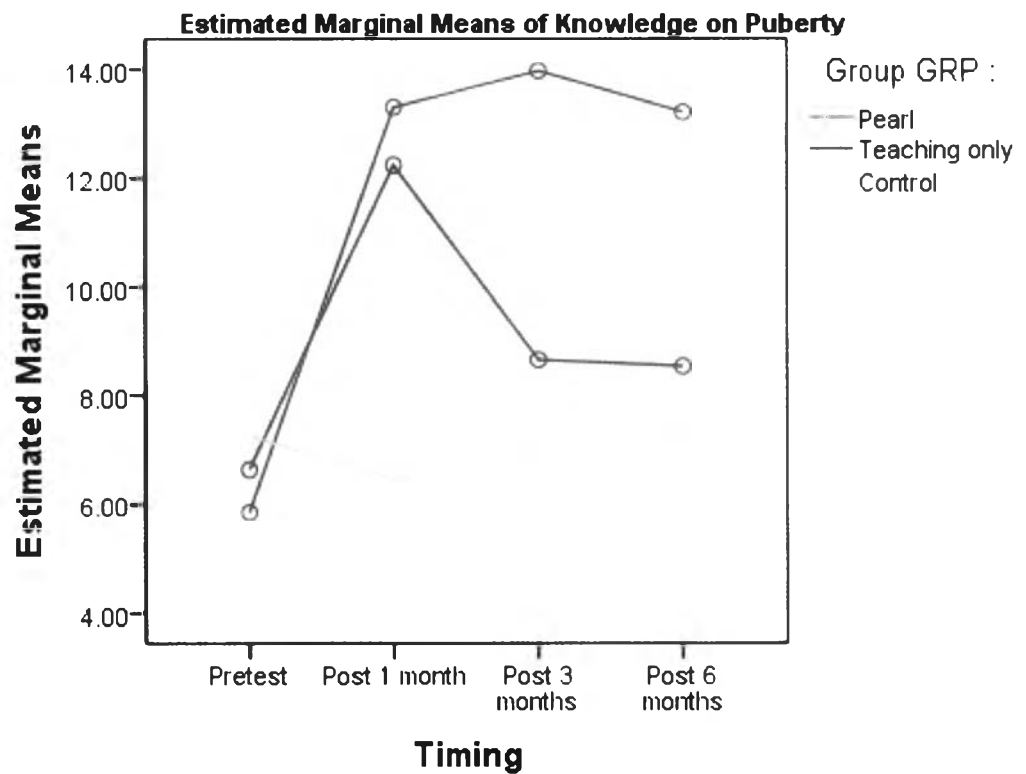


Figure 7 Pairwise comparisons among groups and overtime for Knowledge on puberty (KOP)

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of knowledge on adolescent and youth pregnancy among the four timing were  $3.5657 \pm 0.8157$ ,  $4.2323 \pm 0.6779$ ,  $4.2424 \pm 0.7468$ , and  $4.4545 \pm 0.5745$ , respectively. (Table 54) It was found that pretest was significant lower than post 1 month, post 3 months and post 6 months (p-value  $<0.001$ ). Whereas, post 1 month was not significant lower from post 3 months and post 6 months (p-value  $>0.05$ ). And also post 3 months was not significant lower from post 6 months (p-value  $>0.05$ ).

Table 54 Pairwise comparisons among timing of Knowledge on Adolescent and Youth Pregnancy

Times KOAYP	Mean $\pm$ SD	Times KOAYP	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
Pretest	$3.5657 \pm 0.815$	1 month	<b>-0.667</b>	-1.125	-.208	<b>.001</b>
		3 months	<b>-0.677</b>	-1.198	-.156	<b>.004</b>
		6 months	<b>-0.889</b>	-1.374	-.404	<b>&lt; .001</b>
1 month	$4.2323 \pm 0.677$	Pretest	<b>0.667</b>	.208	1.125	<b>.001</b>
		3 months	-0.01	-.411	.391	1.000
		6 months	-0.222	-.634	.190	.896
3 months	$4.2424 \pm 0.746$	Pretest	<b>0.667</b>	.156	1.198	<b>.004</b>
		1 month	0.01	-.391	.411	1.000
		6 months	-0.212	-.603	.179	.883
6 months	$4.4545 \pm 0.574$	Pretest	<b>0.889</b>	.404	1.374	<b>&lt; .001</b>
		1 month	0.222	-.190	.634	.896
		3 months	0.212	-.179	.603	.883

Based on estimated marginal means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

Concl: 1. Pretest is significant lower than post 1 month, 3 months and 6 months

2. Post 1 month is not significant from 3 months and 6 months

Table 55 Pairwise comparisons among groups for Knowledge on AY Preg (KOAYP)

Groups KOAYP	Mean $\pm$ SD	Groups KOAYP	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
PEARL	4.576 $\pm$ 0.7008	Teaching	<b>0.5909</b>	.1720	1.0098	<b>0.003</b>
		Control	<b>0.7652</b>	.3463	1.1840	<b>0.0001</b>
Teaching	3.985 $\pm$ 0.7008	PEARL	<b>-0.5909</b>	-1.0098	-.1720	<b>0.003</b>
		Control	0.1742	-.2446	.5931	0.94
Control	3.811 $\pm$ 0.7008	PEARL	<b>-0.7652</b>	-1.1840	-.3463	<b>0.0001</b>
		Teaching	-0.1742	-.5931	.2446	0.94

Based on observed means

*I*: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

Pairwise comparison of the mean scores for knowledge on adolescent and youth pregnancy, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group 4.576  $\pm$  0.7008, followed by “Teaching only” group 3.985  $\pm$  0.7008, and “Control” group 3.811  $\pm$  0.7008. There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), and “PEARL” group and “Control’ group” (p-value <0.001). Even though, there had a higher mean scores in “Teaching only” than “Control’ group”, which was not statistically significant (p-value =0.94) (Table 55) (Figure 10)

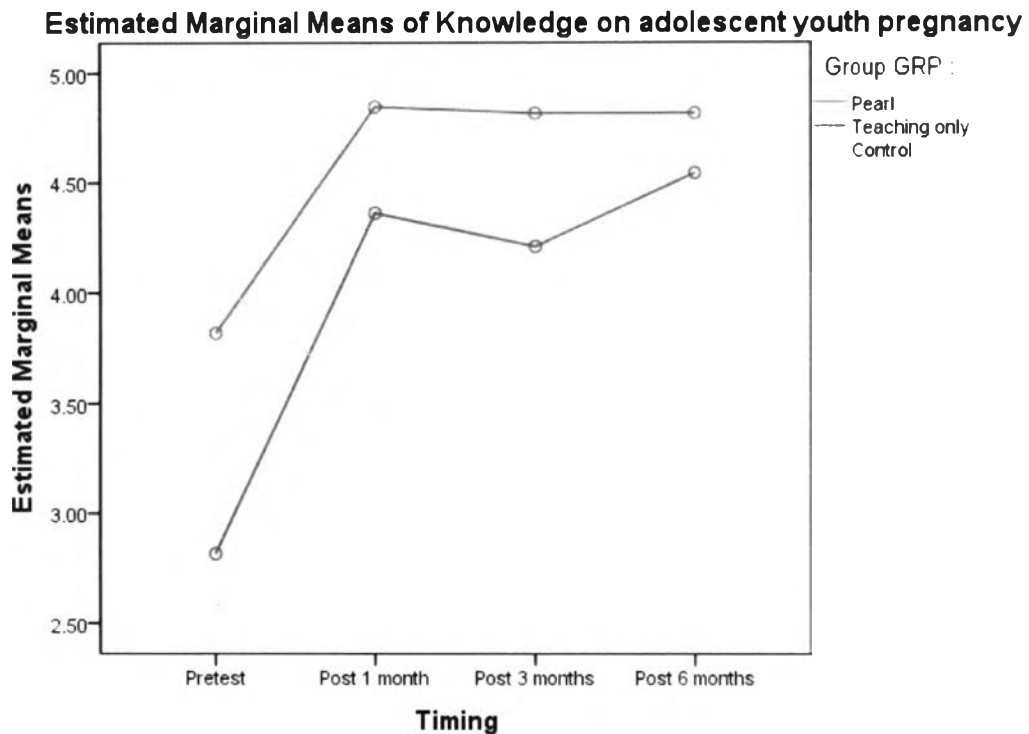


Figure 8 Pairwise comparisons among groups and overtime for knowledge on adolescent and youth pregnancy (KOAYP)

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of knowledge on pregnancy prevention among the four timing were  $9.4523 \pm 2.0336$ ,  $11.9271 \pm 1.4132$ ,  $9.8684 \pm 1.5166$ , and  $12.2816 \pm 1.8210$ , respectively. (Table 56) It was found that pretest was significant lower than post 1 month and post 6 months (p-value  $<0.001$ ). Whereas, post 1 month was significant lower from post 3 months (p-value  $<0.001$ ) and also post 3 months was significant lower from post 6 months (p-value  $<0.001$ ).

Table 56 Pairwise comparisons among timing of Knowledge on Pregnancy Prevention

Times KOPP	Mean $\pm$ SD	Times KOPP	Mean Difference	95% CI <sup>a</sup>		p- value <sup>a</sup>
				Lower	Upper	
Pretest	9.4523 $\pm$ 2.0336	1 month	<b>-2.475</b>	-3.528	-	< .001
		3 months	-0.416	-1.627	.795	1.000
		6 months	<b>-2.829</b>	-	1.483	< .001
1 month	11.9271 $\pm$ 1.413	Pretest	<b>2.475</b>	1.422	3.528	< .001
		3 months	<b>2.059</b>	1.054	3.063	< .001
		6 months	-0.354	-1.442	.733	1.000
3 months	9.8684 $\pm$ 1.5166	Pretest	0.416	-.795	1.627	1.000
		1 month	<b>-2.059</b>	-3.063	-	< .001
		6 months	<b>-2.413</b>	-3.366	-	< .001
6 months	12.2816 $\pm$ 1.821	Pretest	<b>2.829</b>	1.483	4.176	< .001
		1 month	0.354	-.733	1.442	1.000
		3 months	<b>2.413</b>	1.460	3.366	< .001

Based on estimated marginal means

**I**: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

Concl: 1. Pretest is significant lower than post 1 month and 6 months

2. Post 1 month is significant from post 3 months

3. Post 3 months significant lower than post 6 months



Table 57 Pairwise comparisons among groups for Knowledge on Pregnancy Prevention (KOPP)

Groups KOPP	Mean ± SD	Groups KOPP	Mean Difference	95% CI		p- value
				Lower	Upper	
PEARL	13.485 ± 1.551	Teachin	<b>2.4242</b>	1.4940	3.3544	< .001
		Control	<b>5.3833</b>	4.4458	6.3207	< .001
Teachin	11.061 ± 1.551	PEARL	<b>-2.4242</b>	-3.354	-1.494	< .001
		Control	<b>2.959</b>	2.0216	3.8965	< .001
Control	8.102 ± 1.5740	PEARL	<b>-5.3833</b>	-6.320	-4.445	< .001
		Teachin	<b>-2.959</b>	-3.896	-2.021	< .001

Based on observed means

**I**: The mean difference is significant at the 0.05 level

Adjusted for multiple comparisons by  
Bonferoni test

Pairwise comparison of the mean scores for knowledge on pregnancy prevention, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group  $13.485 \pm 1.5510$ , followed by “Teaching only” group  $11.061 \pm 1.5510$ , and “Control” group  $8.102 \pm 1.5740$ . There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value <0.001), and “Teaching only” and “Control’ group” (p-value <0.001). (Table 57) (Figure 11)

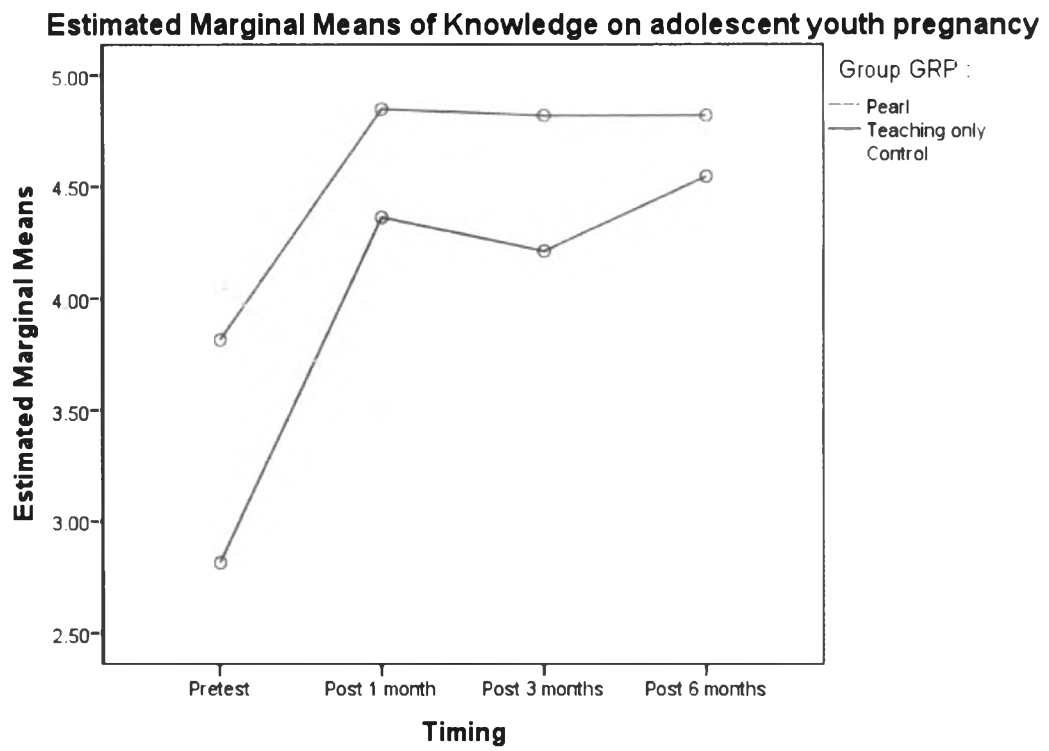


Figure 9 Pairwise comparisons among groups and overtime for knowledge on pregnancy prevention (KOPP)

Table 58 Pairwise comparisons among timing of Knowledge on Induced abortion (KOIA)

Times KOIA	Mean $\pm$ SD	Times KOIA	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
Pretest	3.6768 $\pm$ 0.7927	1 month	<b>-0.586</b>	-1.061	-.111	<b>0.008</b>
		3 months	-0.424	-.969	.120	0.231
		6 months	-0.424	-.969	.120	0.231
1 month	4.2626 $\pm$ 0.6319	Pretest	<b>0.586</b>	.111	1.061	<b>0.008</b>
		3 months	0.162	-.297	.620	1.000
		6 months	0.162	-.297	.620	1.000
3 months	4.1010 $\pm$ 0.8042	Pretest	0.424	-.120	.969	0.231
		1 month	-0.162	-.620	.297	1.000
		6 months	0	.000	.000	
6 months	4.1010 $\pm$ 0.7920	Pretest	0.424	-.120	.969	0.231
		1 month	-0.162	-.620	.297	1.000
		3 months	0	.000	.000	

Based on estimated marginal means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons: Bonferoni

Concl: 1. Pretest is significant lower than post 1 month

2. Post 1 month is not significant from 3 months and 6 months

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of knowledge on induced abortion among the four timing were 3.6768  $\pm$  0.7927, 4.2626  $\pm$  0.6319, 4.1010  $\pm$  0.8042, and 4.1010  $\pm$  0.7920, respectively. (Table 58) It was found that only pretest was significant lower than post 1 month (p-value <0.001). Whereas, post 1 month was not significant lower from post 3 months and post 6 months (p-value >0.05) and also post 3 months was not significant lower from post 6 months (p-value >0.05).

Table 59 Pairwise comparisons among groups for Knowledge on Induced abortion (KOIA)

Groups KOIA	Mean ± SD	Groups KOIA	Mean Difference	95% CI		p-value
				Lower	Upper	
PEARL	4.553 ± 0.8330	Teaching	0.4924	-.0056	.9904	0.054
		Control	<b>1.0606</b>	.5626	1.5586	< .001
Teaching	4.061 ± 0.8330	PEARL	-0.4924	-.9904	.0056	0.054
		Control	<b>0.5682</b>	.0702	1.0662	<b>0.02</b>
Control	3.492 ± 0.8330	PEARL	<b>-1.0606</b>	-1.5586	-.5626	< .001
		Teaching	<b>-0.5682</b>	-1.0662	-.0702	<b>0.02</b>

Based on observed means

**I**: The mean difference is significant at the 0.05 level

Adjusted for multiple comparisons by Bonferoni test

Pairwise comparison of the mean scores for knowledge on induced abortion among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group  $4.553 \pm 0.8330$ , followed by “Teaching only” group  $4.061 \pm 0.8330$ , and “Control” group  $3.492 \pm 0.8330$ . There were significant different between “PEARL” group and “Control’ group” and “Teaching only” and “Control’ group” (p-value <0.001). Even though, there had a higher mean scores in “PEARL” group than “Teaching only” group, which was not statistically significant (p-value =0.054). (Table 59) (Figure 12)

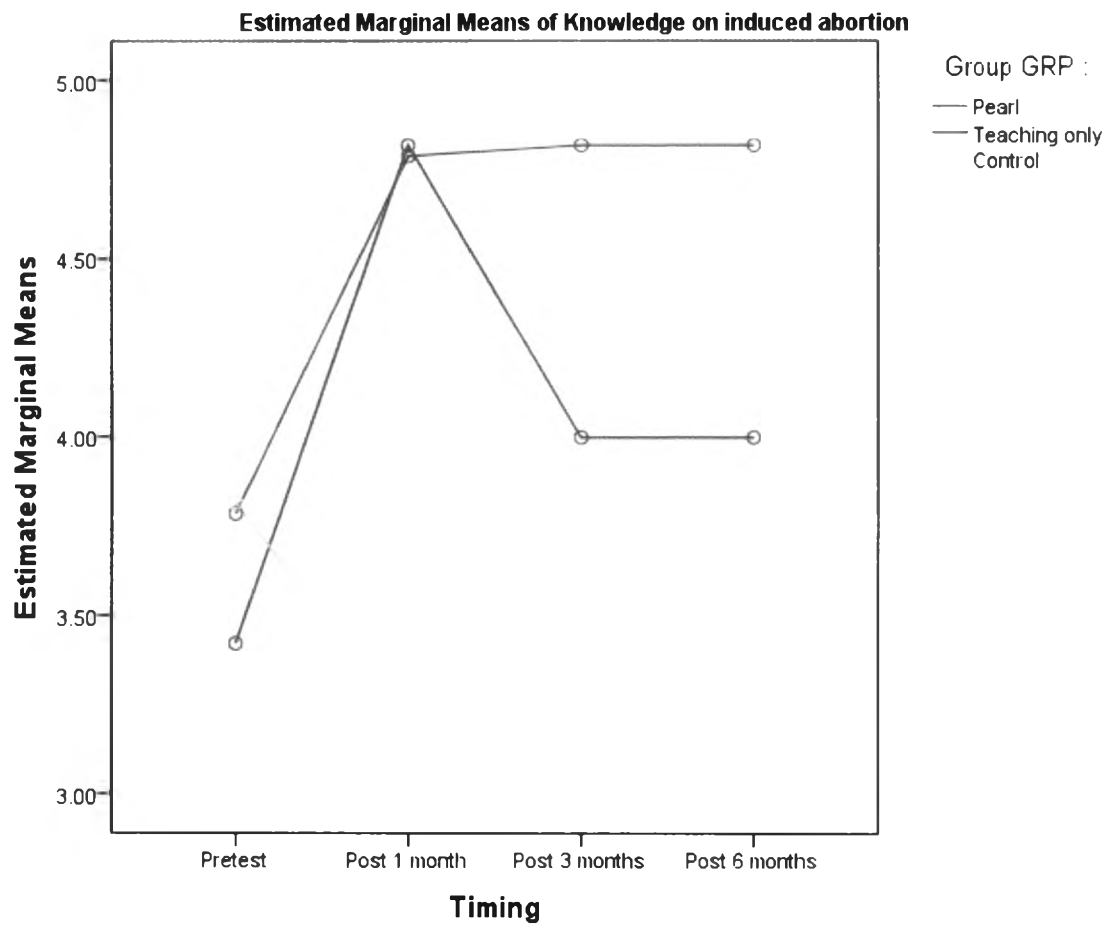


Figure 10 Pairwise comparisons among groups and overtime for knowledge on induced abortion (KOIA)

Table 60 Pairwise comparisons among timing of (ATUPP)

Times ATUPP	Mean $\pm$ SD	Times ATUPP	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
Pretest	63.5859 $\pm$ 4.0442	1 month	-2.303	-4.917	.311	0.118
		3 months	-3.222	-6.782	.337	0.099
		6 months	-3.788	-8.345	.769	0.165
1 month	65.8889 $\pm$ 3.6938	Pretest	2.303	-.311	4.917	0.118
		3 months	-0.919	-4.326	2.488	1.000
		6 months	-1.485	-5.803	2.834	1.000
3 months	66.8081 $\pm$ 6.1754	Pretest	3.222	-.337	6.782	0.099
		1 month	0.919	-2.488	4.326	1.000
		6 months	-0.566	-4.137	3.006	1.000
6 months	67.3737 $\pm$ 7.9988	Pretest	3.788	-.769	8.345	0.165
		1 month	1.485	-2.834	5.803	1.000
		3 months	0.566	-3.006	4.137	1.000

Based on estimated marginal means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons Bonferoni test

Concl: 1. Pretest is not significant from post 1 month, 3 months and 6 months

2. Post 1 month is not significant from 3 months and 6 months

3. Post 3 months is not significant from 6 months

Attitude towards unintended Pregnancy Prevention (ATUPP)

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of Attitude towards unintended Pregnancy Prevention among the four timing were 63.5859  $\pm$  4.0442, 65.8889  $\pm$  3.6938, 66.8081  $\pm$  6.1754, and 67.3737  $\pm$  7.9988, respectively. (Table 60) It was found that pretest was lower than post 1 month, post 3 months and post 6 months but which was not statistically significant difference (p-value >0.05). And also post 1 month was not significant lower from post 3 months and post 6 months (p-value >0.05) and post 3 months was not significant lower from post 6 months (p-value >0.05).

Table 61 Pairwise comparisons among groups of (ATUPP)

Groups ATUPP	Mean ± SD	Groups ATUPP	Mean Difference	95% CI		p-value
				Lower	Upper	
PEARL	70.5378 ± 5.4401	Teaching	<b>5.1818</b>	1.920	8.443	<b>0.001</b>
		Control	<b>8.6894</b>	5.428	11.951	<b>&lt;.001</b>
Teaching	65.3561 ± 5.4401	PEARL	<b>-5.1818</b>	-8.443	-1.920	<b>0.001</b>
		Control	<b>3.5076</b>	.246	6.769	<b>0.031</b>
Control	61.84848 ± 5.4401	PEARL	<b>-8.6894</b>	-11.951	-5.428	<b>&lt;.001</b>
		Teaching	<b>-3.5076</b>	-6.769	-.246	<b>0.031</b>

Based on observed means

*I*: The mean difference is significant at the 0.05 level

Adjusted for multiple comparisons by Bonferoni test

Attitude towards unintended Pregnancy Prevention (ATUPP)

Pairwise comparison of the mean scores for Attitude towards unintended Pregnancy Prevention, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group  $70.5378 \pm 5.4401$ , followed by “Teaching only” group  $65.3561 \pm 5.4401$ , and “Control” group  $61.84848 \pm 5.4401$ . There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value <0.001), and “Teaching only” and “Control’ group” (p-value =0.031). (Table 61) (Figure 13)

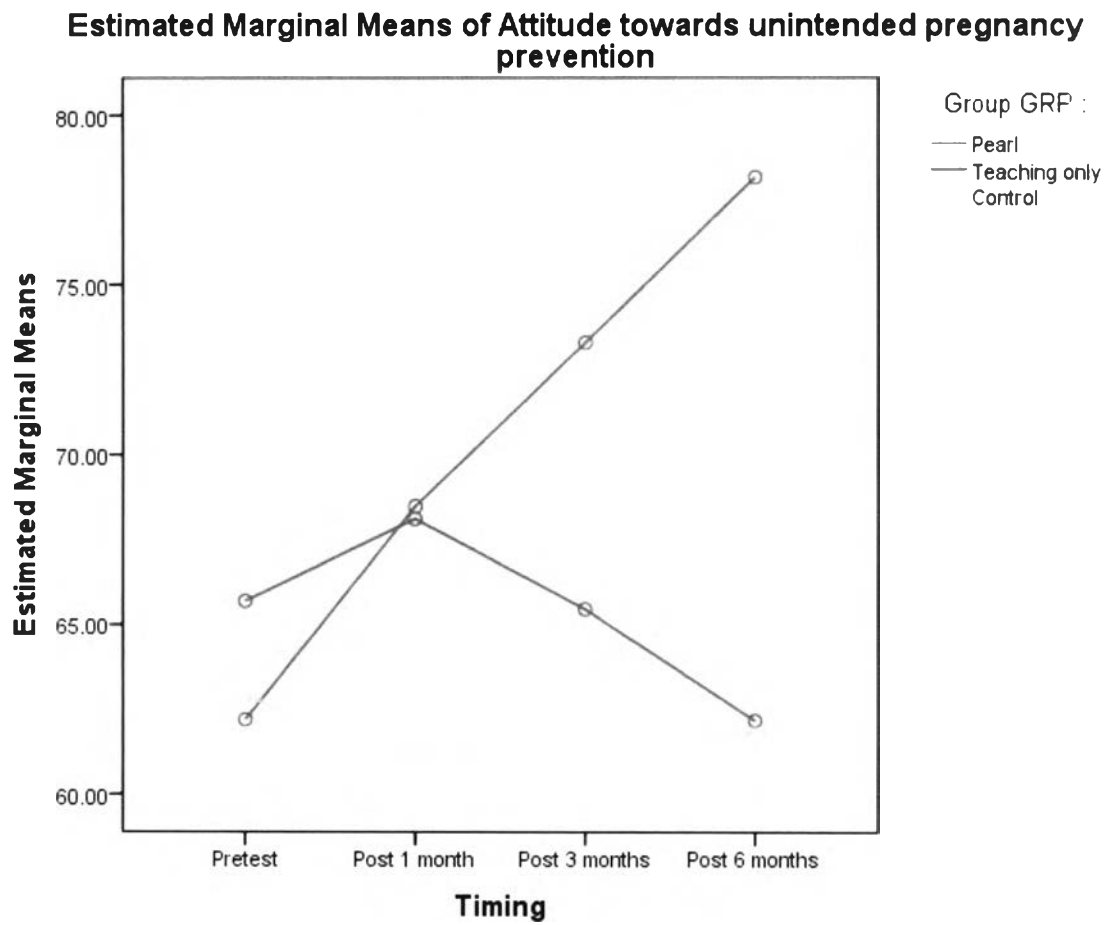


Figure 11 Pairwise comparisons among groups and overtime for Attitude towards unintended pregnancy prevention (ATUPP)



Table 62 Pairwise comparisons among timing for (ATIA)

Times ATIA	Mean $\pm$ SD	Times ATIA	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
Pretest	16.7778 $\pm$ 1.9532	1 month	0.333	-.936	1.602	1.000
		3 months	-0.848	-2.168	.471	.518
		6 months	-0.808	-2.402	.786	1.000
1 month	16.4444 $\pm$ 1.8842	Pretest	-0.333	-1.602	.936	1.000
		3 months	-1.182	-2.372	.008	.053
		6 months	-1.141	-2.564	.281	.199
3 months	17.6263 $\pm$ 1.8900	Pretest	0.848	-.471	2.168	.518
		1 month	1.182	-.008	2.372	.053
		6 months	0.04	-1.292	1.373	1.000
6 months	17.5859 $\pm$ 2.5343	Pretest	0.808	-.786	2.402	1.000
		1 month	1.141	-.281	2.564	.199
		3 months	-0.04	-1.373	1.292	1.000

Based on estimated marginal means

**I**: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

Concl: 1. Pretest is not significant from post 1 month, 3 months and 6 months

2. Post 1 month is not significant from 3 months and 6 months

3. Post 3 months is not significant from 6 months

Attitude towards Induced Abortion (ATIA)

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of Attitude towards induced abortion among the four timing were 16.7778  $\pm$  1.9532, 16.4444  $\pm$  1.8842, 17.6263  $\pm$  1.8900, and 17.5859  $\pm$  2.5343, respectively. (Table 62) It was found that pretest was lower than post 1 month, post 3 months and post 6 months but which was not statistically significant difference (p-value >0.05). And also post 1 month was not significant lower from post 3 months and post 6 months (p-value >0.05) and post 3 months was not significant lower from post 6 months (p-value >0.05).

Table 63 Pairwise comparisons among groups for (ATIA)

Groups ATIA	Mean ± SD	Groups ATIA	Mean Difference	95% CI		p-value
				Lower	Upper	
PEARL	18.7273 ± 1.9244	Teaching	<b>1.9318</b>	.7757	3.0879	< .001
		Control	<b>2.9242</b>	1.7682	4.0803	< .001
Teaching	16.7955 ± 1.9244	PEARL	<b>-1.9318</b>	-3.0879	-.7757	< .001
		Control	0.9924	-.1637	2.1485	.117
Control	15.8030 ± 1.9244	PEARL	<b>-2.9242</b>	-4.0803	-1.7682	< .001
		Teaching	-0.9924	-2.1485	.1637	.117

Based on observed means

**I**: The mean difference is significant at the 0.05 level

Adjusted for multiple comparisons by Bonferoni test  
Attitude towards Induced Abortion (ATIA)

Pairwise comparison of the mean scores for attitude towards induced abortion, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group  $18.7273 \pm 1.9244$ , followed by “Teaching only” group  $16.7955 \pm 1.9244$ , and “Control” group  $15.8030 \pm 1.9244$ . There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), and “PEARL” group and “Control’ group” (p-value <0.001). Even though, there had a higher mean scores in “Teaching only” than “Control’ group”, which was not statistically significant (p-value =0.117). (Table 63) (Figure 14)

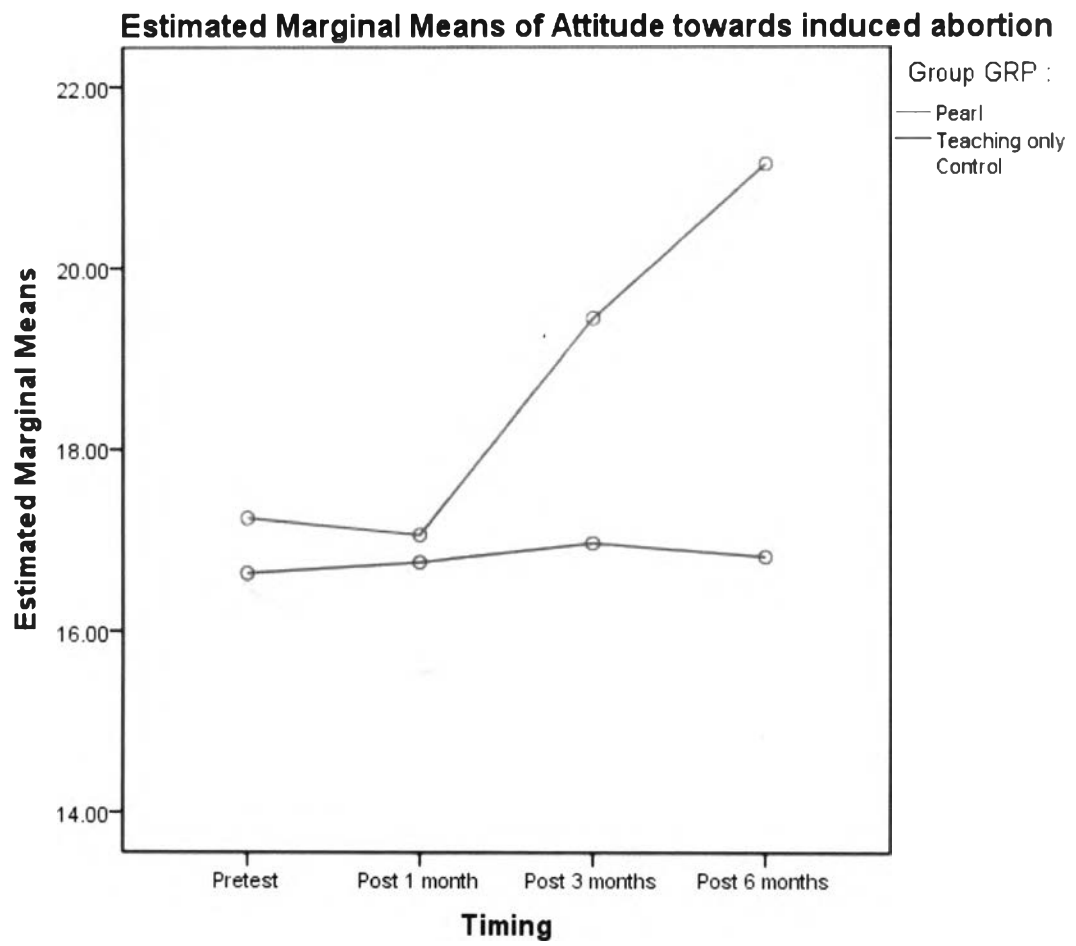


Figure 12 Pairwise comparisons among groups and overtime for Attitude towards induced abortion (ATIA)

Table 64 Pairwise comparisons among timing of Norm for safe sex (NORM)

Times NORM	Mean $\pm$ SD	Times NORM	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
Pretest	10.7374 $\pm$ 1.8727	1 month	<b>-2.364</b>	-3.612	-1.115	< .001
		3 months	<b>-3.061</b>	-4.262	-1.860	< .001
		6 months	<b>-3.354</b>	-4.611	-2.096	< .001
1 month	13.1010 $\pm$ 1.5166	Pretest	<b>2.364</b>	1.115	3.612	< .001
		3 months	-0.697	-1.685	.291	.362
		6 months	-0.99	-2.221	.241	.196
3 months	13.7980 $\pm$ 1.5855	Pretest	<b>3.061</b>	1.860	4.262	< .001
		1 month	0.697	-.291	1.685	.362
		6 months	-0.293	-1.397	.811	1.000
6 months	14.0909 $\pm$ 2.0421	Pretest	<b>3.354</b>	2.096	4.611	< .001
		1 month	0.99	-.241	2.221	.196
		3 months	0.293	-.811	1.397	1.000

Based on estimated marginal means

**I** : The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

Concl: 1. Pretest is significant lower than post 1 month, 3 months and 6 months

2. Post 1 month is not significant from 3 months and 6 months

3. Post 3 months is not significant from 6 months

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of norm for safe sex behavior and induced abortion among the four timing were 10.7374  $\pm$  1.8727, 13.1010  $\pm$  1.5166, 13.7980  $\pm$  1.5855, and 14.0909  $\pm$  2.0421, respectively. (Table 64) It was found that pretest was significant lower than post 1 month, post 3 months and post 6 months (p-value <0.001). Whereas, post 1 month was not significant lower from post 3 months and post 6 months (p-value >0.05). And also post 3 months was not significant lower from post 6 months (p-value >0.05).

Table 65 Pairwise comparisons among groups for Norm for safe sex (NORM)

Groups	Mean $\pm$ SD	Groups	Mean Difference	95% CI		p-value
				Lower	Upper	
NORM		NORM				
PEARL	13.9318 $\pm$ 1.5510	Teaching	<b>1.2273</b>	.2971	2.1574	<b>.005</b>
		Control	<b>1.7727</b>	.8426	2.7029	<b>&lt; .001</b>
Teaching	12.7046 $\pm$ 1.5510	PEARL	<b>-1.2273</b>	-2.1574	-.2971	<b>.005</b>
		Control	0.5455	-.3847	1.4756	.469
Control	12.1591 $\pm$ 1.5510	PEARL	<b>-1.7727</b>	-2.7029	-.8426	<b>&lt; .001</b>
		Teaching	-0.5455	-1.4756	.3847	.469

Based on observed means

**I**: The mean difference is significant at the 0.05 level

Adjusted for multiple comparisons by Bonferoni test

Pairwise comparison of the mean scores for norm for safe sex behavior and induced abortion, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group 13.9318  $\pm$  1.5510, followed by “Teaching only” group 12.7046  $\pm$  1.5510, and “Control” group 12.1591  $\pm$  1.5510. There were significant different between “PEARL” group and “Teaching only” group (p-value =0.005), and “PEARL” group and “Control’ group” (p-value <0.001). Even though, there had a higher mean scores in “Teaching only” than “Control’ group”, which was not statistically significant (p-value =0.117) (Table 65) (Figure 15)

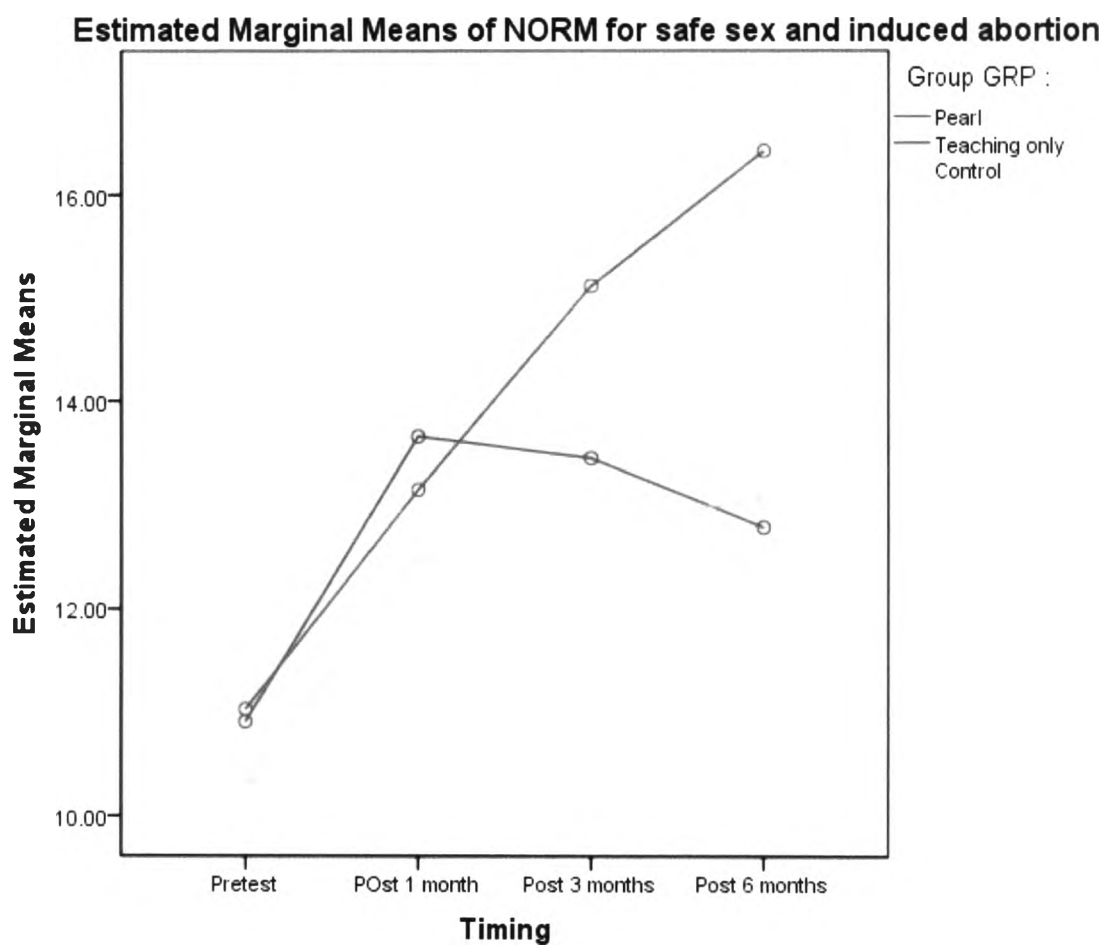


Figure 13 Pairwise comparisons among groups and overtime for norm for safe sex behavior and induced abortion (NORM)

Table 66 Pairwise comparisons among timing of Intension to refuse sex (INTRS)

Times INTRS	Mean $\pm$ SD	Times INTRS	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
Pretest	19.9899 $\pm$ 3.2629	1 month	0.869	-1.357	3.094	1.000
		3 months	0.091	-2.147	2.329	1.000
		6 months	-0.01	-2.336	2.316	1.000
1 month	19.1212 $\pm$ 3.7397	Pretest	-0.869	-3.094	1.357	1.000
		3 months	-0.778	-3.233	1.677	1.000
		6 months	-0.879	-3.197	1.440	1.000
3 months	19.8990 $\pm$ 3.2227	Pretest	-0.091	-2.329	2.147	1.000
		1 month	0.778	-1.677	3.233	1.000
		6 months	-0.101	-2.120	1.918	1.000
6 months	20.0000 $\pm$ 3.5016	Pretest	0.01	-2.316	2.336	1.000
		1 month	0.879	-1.440	3.197	1.000
		3 months	0.101	-1.918	2.120	1.000

Based on estimated marginal means

**I**: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni test

Concl: 1. Pretest is not significant from post 1 month, 3 months and 6 months

2. Post 1 month is not significant from 3 months and 6 months

3. Post 3 months is not significant from 6 months

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of intention to refuse sex in next 6 months among the four timing were 19.9899  $\pm$  3.2629, 19.1212  $\pm$  3.7397, 19.8990  $\pm$  3.2227, and 20.0000  $\pm$  3.5016, respectively (Table 66). It was found that pretest was more or less similar to post 1 month, post 3 months and post 6 months and which was not statistically significant difference (p-value >0.05). And also post 1 month was not significant lower from post 3 months and post 6 months (p-value >0.05) and post 3 months was not significant lower from post 6 months (p-value >0.05).

Table 67 Pairwise comparisons among groups for Intension to refuse sex (INTRS)

Groups INTRS	Mean ± SD	Groups INTRS	Mean Difference	95% CI		p-value
				Lower	Upper	
PEARL	22.5379 ± 3.0733	Teaching	<b>3.205</b>	1.360	5.049	< .001
		Control	<b>5.152</b>	3.307	6.996	< .001
Teaching	19.3333 ± 3.0733	PEARL	<b>-3.205</b>	-5.049	-1.360	< .001
		Control	<b>1.947</b>	.103	3.791	.035
Control	17.3864 ± 3.0733	PEARL	<b>-5.152</b>	-6.996	-3.307	< .001
		Teaching	<b>-1.947</b>	-3.791	-.103	.035

Based on observed means

**I**: The mean difference is significant at the 0.05 level

Adjusted for multiple comparisons by Bonferoni Test

Pairwise comparison of the mean scores for intention to refuse sex in next 6 months, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group  $22.5379 \pm 3.0733$ , followed by “Teaching only” group  $19.3333 \pm 3.0733$ , and “Control” group  $17.3864 \pm 3.0733$ . There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), “PEARL” group and “Control’ group” (p-value <0.001), and “Teaching only” and “Control’ group” (p-value =0.035). (Table 67) (Figure 16)



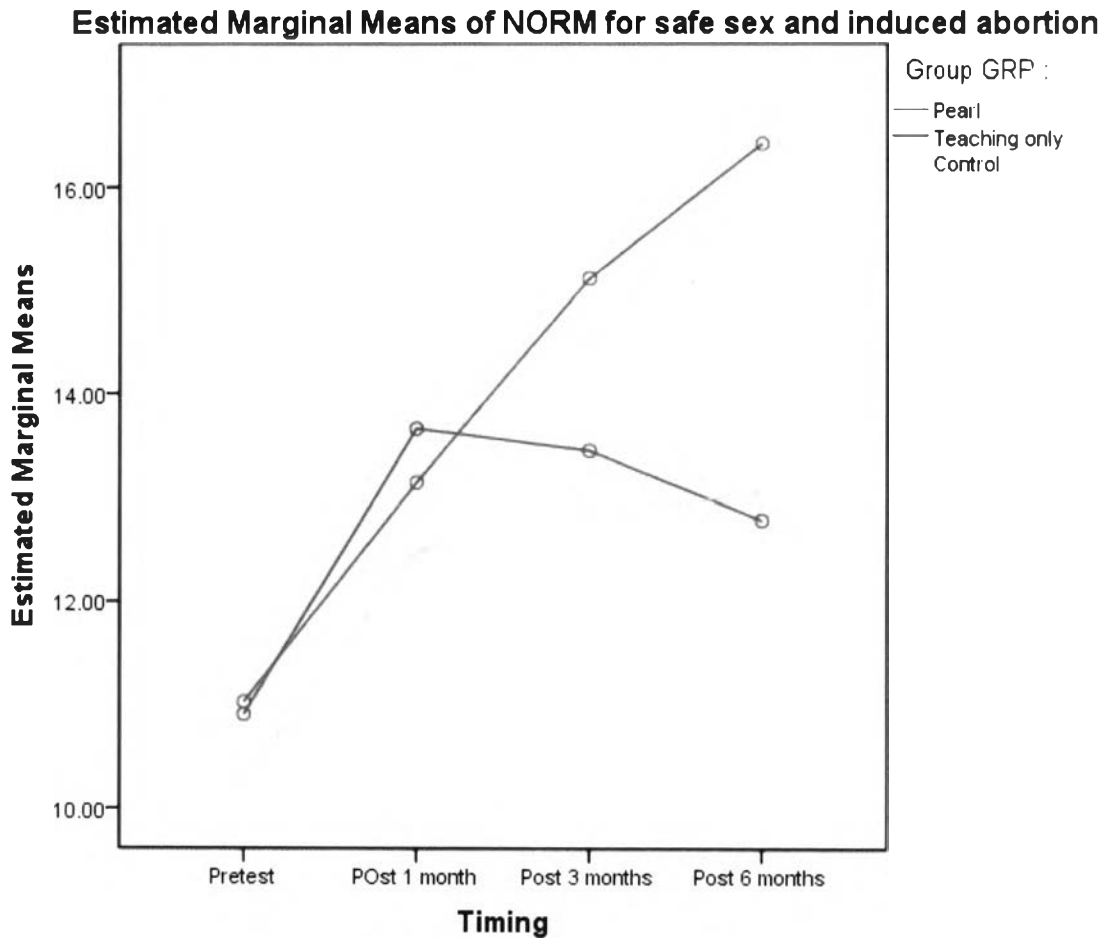


Figure 14 Pairwise comparisons among groups and overtime for intention to refuse sex in next 6 months (INTRS)

Table 68 Pairwise comparisons among timing of Intension to use condom (INTUC)

Times INTUC	Mean $\pm$ SD	Times INTUC	Mean Difference	95% CI <sup>a</sup>		p-value <sup>a</sup>
				Lower	Upper	
Pretest	6.8889 $\pm$ 1.1432	1 month	-0.061	-.854	.733	1.000
		3 months	-0.212	-1.053	.629	1.000
		6 months	-0.172	-.961	.618	1.000
1 month	6.9495 $\pm$ 1.1087	Pretest	0.061	-.733	.854	1.000
		3 months	-0.152	-.900	.597	1.000
		6 months	-0.111	-.842	.620	1.000
3 months	7.1010 $\pm$ 1.2236	Pretest	0.212	-.629	1.053	1.000
		1 month	0.152	-.597	.900	1.000
		6 months	0.04	-.694	.775	1.000
6 months	7.0606 $\pm$ 1.2332	Pretest	0.172	-.618	.961	1.000
		1 month	0.111	-.620	.842	1.000
		3 months	-0.04	-.775	.694	1.000

Based on estimated marginal means

*I*: The mean difference is significant at the 0.05 level

<sup>a</sup> Adjusted for multiple comparisons by Bonferoni Test

Concl: 1. Pretest is not significant from post 1 month, 3 months and 6 months

2. Post 1 month is not significant from 3 months and 6 months

3. Post 3 months is not significant from 6 months

The analysis of the interview times on pretest, post 1 month, post 3 months and post 6 months, it was revealed that the mean  $\pm$  standard deviation of sum of scores of intention to use condom in next 6 months among the four timing were 6.8889  $\pm$  1.1432, 6.9495  $\pm$  1.1087, 7.1010  $\pm$  1.2236, and 7.0606  $\pm$  1.2332, respectively (Table 68). It was found that pretest was lower than post 1 month, post 3 months and post 6 months, but which was not statistically significant difference (p-value >0.05). And also post 1 month was not significant lower from post 3 months and post 6 months (p-value >0.05) and post 3 months was not significant lower from post 6 months (p-value >0.05).

Table 69 Pairwise comparisons among groups for Intension to use condom (INTUC)

Groups INTUC	Mean ± SD	Groups INTUC	Mean Difference	95% CI		p-value
				Lower	Upper	
PEARL	8.1364 ± 1.0685	Teaching	<b>1.6667</b>	1.0242	2.3091	< .001
		Control	<b>1.7424</b>	1.1000	2.3849	< .001
Teaching	6.4697 ± 1.0685	PEARL	<b>-1.6667</b>	-2.3091	-1.0242	< .001
		Control	0.0758	-.5667	.7182	1.000
Control	6.3939 ± 1.0685	PEARL	<b>-1.7424</b>	-2.3849	-1.1000	< .001
		Teaching	-0.0758	-.7182	.5667	1.000

Based on observed means

*I*: The mean difference is significant at the 0.05 level

Adjusted for multiple comparisons by Bonferoni Test

Pairwise comparison of the mean scores for intention to use condom in next 6 months, among the “PEARL”, “Teaching only” and “Control” groups, with pretest, post 1 month, post 3 months and post 6 months, revealed:

The highest mean scores was in “PEARL” group  $8.1364 \pm 1.0685$ , followed by “Teaching only” group  $6.4697 \pm 1.0685$ , and “Control” group  $6.3939 \pm 1.0685$ . There were significant different between “PEARL” group and “Teaching only” group (p-value <0.001), and “PEARL” group and “Control’ group” (p-value <0.001). Even though, there had a slight higher mean scores in “Teaching only” than “Control’ group”, which was not statistically significant (p-value =0.117) (Table 69) (Figure 17)

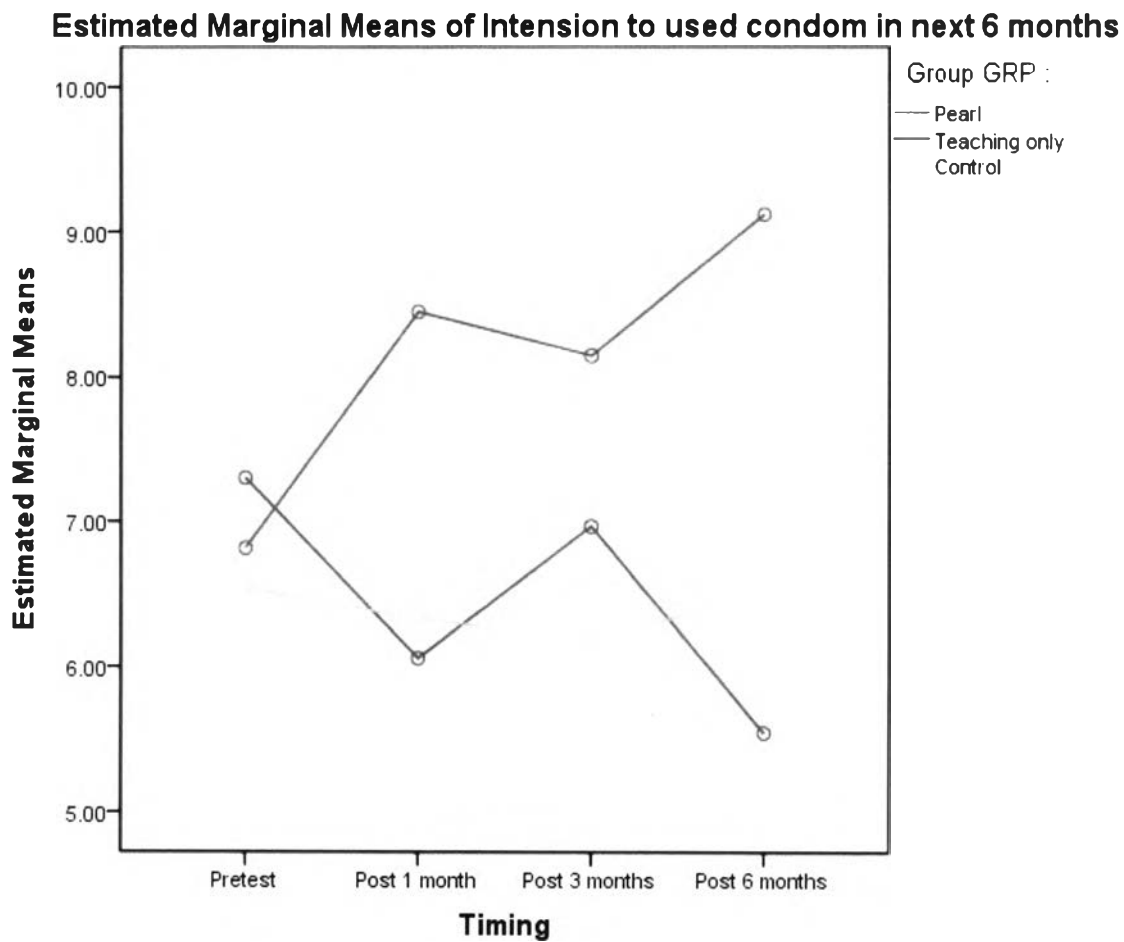


Figure 15 Pairwise comparisons among groups and overtime for intension to use condom in next 6 months (INTUC)

#### 4.3. Pairwise comparisons of safe sex behavior, sex experience, and impact analysis

Comparison of sexual intercourse in past 3 months if they had sex partners. between pretest and post 1 month, pretest and post 3 months, and pretest and post 6 months were mentioned in Table 70, 71, 72. Even though, there was reduced in “PEARL” group. we did not find significant difference ( $p$ -value  $> .05$ ) in all groups.

Table 70 Sexual intercourse in past 3 months, between pretest and post 1 month

Groups		Post 1 month			Total	p value*
		Yes	No			
Pearl	Pretest	Yes	<b>3</b>	<b>6</b>	9	.289 <sup>a</sup>
		No	<b>2</b>	<b>22</b>	24	
		Total	5	28	33	
Teaching only	Pretest	Yes	<b>9</b>	<b>1</b>	10	0.625 <sup>a</sup>
		No	<b>3</b>	<b>20</b>	23	
		Total	12	21	33	
Control	Pretest	Yes	<b>5</b>	<b>1</b>	6	0.375 <sup>a</sup>
		No	<b>4</b>	<b>23</b>	27	
		Total	9	24	33	

a. Binomial distribution

\* Exact Sig. (2-sided), McNemar Test

Table 71 Sexual intercourse in past 3 months, between pretest and post 3 months

Groups			Post 3 months			p value*
			Yes	No	Total	
Pearl	Pretest	Yes	<b>3</b>	<b>6</b>	9	0.125 <sup>a</sup>
		No	<b>1</b>	<b>22</b>	23	
		Total	4	28	32	
Teaching only	Pretest	Yes	<b>9</b>	<b>1</b>	10	0.625 <sup>a</sup>
		No	<b>3</b>	<b>20</b>	23	
		Total	12	21	33	
Control	Pretest	Yes	<b>6</b>	<b>0</b>	6	1.000 <sup>a</sup>
		No	<b>0</b>	<b>27</b>	27	
		Total	6	27	33	

a. Binomial distribution used

\* Exact Sig. (2-sided), McNemar Test

Table 72 Sexual intercourse in past 3 months, between pretest and post 6 months

Groups			Post 6 months			p value*
			Yes	No	Total	
Pearl	Pretest	Yes	<b>4</b>	<b>5</b>	9	0.219 <sup>a</sup>
		No	<b>1</b>	<b>22</b>	23	
		Total	5	27	32	
Teaching only	Pretest	Yes	<b>9</b>	<b>0</b>	9	0.250 <sup>a</sup>
		No	<b>3</b>	<b>20</b>	23	
		Total	12	20	32	
Control	Pretest	Yes	<b>6</b>	<b>0</b>	6	0.500 <sup>a</sup>
		No	<b>2</b>	<b>24</b>	26	
		Total	8	24	32	

a. Binomial distribution used

\* Exact Sig. (2-sided), McNemar Test

Table 73 Behavior and experience of masturbation and sexual intercourse in the past 3 months

		Masturbation*			Sexual intercourse*		
		PEARL	Teaching	Control	PEARL	Teaching	Control
Pretest	Yes	16	12	16	8	10	6
	No	17	21	17	25	23	27
Post 1 mo	Yes	18	9	15	5	12	9
	No	15	24	18	28	21	24
Post 3 mos	Yes	14	10	16	4	12	6
	No	18	23	17	28	21	27
Post 6 mos	Yes	14	11	14	4	12	8
	No	18	21	18	28	20	24

\* Binomial distribution used, p-value > .05, Exact Sig. (2-sided), McNemar Test

Comparison of behavior and experience of masturbation, behavior and experience of sexual intercourse if they had sex partner, before and after intervention was mentioned in Table 73. It can be seen that there was no significant difference (p-value > .05) in all groups from time to time till post 6 months intervention.

Table 74 Comparison of scores between pretest and post 6 months for consistent condom used (Paired *t*-test)

		Mean $\pm$ SD	N	t	df	p-value <sup>b</sup>
PEARL	Pretest	1.000 $\pm$ .000	3	-1.000	2	.423
	Post 6 mo	1.33 $\pm$ .577	3			
Teaching	Pretest	1.89 $\pm$ 1.269	9	-.373	8	.719
	Post 6 mo	2.11 $\pm$ 0.601	9			
Control	Pretest	2.83 $\pm$ 1.722	6	1.052	5	.341
	Post 6 mo	2.00 $\pm$ .632	6			

<sup>b</sup> Sig (2-tailed)

Comparison of scores between pretest and post 6 months for consistent use of condom if they have sex partners was elicited in Table 74. There was no significant difference ( $p$ -value  $>$  .05) in all three groups. In “Teaching only” group, there had more married persons than others.

Regarding unintended pregnancy occurred in the past 3 months; at post 6 months assessment, there were 0, 1, and 2 participants in “PEARL” group, “Teaching only” group, and “Control group”, respectively. The one participant in “PEARL” group and “Teaching only” group were married person and they will born the baby. On the other hand, in control group, the girl friend of 16 year-old single male had pregnant and they did not use condom consistently and sometimes they used safe period without condom. They aborted. (Table 75)



Table 75 Unintended pregnancy occur in the past 3 months

			PEARL	Teaching	Control
Pretest	Male	Yes	0	0	0
		No	8	2	4
		Total	8	2	4
	Female	Yes	1	0	0
		No	0	8	2
		Total	1	8	2
Post 1 mo	Male	Yes	0	0	0
		No	3	3	3
		Total	3	3	3
	Female	Yes	0	0	0
		No	2	5	1
		Total	2	5	1
Post 3 mos	Male	Yes	0	0	0
		No	1	2	4
		Total	1	2	4
	Female	Yes	0	0	0
		No	3	10	2
		Total	3	10	2
Post 6 mos	Male	Yes	0	1	2*
		No	4	4	4
		Total	4	5	6
	Female	Yes	0	0	0
		No	1	7	2
		Total	1	7	2

\* 16 year-old single male, not consistent use of condom and used safe period only, aborted

The others two, married and will born the baby

Binomial distribution used, p-value > .05, Exact Sig. (2-sided), McNemar Test

Table 76 Summary on hypothesis testing

No	Hypothesis	Results
1.	There is no difference of general characteristics and before program knowledge, attitude, norm, and intension mean scores among the 3 groups.	Accepted
2.	After program knowledge, attitude, norm, and intension mean scores in "PEARL" group are better than before mean scores.	Accepted
3.	After program knowledge, attitude, norm, and intension mean scores in "Teaching" group are better than before mean scores.	Accepted
4.	After program knowledge, attitude, norm, and intension mean scores in "Control" group are similar to before mean scores.	Accepted
5.	After program knowledge, attitude, norm, and intension mean scores in "PEARL" group are better than "Teaching only" and "Control" group.	Accepted
6.	After program knowledge, attitude, norm, and intension mean scores in "Teaching only" group are better than "Control" group.	Accepted
7.	Safe sex behavior, consistence use of condom and contraceptive practice in "PEARL" group are better than "Teaching only" and "Control" group.	Rejected
8.	Pregnancy rate and abortion rate are reduce in "PEARL" group are better than "Teaching only" and "Control" group.	Rejected

The summary of hypothesis testing in this study was mentioned in Table 76. Most of the hypothesis tested were accepted but cannot accept for safe sex behavior, consistence use of condom, contraceptive practice, and reduction of pregnancy rate and abortion rate because the study period was too short.