

Full Length Research Paper

The Model Development of Participatory Education on Adolescent Reproductive Life (PEARL) Programme to prevent Unintended Pregnancy among Myanmar Migrant Adolescent and Youth in Samut Sakorn Province, THAILAND: (Intermediate outcome and impact analysis)

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ABSTRACT

There are increasing abortion rate among Myanmar migrants in Samut Sakorn Province, Thailand. The objective of the study was to develop a participatory education on adolescent reproductive life (PEARL) programme to prevent unintended pregnancy among Myanmar migrant adolescent and youth in the Province. Population for this study was Myanmar migrants both female and male, 15-24 years of age, both registered and unregistered living in Samut Sakorn province. The study design was a research and development (Action Research), after development of the model PEARL, implementation was done between the two intervention groups "PEARL", "Teaching only" group 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 1 year during the period from 17 July 2010 to 22 September 2011. During the study period, there were 33 participants enrolled in each group. The study results found that all general characteristics and pretest mean scores of most of the measured variables were not significant difference among the three groups (p-value >.05). Comparison of the mean scores before and after 1 year intervention, all of the knowledge variables (Knowledge on puberty KOP, Knowledge on adolescent and youth pregnancy KOAYP, knowledge on pregnancy prevention KOPP, and knowledge on induced abortion KOIA) were significantly improved in "PEARL" group, whereas, KOP, KOAYP, and KOPP were also improved in "Teaching only" group (p-value <.001) but no change in "Control" group (p-value > .05). On the other hand, significant improvement of attitude towards unintended pregnancy prevention and induced abortion were only found in "PEARL" group (p-value <.001). Regarding intension to refuse sex and to use condom in the next 6 months, there had a significant improvement in "PEARL" group and "Teaching only" group (p-value <.001). Pairwise comparison among groups for post 1 year assessment was found that "PEARL" group had significant higher mean scores in 4 out of 4 knowledge variables (KOP, KOPP, and KOIA) (p-value < .05), attitude towards unintended pregnancy prevention and induced abortion (p-value < .05), and intension to refuse sex and to use condom in next 6 months (p-value < .001) than "Teaching only" group, whereas, all of the knowledge, attitude, norm for safe sex and induced abortion, intension to refuse and to use condom in next 6 months were significantly higher than "Control" group (p-value < .001). Only one unintended pregnancy was noted at post 1 year assessment in "Control" group. This revealed that participatory education on unintended pregnancy prevention plus facilitation by peer volunteers (PEARL) had the best outcome improvement in knowledge, attitude, and intension to prevent unintended pregnancy among Myanmar migrants in Samut Sakorn Province, Thailand. There should be continuous action plan for sustainable achievement to prevent unintended pregnancy among Myanmar migrants.

Keywords: Adolescent, Myanmar Migrants, Participatory Education, Unintended Pregnancy, Peer Volunteer

INTRODUCTION

Adolescent, the period between childhood and adulthood is a time of profound biological, social, and psychological changes accompanied by increased interest in sex. This interest places young people at risk of unintended pregnancy, with consequences that present difficulties for the individual, family, and community (DiCenso and Van Dover, 1999).

Migrant workers from Myanmar come from a variety of geographical locations and ethnic groups. There are both push and pull factors at work when people make the decision to migrate to Thailand. The pull factors include the close geographical location of Thailand to Burma as well as the demand in Thailand for cheap labor (Amnesty, 2002). In Samut Sakorn province, Registered Migrants 55,749 persons and estimated Non-registered Migrants about 20,000-70,000 are living, of which 97% are Myanmar. (WHO, "Border Health Program, 2006)

In one the baseline survey among the Myanmar migrant in coastal provinces of Thailand (including Samut Sakorn), they found that the age at first sexual intercourse between the ages 15-19 years were 40.2% (n=1384) in male and 44.5% (n=310) in female (PHAMIT, 2005). Regarding the peer influence both positive and negative effect among adolescent and youth, the data from a national probability sample of 15-19-year-old women are analyzed to determine the influence of parents and peers on the views of young women and how this influence is related to premarital sexual behavior, contraceptive use, and premarital pregnancy. They concluded that women influenced by friends have higher levels of premarital pregnancy than do those influenced by parents (Shah and Zeinik, 1981).

Rational of the study was, in Samut Sakorn Province, under 20 years old pregnancy rate is about 10.8% of total pregnant Myanmar migrant women and there are 1,507 antenatal care cases, 1,517 delivery cases and 313 abortion cases among 7,000 migrant women in 2009 (Samut Sakorn Provincial Health Office Report, 2006-2009). Samut Sakorn is located 30 kilometers from Bangkok. The province occupies a total area of 872 square kilometers and is administratively divided into 3 districts: Muang Samut Sakorn, Krathum Baen, and Ban Phaeo.

The research question was "Have the facilitation by PVs (Peer Volunteers) in PEARL (Participatory Education on Adolescent Reproductive Life) programme on unintended pregnancy prevention education in intervention group 1 better than only participatory education program in group 2, to reduce adolescent and youth unintended pregnancy among Myanmar migrants?" The specific objective was to determine the effectiveness of the PEARL programme to prevent unintended

pregnancy among Myanmar migrant adolescent and youth in Samut Sakorn Province, Thailand, comparison among "PEARL" group, "Teaching only" and "Control" no intervention group.

MATERIAL AND METHODS

The study design was the research and development (Action Research) which contained three phases as: phase 1: Situational analysis by qualitative indebt interview 2: Implementation of PEARL programme using Quasi-experimental study, and phase 3: Programme evaluation. Immediate outcome assessment was done one month after post intervention, intermediate and impact analysis was done 3 months and one year after post intervention. This study was conducted in Muang district, Kokrak and Krathum Baen district, Samut Sakorn Province, Thailand. The study sites were Gold price community, Kokrak community, and Krathum Baen community; those are 15 kilometers far from each other. The study population for this study was Myanmar migrants both male and female, 15-24 years of age, marriage or single, both registered and unregistered living in Muang District, Samut Sakorn province, from 17 July 2010 to 22 September 2011.

The estimated sample size was calculated by comparisons of two means formula, according to standard statistical criteria ($\alpha = 0.05$, power of the test = 90%). Difference between means and standard deviation of two groups was used from previous study in 2008, intention to use condom before and after sex education (Thato et al, 2008). The sample size calculated was 30 per each group and we added another 10 percent for estimated attrition.

Detail of sampling technique and procedures were: (1) simple random sampling of three study sites were done and PEARL was in Golden price community, "Teaching only" was in Kokrak community, and Control was in Krathum Baen community. (2) Announcement for participation in the program through provincial health office and criteria of participant was mentioned in announcement. (Myanmar migrant Age between 15-24 years, Male or female; Registered or unregistered, marriage or single, can constantly stay in Samut Sakorn province during the study period, willing to participate in the study, mentally healthy and can read and write Myanmar language). Exclusion criteria for participant were past history of attended in reproductive health education training, withdrawn from the study with any reasons, incomplete participation to the programme and incomplete answers on the questionnaires. (3) One Peer volunteer supervisor was selected by researcher and provincial health office, according to selection criteria;

preferable Bachelor degree, Female or male, married or single, willing to participate in the project, and work experience at least two years working in Myanmar migrant reproductive health project either provincial health office or NGOs. One Myanmar migrant staff, he has been working in Myanmar migrant health system development office, Samut Sakorn provincial health office for 5 years was recruited; graduated Bachelor of Nursing from Thailand. Incentive was travel and other allowances about 3000 bahts/month and certificate will be given by joint venture with College of Public Health Science, Chulalongkorn University and Provincial Health Office upon satisfaction after the project. (4) Upon the number of application in three sites of study, out of 40 to 42 participants from each group, those entitle the inclusion criteria, 33 participants were selected by researcher and peer volunteer supervisor by simple random sampling in each three study groups. In the group with peer volunteers, 36 participants were selected and along with three peer volunteers were elected by their peer group members according to inclusion criteria "at least high school level education, age between 18 to 24 years, Female or Male" i.e one out of twelve peer participants (bottom up approach). Incentive of the three peer volunteers was travel and other allowances probably about 1000 bahts/month, free minor health care, and certificate was given by joint venture with College of Public Health Science, Chulalongkorn University and Provincial Health Office upon satisfaction after the project.

The roles and responsibility of peer volunteer supervisor was serve as a supervisor on 3 peer volunteers for sharing information, providing advices if they had some issue among their groups, monitoring the monthly data management, and planning and discussion on monthly small group counseling by case scenarios, as a coordinator among researcher, provincial health office and peer volunteers to clarify information and better project management, and as a tutor during the lectures given by researcher to peer volunteers and participants. For the peer volunteers was serve as a facilitator within the 11 adolescent participants for sharing information and awareness raising by daily telephone counseling, monthly small group counseling by case scenarios, as a facilitator between researcher, peer volunteer supervisor and group members to clarify information and better decision making, as a tutor within the group during the lecture given by researcher, and provide the special attention on risk person within the group such as those married, having boy friend-girl friend, and working at massage room and sex worker. Provide frequent meeting with them for increase awareness on safe sex and/or abstinence.

The researcher was used "PEARL training manual guide" that was developed by researcher according to participatory learning (David A Kolb, 1991) and life skills training (WHO, 1994) and some of them were applied from other's researches that have done on HIV prevention intervention. After that the manual was submitted to three experts to assess its contents validity. Recommendations from the experts were collected and used to revise and upgrade the study tool accordingly. Moreover, the revise "PEARL training manual guide" was translated into Myanmar language and was conducted pilot study among 10 Myanmar migrants in Samut Sakorn for appropriateness, sequential and smoothness to reach the objectives. Finally, the manual was revised according to weakness find in pilot study.

The "PEARL training manual guide" was containing 9 modules, 4-5 activities are included in each module, it was taken 2 hours for each module, and 1 module/day was taught. The module number 2 and 3 are only for 1 peer volunteer supervisor and 3 peer volunteers. After selecting these four persons, researcher taught them all 9 modules. At the end of all activities and modules, there have evaluation section by check list, questions and answers.

Module 1: Introduction to PEARL training

Module 2: Identifying participants, Collecting, Analyzing, and Using Monitoring Data, Developing a Monitoring and Evaluation Work Plan

Module 3: Communication Skill and Problem Solving Skill

Module 4: Puberty (Anatomical and Physiological Changing of Human Reproductive Organs)

Module 5: Adolescent Pregnancy and Unintended Pregnancy

Module 6: Sexually Transmitted Infection(s), HIV/AIDS

Module 7: Abstinent and Natural Family Planning Methods

Module 8: Other Contraceptive Methods (Barrier, Temporary, Permanent and Emergency pills)

Module 9: Visit to Provincial Hospital and ANC Clinic

The researcher used self-administered questionnaire that was developed by researcher according to IMB (Information Motivation Behavior Skill) model (Fisher, W.A., & Fisher, J.D, 1998) and participatory learning by review literatures. After that the questionnaire was submitted to three experts assessed its contents validity. Recommendations from the experts were collected and upgrade the study measurement tool. The revised questionnaire was used as the pre-tested among 30 adolescent (15-24 years) Myanmar migrants in Samut Sakorn and tested reliability by Cronbach's α , and if it is less than 0.7, was revised the questionnaire again until ≥ 0.700 . Informed written consent was obtained from all

participants. The Ethical Review Committee for research involving human research subjects, Health Science group, Chulalongkorn University, Thailand, had approved and the study title number is 038.1/53.

After the data collection process, all data was edited and verified before analysis. All data was entered into the Epidata version 3.1 programs and analyzed in SPSS Statistical software 17.0. To compare demography among the groups (Test of group differences) were analyzed by one-way ANOVA and Chi-square. To test intervention effects (before-after test) within group by Paired *t*-test. All the sum of scores was tested by normal distribution by kolmogorov-smirnov test. To compare intervention effects among groups was analyzed by one-way ANOVA and general linear model, repeated measures. P-value was at 0.05. If there was difference among groups, analyzed by post-hoc test to know exactly between which groups and for equal variances Bonferoni was used and in case of equal variance was not assumed the Dunnett T3 and Kruskal Wallis Test was used.

RESULTS

During 1 year of the study period, there were 32 participants enrolled in each group, one female from each group went back to Myanmar. As for comparing groups' difference of general characteristic among the three groups, there were no statistical significant (p -value $> .05$). Before the beginning of the intervention, sum of scores of knowledge on puberty (KOP), knowledge on pregnancy prevention (KOPP), knowledge on induced abortion (KOIA), attitude towards unintended pregnancy prevention (ATUPP), attitude towards induced abortion (ATIA), Norm for unsafe sex and induced abortion (NORM), intension to refuse sex in the next 6 months (INTRS), and intension to use condom in the next 6 months (INTUC) among the three groups were not significant different (p -value $> .05$). On the other hand, knowledge on adolescent and youth pregnancy (KOAYP) was significantly lower in "Teaching only" group than "PEARL" group and "Control" group, p -value .043 and .012, respectively.

Comparison of the mean scores before and after 1 year intervention, categorized by KOP, KOAYP, KOPP, KOIA, ATUPP, ATIA, NORM, INTRS, and INTUC within the "PEARL" group, within the "Teaching" group, and within the "Control group" was mentioned in table 1. It can be clearly seen that all of the knowledge variables were significantly improved in "PEARL" group and "Teaching only" group (p -value $< .001$) but no change in "Control"

group (p -value $> .05$). On the other hand, significant improvement of attitude towards unintended pregnancy was only found in "PEARL" group (p -value $< .001$), whereas, there was no significant improvement of attitude towards induced abortion in all groups (p -value $> .05$). Regarding intension to use condom in the next 6 months, there had a significant improvement in "PEARL" group and in "Teaching only" group (p -value $< .001$). For the NORM for safe sex and induced abortion, there had not only significant improvement in "PEARL" group and "Teaching only" group (p -value = .013) but also in "Control" group (p -value = .023). All of all, most of the variables (7 out of 9) were significantly improved in "PEARL" group (Table 1).

Pairwise comparison among groups for Post 1 year assessment was elicited in Table 2. It was found that "PEARL" group had significant higher mean scores in 4 out of 4 knowledge variables (KOP, KOAYP, KOPP) (p -value $< .05$), ATUPP Attitude towards Unintended Pregnancy Prevention (Figure 1), ATIA Attitude towards Induced Abortion (Figure 2), NORM on safe sex and induced abortion, INTRS Intension to Refuse Sex in next 6 months, INTUC Intension to Use Condom in next 6 months than "Teaching only" group and control group (Figure 3). Regarding comparison between "Teaching only" group and "Control" group, there had significant higher mean scores in KOP, KOPP, KOIA, ATUPP, INTRS) in "Teaching only" group (P -value $< .05$).

Regarding pairwise comparisons of safe sex behavior, sex experience, and impact analysis; comparison of history of sexual intercourse in past 3 months if they had sex partners, between pretest and post 1 year were analyzed. Even though, there was reduced only in "PEARL" group, we did not find significant difference (p -value $> .05$).

Comparison of scores between pretest and post 1 year for consistent use of condom if they have sex partners was only found that only increase in "PEARL" group and there was no significant difference in all three groups.

Regarding "unintended pregnancy occurred in the past 3 months" at post 1 year assessment, there were 0, 1, and 2 participants in "PEARL" group, "Teaching only" group, and "Control group", respectively. There was no unintended pregnancy in "PEARL" group and one participant in "Teaching only" group she was married person and 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 and said not ready to marry.

Table 1. Comparison of pretest and post 1 year intervention (Paired t-Test)

Variables	PEARL (n=33)		Teaching only (n=33)		Control (n=33)	
	Mean ± SD	p-value ^b	Mean ± SD	p-value ^b	Mean ± SD	p-value ^b
KOP	5.8788±2.5465 ^a 13.2121±3.0286	<.001	6.6667 ± 2.5577 ^a 8.5455 ± 2.6586	.003	7.0606 ± 2.8829 ^a 7.3438 ± 2.7790	.716
KOAYP	3.8182±0.6826 ^a 4.8182±0.8823	<.001	2.8182 ± 2.1426 ^a 4.5455 ± 0.9385	<.001	4.0606 ± 0.9663 ^a 4.0001 ± 1.1456	.820
KOPP	10.3333±2.9012 ^a 15.1212±2.8587	<.001	9.2424 ± 4.5417 ^a 12.8485±2.6707	<.001	8.7813 ± 2.7560 ^a 8.8750 ± 3.7994	.913
KOIA	3.7879 ± 0.8929 ^a 4.8182 ± 0.8823	<.001	3.4242 ± 1.9690 ^a 4.001 ± 1.6394	.214	3.8182 ± 0.9828 ^a 3.4849 ± 1.5436	.325
ATUPP	62.1818 ± 5.6261 ^a 78.1818 ± 15.3592	<.001	65.6970 ± 8.2101 ^a 62.1515 ± 12.1787	.184	62.8788 ± 6.9361 ^a 61.7879 ± 14.4778	.727
ATIA	17.2424 ± 3.1027 ^a 21.1515 ± 4.4590	.001	16.6364 ± 3.6642 ^a 16.8182 ± 4.2680	.864	16.4545 ± 3.3550 ^a 14.7879 ± 4.6486	.107
NORM	11.0303 ± 3.1867 ^a 16.4242 ± 3.6403	<.001	10.9091 ± 2.6382 ^a 12.7879 ± 3.3049	.010	10.2727 ± 3.8019 ^a 13.0606 ± 3.8238	.002
INTRS	19.9899 ± 3.2629 ^a 20.0000 ± 3.5016	.000	21.1818 ± 5.9079 ^a 17.2424 ± 4.4019	.004 ↓	18.7879 ± 6.2087 ^a 16.7879 ± 8.0303	.272
INTUC	6.8182 ± 1.4021 ^a 9.1212 ± 1.8330	<.001	7.3030 ± 2.2289 ^a 5.5455 ± 1.6219	.001 ↓	6.5455 ± 2.2092 ^a 6.5151 ± 2.8518	.960

^a P Pretest ^b 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, ATIA Attitude towards Induced Abortion
 NORM on safe sex and induced abortion, INTRS Intension to Refuse Sex in next 6 months
 INTUC Intension to Use Condom in next 6 months

Table 2. Pairwise comparisons among groups for 4 times measurements (P0, P1, P3, P12)

Groups		Teaching only		Control	
PEARL	Mean \pm SD	Mean \pm SD	p-value ^a	Mean \pm SD	p-value ^a
KOP	11.591 \pm 1.3959	9.030 \pm 1.3959	<.001	7.047 \pm 1.4132	<.001
KOAYP	4.576 \pm 0.7008	3.985 \pm 0.7008	.003	3.811 \pm 0.7008	<.001
KOPP	13.485 \pm 1.5510	11.061 \pm 1.5510	<.001	8.102 \pm 1.5740	<.001
KOIA	4.553 \pm 0.8330	4.061 \pm 0.8330	.044	3.492 \pm 0.8330	<.001
ATUPP	70.5378 \pm 5.4401	65.3561 \pm 5.4401	<.001	61.84848 \pm 5.4401	<.001
ATIA	18.7273 \pm 1.9244	16.7955 \pm 1.9244	<.001	15.8030 \pm 1.9244	<.001
NORM	13.9318 \pm 1.5510	12.7046 \pm 1.5510	.005	12.1591 \pm 1.5510	<.001
INTRS	22.5379 \pm 3.0733	19.3333 \pm 3.0733	<.001	17.3864 \pm 3.0733	<.001
INTUC	8.1364 \pm 1.0685	6.4697 \pm 1.0685	<.001	6.3939 \pm 1.0685	<.001
Teaching only					
KOP					<.001
KOAYP					.940
KOPP					<.001
KOIA					0.02
ATUPP					0.031
ATIA					.117
NORM					.469
INTRS					.035
INTUC					1.000

^a Adjusted for multiple comparisons: Bonferoni General Linear Model, Repeated Measures

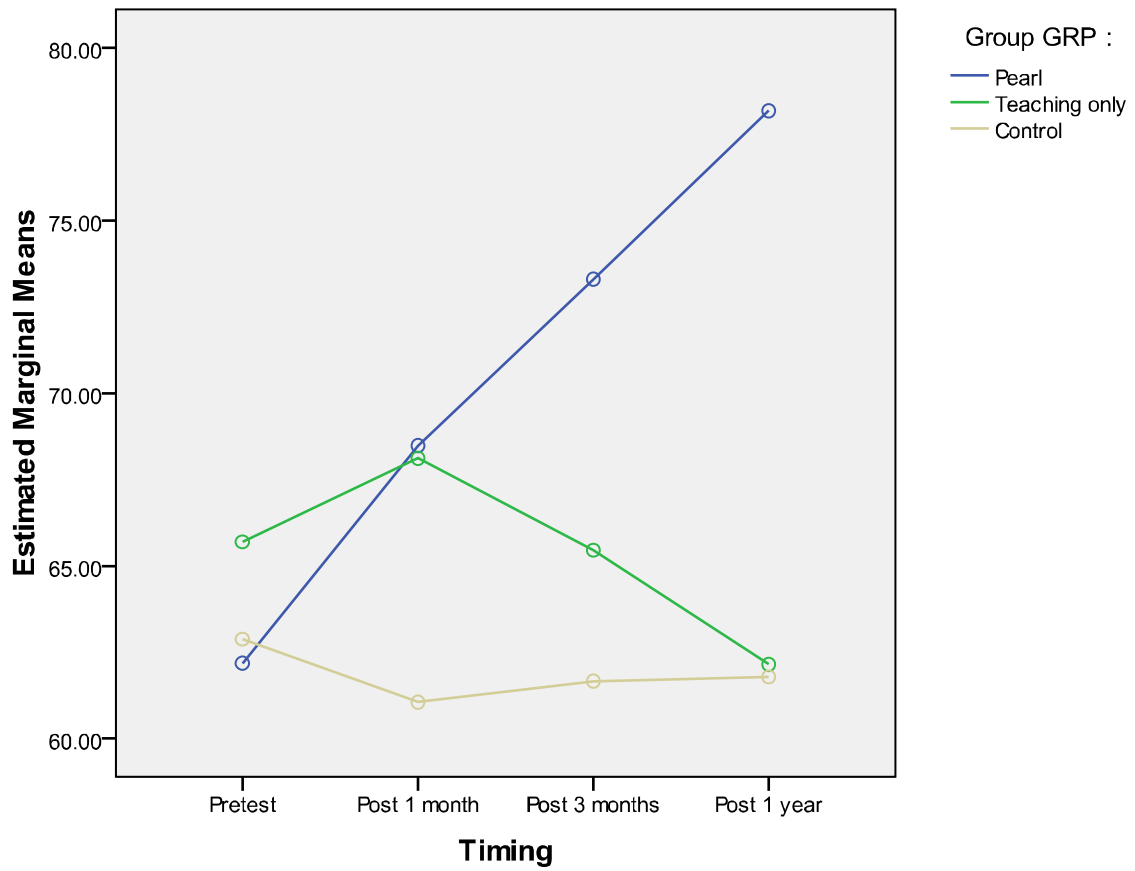


Figure 1. Estimated Marginal Means of Attitude towards unintended pregnancy prevention

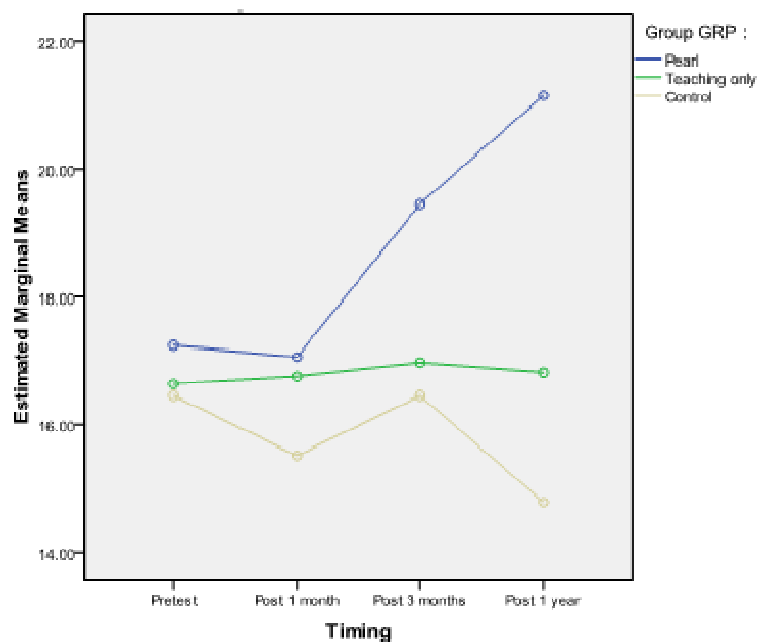


Figure 2. Estimated Marginal Means of Attitude towards induced abortion

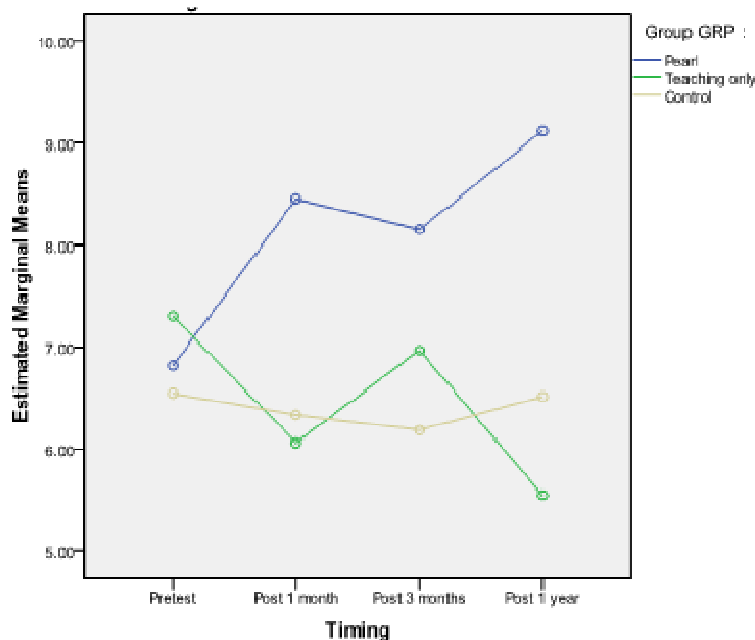


Figure 3. Estimated Marginal Means of intention to use condom in next 6 months

DISCUSSION

The format of the design is most appropriate for this research among migrant adolescent and youth population as most of them are away from their family. Since the trial did have a “no sex education” control group, we can draw conclusion about the effectiveness of peer-volunteer but also about the participatory sex education. This was different from RIPPLE trial in England, studied about the effect of different approaches in schools, peer-led sex and relationships education (intervention arm) with convention teacher-led sex and relationships education (control arm). (Stephesonl, 2008).

All sample groups satisfied the criteria, including peer-volunteers and peer-volunteer supervisor. In addition, the sample groups were similar since they have been working in tin food industry, mostly in seafood industries and some were in chicken industries. Furthermore, in the current study, the three communities were 15 kilometers far from each other and they did not know where the other study sites were. So, it can be concluded that there did not have contamination of information among the three groups. The researcher used the participatory teaching method, according to the experimental learning process, which covered all 4 components of learning experience, reflection and discussion, understanding and conceptualization, and experiment and application (David A Kolb et al, 1991).

Comparison of mean scores between pretest and post-test in “PEARL” group, nine out of nine variables measured such as all of the knowledge variables, attitude

towards unintended pregnancy, perception for norm of safe sex and induced abortion, and intention to used condom in the next 6 months were significantly improved than pretest. This revealed that facilitation, sharing information, awareness raises by daily telephone counseling and monthly small group discussion by case scenarios that led by peer-volunteers and supervision by peer-volunteers’ supervisor was a more potent method of achieving desirable improvement of not only knowledge but also effect on attitude towards prevention of unintended pregnancy.

Whereas, in “Teaching only” group, only four out of nine variables (KOP, KOPP, KOAYP, NORM) are significantly improved than pretest (instead of six out of nine variables measured such as all of the knowledge variables, perception for norm of safe sex and induced abortion, and intention to used condom in the next 6 months was significantly improved than pretest in post 1 month study). There had no change in attitude. This revealed that participatory education only would not have achievement in improving attitude for prevention from risk factors related to unintended pregnancy and induced abortion. On the other hand, in no intervention group, there had no change in nearly all of the variables measured.

Moreover, the research result revealed that after the post 1 year intervention, the experimental group 1 “PEARL” group had significantly improved 4 out of 4 knowledge variables, attitude towards Unintended Pregnancy Prevention, ATIA attitude towards Induced Abortion, NORM on safe sex and induced abortion,

INTRS intension to refuse sex in next 6 months, INTUC intension to use condom in next 6 months than experimental group II, "Teaching only". This finding agreed with (Department of Education and Skills, 2003) peer-led sex education has been highlighted as a promising approach. This can also be concluded that participatory education on unintended pregnancy prevention with continuous supervision by peer-volunteer supervisor, and close facilitation and counseling by peer volunteers among their subgroups may be necessary for noticeable improvement of knowledge, attitude, and intention to prevent unintended pregnancy among adolescent and youth Myanmar migrants.

Regarding, comparison between "Teaching only" and "Control group", there had significant higher mean scores in KOP, KOPP, KOIA, ATUPP, INTRS) in "Teaching only" group than "Control group". This can be concluded that participatory education only had moderate beneficial effect on improving knowledge than no intervention. This is similar finding as the study done among Thai school adolescents in Thailand (Thato et al, 2008).

Regarding impact analysis, safe sex behavior, consistence use of condom and contraceptive practice in "PEARL" group are better than "Teaching only" and "Control" group. Moreover, Pregnancy rate and abortion rate are reduce in "PEARL" group than "Teaching only" and "Control" group. But we could not find significant difference and it might be due to study period, only one year after intervention.

From the research result, it may be concluded that the "PEARL", participatory education on adolescent reproductive life programme that was provided to Myanmar migrant adolescent and youth in Samut Sakhon province, Thailand was effective, since it sustainably improved knowledge, attitude, behaviors and intention to prevent unintended pregnancy. Using the participatory learning principle as an enhancing activity is also appropriate for arranging learning activities for participants since its content, process, and duration were appropriate.

Virtually no experimental or observational literature reliably answers questions about the effectiveness of counseling by peer-voluntary to reduce rates of unintended (unwanted, mistimed) pregnancies in the Myanmar migrants in Thailand. The term "peer" refers to people of equal status can facilitate and sharing of (sexual health) information, values and behaviors among members of similar age or status group.

Instead of a one-shot approach, the use of regular overtime appropriate programs is needed to reinforce prevention efforts and to promote postponement of sexual activity among adolescents, and to thus decrease the risk of adolescent pregnancy. Primary care nurses can design and implement intervention programmes as a peer-volunteer supervisor that is ongoing to influence and reinforce behavioural changes to decrease unintended pregnancy.

For activities into different level approach, as there have still pitfalls i.e lack of some items of knowledge not only in "Teaching only" group but also in "PEARL" group and did not improve most of items concerning attitude towards unintended pregnancy prevention and induced abortion in "Teaching only" group, we would like to increase their awareness by PEERS, may classify into 3 levels as;

(1) **Individual level:** Myanmar migrant workers should be empowered in terms of increase knowledge, awareness rising on safe sex behavior, unintended pregnancy prevention, and induced abortion by participatory education plus trained peers facilitation not only in their community but also in their work-site.

(2) **Communities and group level:** we need to empower peer-volunteers and health personals as BCC (behavior change communication); to understand and consider the following points such as vulnerability and risk factor of the target group, the conflict and obstacles in the way to desire change in behavior, and type of message and communication media which can best reached to target group and type of resources available.

(3) **Responsible organization level:** The local government such as Provincial Health Office and non-governmental organizations have to plan a suitable BCC specific for the migrant target, empowering the peer volunteer supervisors and peer-volunteers or peer-educators by the collaboration with educational institutions as the "Triangle mountain model", simultaneous policy, academic and social movements.

In future research, selection of sample should be stratified some variables such as marital status. All of all, it could be concluded that, the community that effectively prevents teenage pregnancy is one that consistently and persistently promotes shared informations and values, advocates restraint, and empowers peer-volunteers to communicate with peers.

ACKNOWLEDGEMENT

First of all, we would like to thank "THE 90th ANNIVERSARY OF CHULALONGKORN UNIVERSITY FUND" (Rachadaphiseksomphot Endowment Fund) for giving the research grant. Then, we would like to thank to all participants, peer volunteer supervisor, and all peer volunteers. Furthermore, we would like to express our appreciation to College of Public Health Sciences, Chulalongkorn University and Provincial Health office, Samut Sakorn Province for giving permission to conduct this intervention research. Furthermore, we extend our sincere thank to Rat Thai NGO (Samut Sakorn Province), Golden Price sea food factory, Dr. Nilar Han, and Ms. Vatcharaporn Yaemyeesuin (Public Health nurse) for helping us during the intervention and data collection.

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