

**The effect of group education and peer counsellor on improving knowledge, attitudes and practice about AIDS risk reduction among the prostitutes**

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**Introduction**

Prevention of the spread of acquired immunodeficiency syndrome (AIDS), and reduction in the reservoir of high-risk individuals is a major thrust in public health and will continue as a priority initiative in the coming decade. The challenge to public health workers is a unique one, for successful management of the disease will necessarily require the integration of classical public health methods of disease surveillance and infection control with the emerging principles of lifestyle modification and behavioral risk reduction. The resulting model should identify methodologies that will prescribe and facilitate personal behavioral changes among high-risk populations. The ability to motivate individuals to change is a formidable task, particularly when confronting powerfully held attitudes and practice relating to subgroup values, as in the case of female prostitutes. The model must be also be comprehensive in scope in that it should attempt to promote and represent the collective concerns of the community while safeguarding the individual rights of high-risk populations.[1]

Prostitutes, who at a world level are the largest group at risk, must not become scapegoats, many have been driven into their occupation by poverty and most are mothers of children whom they love and support.[2] Efforts to educate clients of prostitutes are obviously important but more expensive to institute because such people are more diffuse and difficult to locate. Prostitutes are catalysing the spread of the epidemic; unfortunately, the progress of prevention in this area was disappointed and irresponsible. Changes in behavior are the most sure form of protection, but they are not going to rapid or comprehensive enough, of themselves, to control spread, especially in high-risk groups. Individuals with multiple sexual partners, such as prostitutes, must be educated in the use of condoms. Only a tiny fraction of the world's prostitutes are being reach by any type of education/condom distribution program, even though human immunodeficiency virus

(HIV) prevalence among the prostitutes often doubles every year. Even today, many countries, including some of the richest, have not formulated any plans to control HIV spread in prostitutes. The money made available by industrialised nations to help underdeveloped countries devise AIDS prevention programs has not been spent as rapidly as its availability would permit. The international providers report they are at the limitation of what they can afford.[3]

There are few published evaluations of the efficacy of health promotion campaigns for AIDS risk reduction in the prostitutes. Therefore, it is important to utilize existing research and theory about health behavior derived from the design and evaluation of other risk reduction programs in designing and implementing AIDS risk reduction programs for prostitutes. A review of the salient health promotion literature supports the hypothesis that simply acquiring more knowledge about risky activity may be inadequate to change behavior in many individuals. This has been demonstrated in efforts to encourage smoking cessation,[4-7] nutrition education,[8] seat belt use, [9] and breast self-examination.[10]

Among persons for whom information alone is not adequate to induce behavioral change, specific skills dealing with how to change and experiences that reinforce successful change may be essential. Support for this hypothesis is found in the literature that describes diabetes education,[11] smoking cessation and prevention of smoking onset,[7] and occupational safety training.[12] Specifically, the nonhealth motives of health-related behavior must be addressed if unhealthy behavior is to be modified. These nonhealth motives are often influenced by peer norms and existing social support systems.[11,13] and such may be modified by group process.

Peer and group associations significantly influence entrance into prostitution. Many adolescents reach the prostitution with little or no knowledge about it. After talking with peers who appear to be autonomous and making easy money, prostitution becomes a less frightening form of survival. They are often accompanied in their first prostitution activity by another individual involved in prostitution.[14] In contrast, our efforts is identifying and organizing the peer counsellors within the prostitute community to deliver the information and promote behavioral change. Some researchers have noted parallels to adolescent smoking prevention programs, in which social influence models using peer-led group discussions have been more effective than fear-based media and educational campaigns.[4,15] The intervention employed in this study is the peer counselors combined with group education. The ability of a group educational session to influence attitudes about AIDS risk reduction in a positive way suggests that this type of intervention may be effective in enabling homosexual and bisexual men to adopt low-risk sexual activity by influencing the nonhealth motives of sexual behavior, especially peer norms about safe sex.[16]

Because some behavior changes occur without the benefit of specific AIDS prevention interventions, it is incumbent upon any such intervention to demonstrate its effectiveness. One means of assessing the effectiveness of an AIDS prevention intervention is by using an instrument that surveys participants' AIDS-related knowledge, attitudes, and behavior prior to an intervention. In the present study, a standardized instrument was developed and used to evaluate a specific intervention.

The potential for the spread of AIDS in the Southern Thailand, particularly in Hat Yai and Songkla is great. These towns are the hub of commerce, business, tourism and the commercial sex industry for the region, and are visited annually by over 500,000 tourists and businessmen primarily from Malaysia and Singapore. The number of women in the "high risk" group in the town is substantial with over 5,000 women working as prostitutes in more than 150 brothels.

In the absence of a cure or vaccine for AIDS, health information and education is the most important mechanism for the prevention and control of the disease. Hence, it is extremely important to raise the level of awareness and understanding about AIDS as well as the practice of appropriate preventative behaviors among "high risk" populations. The objective, therefore of the present study is the assessment of the impact that an intervention program on AIDS prevention will have upon knowledge and attitudes about AIDS, and condom use among prostitutes. Specifically, the study will achieve the following:

- 1) an assessment of the levels of knowledge and awareness about AIDS and its prevention among prostitutes; and
- 2) a test of the effect that group meetings in combination with a peer counselling program on AIDS has upon the levels of knowledge and awareness about AIDS and the use of condoms among prostitutes.

## Methods

The study objective will be realized through the application of a quasi-experimental research design discussed in the following section on methodology. The hypotheses to be tested are formulated around comparisons between the experiment and control population utilized in this design and include the following:

- I. There will be a greater increase in the knowledge and awareness about AIDS and its prevention among prostitutes in the experimental population.
- II. There will be a greater increase in the use of condoms among prostitutes in the experimental than in the control population.

## Baseline survey

In June 1989, the Prince of Songkla University received funding from the FORD foundation to conduct a prospective study of the education program in prostitutes. The study has enrolled 2,940 prostitutes of Songkla province, Thailand in a baseline study of the knowledge, attitudes, and practice about AIDS. During September through October, 1989 the investigators conducted in-depth interviews among the prostitutes in Songkla province. All participants complete the questionnaire about the level of health behavior change continuum; (1) awareness (2) concern (3) knowledge and attitude (4) sexual behavior at risk (5) preventive behavior. In addition, a number of questions were asked about demographic information. The interview was administered at the Hat Yai VD unit, Songkla VD unit, and Padang Besar VD unit. The question was properly completed by 2,940 female prostitutes; 1,875 in Hat Yai district, 853 in Songkla district, and 212 in Padang Besar district respectively. The prostitutes who attend the VD unit were chosen because most of them are compulsory to visit the doctors every week at the VD units for sexually transmitted disease (STD), and of course having blood test of VDRL and HIV

antibodies every three months. That is the informal agreement between the director of VD center, region 12, Songkla and the brothel owners.

Because prostitutes is officially illegal in Thailand, gaining the trust and cooperation of the brothel owners required a multiple process. First the local health officials in the district were contacted and informed of the objectives and method of research. Next, the brothel owners were contacted for permission each prostitutes to spend fifteen to thirty minutes interview.

A review of the current literature was conducted on assessing AIDS knowledge and belief about AIDS intervention.[17,18,19] Items from those instruments considered the best were reviewed in focus group composed of 31 voluntary prostitutes. Items from existing instruments were read aloud to 10 focus groups, leading to rewording of ambiguous items and the adding of additional items. The items from the literatures were modified for inclusion of the level of health behavior change continuum. New instrument were drafted. The revised instruments were then pilot-tested in some prostitutes before data collection began. The goal of focus group discussion and pilot testing were (a) to ensure the feasibility of administering the instruments with the prostitutes; (b) to revised the instruments for administration based on feedback from the focus group discussion and the success of interviews in obtaining the reliable information with instruments; and (c) to add or subtract items to instruments that relate and fit with the prostitutes.

For the assessment, subjects were asked to response "Yes", "No", or "not sure" to 28 items except the number of clients per week; 3 items for awareness, 5 items for concern, 10 items for knowledge and true-false attitude, 3 items for sexual behavior at risk, and 7 items for preventive behavior. The true-false attitudes were interpreted for the correct answer as "positive response", and the incorrect answer as "negative response".

The awareness assessment instrument consists of 3 items dealing with, information receiving from mass media, life threatening disease, communicable disease. The concerns about AIDS are written with emphasis on the following: beginning/increasing to talk about AIDS with friends, seeking information about AIDS, increasing attention to AIDS, feeling fear or worry about AIDS, and beginning to see self as "at risk". The knowledge and true-false attitude assessment surveys feelings and beliefs about heterosexual intercourse with an infected men, using of contaminated needle in drug abuse, vertical transmission from infected mother to her baby, getting AIDS from mosquitoes, social contact through food preparation and eating utensils, getting AIDS by using the toilet, contact through the air such as cough or sneeze, casual contact such as hugging or grasping hand, identification infected person by general appearance, and detection of infected person by symptoms and signs. The sexual behavior at risk describes the number of the clients per week, oral sex, and anal sex. The preventive behavior about STD and AIDS questionnaire focuses on persuasion the clients to use condom, carrying condom to use any time or by hand, examination the external genitalia for the signs of STD, refusal the clients whom seem to be STD to have sex, having the interest to prevent AIDS if there have a easy method such as foam or film coated antiviral agent, having a regular test for HIV antibody every three months, and having a regular check up for STD every week.

## Program intervention

The program intervention consists of two components, group meetings and peer counselling. Group meetings will be conducted initially with prostitutes at the Region 12 VD Clinic during their weekly visit for STD screening. Each group will contain 20-30 members from the brothels selected to receive the program intervention, and meet for approximately 1 1/2 hours. The meeting, conducted by the research project staff, will utilize video and slide presentations, and cartoon graphic booklets to educate the women on AIDS prevention and control. Each presentation will be followed by group discussion to clarify any items of misunderstanding. The goals of the group education are as follows: to increase individual knowledge about the transmission, incubation period, and spectrum of clinical diseases related to HIV; to increase individual understanding of the of the relative HIV transmission risk associated with specific sexual practices; to educate participants about interpreting HIV antibody tests; and to instruct participants in the appropriate use of condoms. At the end of the meeting one participant will be selected by the group and research staff for additional training as a peer counselors. The person selected will receive intensive training in the art of counselling and communication on AIDS prevention and control; one day training. Upon successful completion of training the peer counselors will conduct the following activities:

- (1) serve as the referral link between their co-workers and the AIDS counselling clinic located at Songklanagarind hospital which provides AIDS testing and individual counselling;
- (2) educate their co-workers on AIDS prevention through individual and group discussions and I.E.C. materials; and
- (3) promote and distribute condoms among their co-workers.

## Research design

This study utilizes a quasi-experimental research design which is summarized in the following table:

Table 1. research design

Brothel	Focus Groups	Baseline Survey	Program Interventions 9 months	Follow-up Survey
Experimental	x	x	x	x
Control	x	x		x

The design is characterized by four sets of interrelated activities: focus groups, a baseline survey, a program intervention of 9 months, and a follow-up survey. The sample utilized for the study is a two group; experimental and control group. The experimental group is the voluntary prostitutes from Hat Yai districts, and the prostitutes from Songkla district and Padang Besar district were assigned to the control group. The groups of the study were divided by location of the prostitutes; Songkla district was 30 kilometers from Hat Yai district, and Padang Besar district was 60 kilometers from Hat Yai district.

### **Focus Groups.**

Four focus group sessions will be conducted, two with prostitutes from brothels in Hat Yai; and one each with prostitutes from brothels in Songkla and Padang Besar. A total of 34 prostitutes was selected for participation in the group sessions.

A focus group session is defined as a group discussion in which a small number of respondents (usually 6 to 9) under the guidance of a moderator, talk about topics of special importance for a particular research study. The informal group situation is intended to encourage participants to disclose behavior and opinions that they might not otherwise reveal in more formalized individual interview situations. The intentions of such sessions is not to provide statistically generalizable quantitative data but rather qualitative information exposing underlying attitudes, opinions and behavior patterns.

The objective of these sessions is to collect information on knowledge and perceptions of prostitutes regarding AIDS, including beliefs about how AIDS is detected, contracted, spread, prevented and treated. This information will then be utilized to assist in the preparation of questions for use in the questionnaire for the baseline survey.

### **Follow-up Surveys.**

A baseline survey will be conducted among the experimental and control groups prior to the implementation of the intervention in the experimental group. The follow-up survey or post-test was conducted at the end of the nine month intervention program. The information collected will be identical to the information collected in the baseline survey, so that data sets can be compared and changes in knowledge, beliefs, attitudes and practice behavior can be assessed.

Mini follow-up surveys were conducted at the end of the third and sixth months of the intervention program to monitor the progress of the program. This allows, (1) an identification of problems which may be hindering the effectiveness of the intervention program, and their solutions within the parameters of the original program; and (2) an assessment of whether or not the program effect if any is maintained through the latter half of the intervention period, a time when program effectiveness usually declines.

### **Analytical techniques**

Initially simple cross-tabulations between the independent and dependent variables were conducted at both baseline and follow-up, and the differences in proportions in the dependent variables between the surveys were calculated. This will allow comparisons to be made between the changes in the experimental and control populations. Analysis of significance of differences in these changes were done by using Chi-Square. Additional analyses were conducted which will utilize the independent variables at the time of baseline as predictors to assess whether or not the program exerts an effect upon levels of knowledge, belief, attitudes, and practice behavior at follow-up set of the effects of the nonprogram variables. Multiple regression techniques will be utilized for this portion of the of the analysis.

Results

Pre-intervention assessment

Of the 2,940 individuals contacted through September, 1989; 1,875 prostitutes were the experimental group and 1,065 were the control group. They accepted the invitation to participate in an interview prior to the intervention program as the experimental group. Table 2. shows comparative sociodemographic data on these two group at baseline.

The mean age for all the prostitutes was 21.9 years (mode, 20 years; median, 21 years; range 12 to 48 years), Nearly half of the prostitutes (43.6% in the control and 42.6 in the experimental) were between 20-24 years of age. The adolescent prostitutes was the second large proportion (33.9% in the control and 32.1% in the experimental). The largest proportion of the prostitutes came from the North of Thailand (71.9%); 53.8% in the control and 82.1% in the experimental, followed by the North-east (14.5%); 25.5% in the control and 8.2% in the experimental, and the central Plain (8.5%); 13.4% in the control and 5.7% in the experimental, with just 5 per cent from the South; 7.1% in the control and 3.7% in the experimental. Half of them came from the farming family; 46.9% in the control and 53.1% in the experimental, while 16.2% came from laborers or factory workers; 16.3% in the control and 16.1 in the experimental, and the reminder from house keepers, student and others.

As might be expected among girls from such backgrounds, they had been introduced to work at an early age and had some experience of work before coming to Songkla province. In such circumstances, few of had managed to garner much education. Some of them (11.7%); 15.0% in the control and 9.8% in the experimental had no education at all, and second large proportion (75.4%); 31.2% in the control and 30.8% in the experimental had 4 years or less than 4 years of elementary school. While the most of them (44.4%); 41.1% in the control and 46.8% in the experimental had 5 or 6 years of elementary school. and the remaining had made it into the secondary school (11.5%); 11.6% in the control and 11.5% in the experimental, and vocational school (1.1%); 0.9% in the control and 1.2% in the experimental. There was only one girl had a bachelor degree in the experimental group.

The prostitutes also had a sad history of personal and marital relation behind them. Nearly forty percent of the prostitutes had an unlucky marriage (divorced or widow); 48.5% in the control and 34.9% in the experimental, while the single and couple status was 59.4 per cent (50.7% in the control and 63.4% in the experimental) and 1.0 per cent (0.7% in the control and 1.2% in the experimental) respectively. The large proportion of them (38.1%); 43.6% in the control and 34.9% in the experimental were very recent prostitutes. The length of time they had been working as prostitutes was also in general very short, with just 6.1 per cent; 5.4% in the control and 6.4% in the experimental worked longer than 5 years. However, there were some influences to prostitution; migration to other provinces, changing the occupation, or marriage.

There were statistical differences in some items among both groups.

**Table 2. Comparative sociodemographic data**

Variable	control group (N=1,065) number (%)	experimental group (N=1,875) number (%)	P value
<b>Age (years)</b>			
less than 15	7 (0.6)	9 (0.4)	NS
15-19	362 (33.9)	603 (32.1)	NS
20-24	465 (43.6)	800 (42.6)	NS
25-29	181 (17.0)	334 (17.8)	NS
more than 29	50 (4.6)	129 (6.8)	S
<b>Province born</b>			
north	574 (53.9)	1,540 (82.1)	S
north-east	272 (25.5)	155 (8.2)	S
middle	143 (13.4)	108 (5.7)	S
south			
<b>Occupation before prostitution</b>			
help in the family farm	500 (46.9)	997 (53.1)	S
laborers, factory workers	174 (16.3)	303 (16.1)	NS
small trading	89 (8.3)	158 (8.4)	NS
house keepers	81 (7.6)	125 (6.6)	NS
students	13 (1.2)	35 (1.8)	NS
other	207 (19.4)	233 (12.4)	S
<b>education level</b>			
illiterate	160 (15.0)	185 (9.8)	S
elementary school 1-4 years	333 (31.2)	578 (30.8)	NS
elementary school 5-6 years	438 (41.1)	870 (46.8)	S
secondary school	124 (11.6)	216 (11.5)	NS
certificate or bachelor degree	10 (0.9)	24 (1.2)	NS
<b>marital status</b>			
single	540 (50.7)	1,190 (63.4)	S
couple	8 (0.7)	23 (1.2)	NS
divorce or widow	517 (48.5)	656 (34.9)	S
<b>duration of prostitution (years)</b>			
less than 1	465 (43.6)	656 (34.9)	S
1-2	221 (21.0)	470 (25.0)	S
2-3	157 (14.7)	356 (18.9)	S
3-4	115 (10.7)	192 (10.2)	NS
4-5	46 (4.3)	79 (4.2)	NS
more than 5	58 (5.4)	120 (6.4)	NS

Panel 1 and panel 2 study were used in this study; the majority of the prostitutes were lost follow-up.

The prostitutes' awareness about AIDS is reported in Table 3. Television, radio and the press had given the information about AIDS to 99.6 per cent of the prostitutes; 98.4% in the control and 98.6% in the experimental, and this high risk subgroup were alarmed for the information of fatal disease (93.1%); 93.3% in the control and 93.0% in the experimental, and communicable disease (93.1%); 93.2% in both groups. Most of the prostitutes were already aware about AIDS. After the intervention the awareness had no significant change ( $p > 0.05$ ) between panel 1 and panel 2 of the both groups.



**Table 3. Pre-intervention and post-intervention awareness change**

item	baseline No. (%)	panel 1 No. (%)	panel 2 No. (%)	P value
<b>control group*</b>				
heard of AIDS from mass media	1,084 (98.4)	314 (98.4)	317 (99.3)	NS
AIDS is a life threatening disease	994 (93.3)	297 (93.1)	312 (97.8)	S
AIDS is communicable disease	993 (93.2)	296 (92.7)	308 (96.5)	S
<b>experimental group**</b>				
heard of AIDS from mass media	1,851 (98.6)	759 (99.3)	761 (99.6)	NS
AIDS is a life threatening disease	1,744 (93.0)	713 (93.3)	754 (98.7)	S
AIDS is communicable disease	1,747 (93.2)	719 (94.1)	756 (98.9)	S

\* baseline N=1,065, panel 1 and panel 2 N=319

\*\* baseline N=1,875, panel 1 and panel 2 N=764

NS= no significance

S=significance

The five items of concern about AIDS was described in Table 4. The major concern included feeling fear or worry about AIDS (94.1%); 95.6% in the control and 93.3 in the experimental, followed by beginning to see self as "at risk" (93.25); 93.7% in the control and 93.0 in the experimental, and seeking additional information (87.1%); 83.2% in the control and 89.3% in the experimental, and beginning or increasing to talk about AIDS with friend (84.3%); 79.4% in the control and 87.1% in the experimental, and increasing attention to AIDS situation (75.1%); 68.0% in the control and 79.2% in the experimental. The table compares the concern about AIDS at baseline prior intervention, and no significant change was found in pre-intervention versus post-intervention between panel 1 and panel 2 of the both groups.

**Table 4. Pre-intervention and post-intervention concern change**

Item	baseline No. (%)	panel 1 No. (%)	panel 2 No. (%)	P value
<b>control group*</b>				
begin/increase talking about AIDS with friends	864 (79.4)	253 (79.3)	259 (81.1)	NS
seek information about AIDS	887 (83.2)	265 (83.0)	271 (84.9)	NS
increase attention to AIDS situation	725 (68.0)	233 (73.0)	213 (66.7)	NS
feel fear or worry about AIDS	1,019 (95.6)	307 (96.2)	298 (93.4)	NS
begin to see self as "at risk"	998 (93.7)	291 (91.2)	309 (96.8)	S
<b>experimental group**</b>				
begin/increase talking about AIDS with friends	1,634 (87.1)	672 (88.0)	665 (87.0)	NS
seek information about AIDS	1,674 (89.3)	689 (90.2)	693 (90.7)	NS
increase attention to AIDS situation	1,484 (79.2)	617 (80.7)	611 (80.0)	NS
feel fear or worry about AIDS	1,749 (93.3)	708 (92.7)	717 (93.8)	NS
begin to see self as "at risk"	1,743 (93.0)	716 (93.7)	753 (98.6)	S

\* baseline N=1,065, panel 1 and panel 2 N=319

\*\* baseline N=1,875, panel 1 and panel 2 N=764

NS= no significance

S=significance

The knowledge and positive response (correct answer) about 10 items were summarized in Table 5. In baseline survey the three modes of transmission were highly recognized: heterosexual transmission (92.1%); 92.3% in the control and 92.0% in the experimental, contaminated needle (92.4%); 90.9% in the control and 93.3% in the experimental, and vertical transmission (89.6%); 89.6% in the control and 89.7% in the experimental. But before the intervention the personal knowledge combined with positive response was rather low: identifying the infected person by general appearance (74.5%); 69.7% in the control and 77.2% in the experimental, and casual contact (55.7%); 42.4% in the control and 63.3% in the experimental. The remaining had low positive response less than fifty per cent: misunderstanding that every infected disease must have the symptoms and sign (38.7%); 32.5% in the control and 42.3% in the experimental; and through eating utensil (37.5%); 28.0% in the control and 42.9% in the experimental, and through the air (34.7%); 24.1% in the control and 40.9% in the experimental, and by using the toilet (27.8%); 19.3% in the control and 32.7 in the experimental, and getting AIDS from mosquitoes (19.2%); 11.9% in the control and 23.5% in the experimental respectively. However, the not sure response was vary from 6.2 per cent to 25.2 per cent among the items.

In all items except the knowledge the modes of transmission; heterosexual transmission had no significant change was found in pre-intervention versus post-intervention that assessed the knowledge and positive response about AIDS.

**Table 5. Pre-intervention and post-intervention knowledge and positive response change**

Item	baseline No. (%)	panel 1 No. (%)	panel 2 No. (%)	P value
<b>control group*</b>				
heterosexual intercourse with an infected men	983 (92.3)	295 (92.4)	304 (95.3)	NS
use of contaminated needle in drug abuse	969 (90.9)	289 (90.6)	308 (96.5)	S
vertical transmission from infected mother to her baby	955 (89.6)	286 (89.6)	301 (94.3)	NS
get AIDS from mosquitoes	127 (11.9)	42 (13.1)	83 (26.0)	S
social contact through food preparation and eating utensils	299 (28.0)	89 (27.9)	149 (46.7)	S
can get AIDS by using the toilet	206 (19.3)	61 (19.1)	133 (41.6)	S
contact through the air such as cough or sneeze	257 (24.1)	75 (23.5)	127 (39.8)	S
casual contact such as hugging or grasping hand	452 (42.4)	135 (42.3)	204 (63.9)	S
infected person can be identified by general appearance	743 (69.7)	204 (63.9)	271 (84.9)	S
every infected person must have some symptoms and sign of AIDS	347 (32.5)	78 (24.4)	140 (43.8)	S
<b>experimental group**</b>				
heterosexual intercourse with an infected men	1,725 (92.0)	709 (92.8)	752 (98.4)	S
use of contaminated needle in drug abuse	1,749 (93.3)	720 (94.2)	748 (97.9)	S
vertical transmission from infected mother to her baby	1,682 (89.7)	687 (89.9)	743 (97.2)	S
get AIDS from mosquitoes	440 (23.5)	208 (27.2)	558 (73.0)	S
social contact through food preparation and eating utensils	805 (42.9)	352 (46.1)	658 (86.1)	S
can get AIDS by using the toilet	614 (32.7)	280 (36.6)	609 (79.7)	S
contact through the air such as cough or sneeze	766 (40.9)	336 (44.0)	611 (80.0)	S
casual contact such as hugging or grasping hand	1,186 (63.3)	506 (66.2)	704 (92.1)	S
infected person can be identified by general appearance	1,448 (77.2)	596 (78.0)	706 (92.4)	S
every infected person must have some symptoms and sign of AIDS	793 (42.3)	360 (47.1)	533 (69.8)	S

\* baseline N=1,065, panel 1 and panel 2 N=319

\*\* baseline N=1,875, panel 1 and panel 2 N=764

NS= no significance

S=significance

The situation of prostitutes who defining have no other means of subsistence, promiscuity being their trade, is particular difficult to refuse the clients. The large proportion of the prostitutes (48.5%) had 1-5 clients per week, followed by 6-10 clients (29.9%), and the remaining (21.5%) had more than 10 clients per week. In Table 6, the types of sexual practice "at risk" consists of oral sex 11.7%; 11.0 % in the control and 12.1% in the experimental, and anal sex 3.6%; 2.9% in the control and 4.1% in the experimental. The table compares the sexual behavior at risk about AIDS at baseline prior intervention, and significant change was found in pre-intervention versus post-intervention between panel 1 and panel 2 of the both groups.

**Table 6.** Pre-intervention and post-intervention sexual behavior change

Item	baseline No. (%)	panel 1 No. (%)	panel 2 No. (%)	P value
control group*				
oral sex	118 (11.0)	34 (10.6)	27 (8.4)	NS
anal sex	31 (2.9)	6 (1.8)	8 (2.5)	NS
experimental group**				
oral sex	226 (12.1)	87 (11.4)	44 (5.8)	S
anal sex	77 (4.1)	28 (3.7)	6 (0.8)	S

\* baseline N=1,065, panel 1 and panel 2 N=319

\*\* baseline N=1,875, panel 1 and panel 2 N=764

NS= no significance

S=significance

As seen in Table 7, the items related to discuss STD and HIV prevention showed the distribution of response; persuasion the clients for condom usage (95.7%); 96.0% in the control and 95.5% in the experimental, and carrying condom (88.4%); 90.5% in the control and 87.3% in the experimental, and examination of the clients' external genitalia (63.6%); 60.5% in the control and 65.3% in the experimental, and refusal the clients whom to be STD (78.7%); 78.4% in the control and 78.9% in the experimental, and interesting the new method in HIV prevention (93.1%); 93.6% in the control and 92.9% in the experimental, and regular test for HIV antibody (52.9%); 30.3% in the control and 65.9% in the experimental, and regular check up for STD (99.5%); 99.4% in the control and 99.6% in the experimental.

In all items except persuasion the clients for condom usage and interesting the new method in HIV prevention had no significant change was found in pre-intervention versus post-intervention between panel 1 and panel 2 of the both groups.

**Table 7. Pre-intervention and post-intervention preventive behavior change**

Item	baseline No. (%)	panel 1 No. (%)	panel 2 No. (%)	P value
<b>control group*</b>				
persuade the clients to use condom	1,023 (96.0)	311 (97.4)	315 (98.7)	NS
carry condom to use any time or by hand	964 (90.5)	279 (87.4)	307 (96.2)	S
examine the external genitalia for the signs of STD	645 (60.5)	204 (63.9)	245 (76.8)	S
refuse the clients whom seem to be STD to have sex	835 (78.4)	237 (74.2)	282 (88.4)	S
have the interest to prevent AIDS if there have a easy method such as foam or film coated antiviral agent	997 (93.6)	297 (93.1)	308 (96.5)	NS
have a regular test for HIV antibody every three months	323 (30.3)	43 (13.4)	211 (66.1)	S
have a regular check up for STD every week	1,059 (99.4)	317 (99.3)	318 (99.6)	NS
<b>experimental group**</b>				
persuade the clients to use condom	1,791 (95.5)	736 (96.3)	755 (98.8)	S
carry condom to use any time or by hand	1,637 (87.3)	696 (91.1)	747 (97.8)	S
examine the external genitalia for the signs of STD	1,225 (65.3)	509 (66.6)	636 (83.2)	S
refuse the clients whom seem to be STD to have sex	1,480 (78.9)	595 (77.9)	716 (93.7)	S
have the interest to prevent AIDS if there have a easy method such as foam or film coated antiviral agent	1,742 (92.9)	716 (93.7)	747 (97.8)	S
have a regular test for HIV antibody every three months	1,235 (65.9)	599 (78.4)	753 (98.6)	S
have a regular check up for STD every week	1,867 (99.6)	759 (99.3)	763 (99.9)	NS

\* baseline N=1,065, panel 1 and panel 2 N=319

\*\* baseline N=1,875, panel 1 and panel 2 N=764

NS= no significance

S=significance

Overall, group education and peer counsellors had some significant change in the level of health behavior change continuum; (1) awareness; no significant change (2) concern; no significant change (3) knowledge and attitude; significant change in the positive response of heterosexual transmission and vertical transmission (4) sexual behavior at risk; significant change in oral sex and anal sex (5) preventive behavior; significant change in persuasion the clients for condom usage and interesting the new method in HIV prevention.

## Discussion

Current research indicates that the acquisition of knowledge through educational materials is not, in itself, sufficient to produce behavior change in many of the individuals whose behaviors place them at risk of acquiring or transmitting HIV infection.

In Thailand, the Ministry of public health's strategy was originally to urge prostitutes to stop working after they contracted the disease, and put the onus on the women to make their customers use condoms so that they would be safe from the virus. But many prostitutes refused to stop working after contracting the fatal virus, claiming that they had to earn money for their families. The prostitutes claimed their clients refused to use condoms, but nonetheless slept with them despite the health officials warnings. The failure to obtain positive results from this initial strategy provoked the re-think in AIDS policy. However, the women are, of course, compulsory to visit (call on) the health officials every at VD center.

The AIDS campaign in the mid 1989 had been affected by the AIDS scare which swept Malaysia and Singapore during August-September due, in part, to stern warning by two government to their people. But the tourist situation has returned to normal and the number of visitors has probably risen above the level before AIDS campaigns was launched. While fear of AIDS may be based on misconceptions about the disease's transmission mechanism, it is possible that negative attitudes concern AIDS also reflex prejudice towards its victims.

The ability of a group and peer counsellor to influence the level of health behavior change continuum in some positives ways suggests that this type of intervention may be effective in enabling prostitutes to adopt low-risk sexual and preventive activities. Therefore, it is important to utilize the other educational program in addition to this intervention in implementing AIDS risk reduction program for the prostitutes.

The fact that a majority of the prostitutes (including the peer counsellors) failed to attend the follow-up surveys because of the migration of the prostitutes; most of them returned home for Songkarn festival during April, 1990 and did not come back, and some of them went to work in the other provinces according to the network of sex industry. If the peer counsellors are to function as information resources for the prostitutes, they will be provided with appropriated information.

The analysis of awareness and concern about AIDS of the two groups prior to intervention demonstrated the extraordinary high level of awareness and rather high level of concern. This may indicate that for the prostitutes, the mass media had promote adequate perception of information. However, group education and peer counsellors had some significant change in the level of health behavior change continuum; especially in knowledge and attitude; sexual behavior, and preventive behavior.

No significant change was detected in the some aspects of the level of health behavior change continuum. Although it is possible that this intervention program is not capable of influencing all of these levels, this is likely since significant positive change was not achieved in all other areas surveys. An explanation may be that the prostitutes who incapable of reducing or unwilling to reduce their sexual behavior and preventive behavior have not

already done so as a result of the clients' bargaining power. In Thailand found that the majority of female sex worker do not yet require their male clients to use condoms, which is attributed to a "traditional aversion" of Thai Men to condoms, and "female passivity" in sexual relations. many Thai clients complained about loss of sensation. Although this is a positive change and should continue to be reinforced by concerned health officials.

The AIDS prevention project is ongoing; in the future, an additional intervention program is planned, one that has a skills training component in addition to the group educational session. This will enable an evaluation of the differential efficacy of each component. The difficulty of developing valid measures of the level of behavior change was highlighted by the feed back obtained from the participants in focus group in which the measure were piloted. The significant positive correlations among the level of behavior change after the intervention suggest that tap into the educational model. Belief and behavior change are thought to require much more extensive intervention, including the examination of the social context in which the prostitutes are exploring their sexuality. Social and behavioral research on the sexual practices and beliefs. for example is highly sensitive, culturally speaking. Yet, it is vital to design of effective prevention strategies for specific target populations. Finally, these results demonstrate the importance and appropriateness of applying existing health promotion theory and research findings to the field of AIDS risk reduction. The health education and media strategies that used, and the factors unique to the prostitutes that need to be considered. We hope that this report will not only provide a foundation for the discussion of health education strategies for reducing the risk of AIDS, but will also prove useful to local, regional, and national organization in developing the intervention programs.

### Summary

There are few published evaluations of the efficacy of health promotion campaigns for AIDS risk reduction in the prostitutes. Therefore, it is important to utilize existing research and theory about health behavior derived from the design and evaluation of other risk reduction programs in designing and implementing AIDS risk reduction programs for prostitutes. Group education and peer counsellors were assigned into the prostitute population. The study had enrolled 2,940 prostitutes of Songkla province since September, 1989; 1,875 prostitutes were the experimental group and 1,065 were the control group. Panel 1 and panel 2 study were used in this study; the majority of the prostitutes were lost follow-up. The remaining were 764 prostitutes in the experimental group and 319 prostitutes in the control group.

Overall, group education and peer counsellors had some significant change in the level of health behavior change continuum; (1) awareness; no significant change (2) concern; no significant change (3) knowledge and attitude; significant change in the positive response of heterosexual transmission and vertical transmission (4) sexual behavior at risk; significant change in oral sex and anal sex (5) preventive behavior; significant change in persuasion the clients for condom usage and interesting the new method in HIV prevention.

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