Effectiveness of Sexual Harassment Risk Reduction Education based on Health Belief Model: A Quasi Experimental Study

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ABSTRACT

Background: Sexual harassment is a public health problem which has serious effects to girls' psychosomatic health. Due to social stigma and lack of skills, even the girls can't refuse sexual harassment. This study was done to evaluate the effectiveness of sexual harassment risk reduction education based on Health Belief Model.

Methods: A quasi experimental study was conducted in secondary level public schools of Tokha Municipality, Kathmandu. The study was done from 5th February 2016 to 5th May 2016. The sample size was 117 for each group which was calculated with input of 95% CI, power of test=80%, assuming 38 % change based on baseline study and 10% nonresponse rate. The ratio of participants in intervention and control group was 1:1 and the total numbers of participants were 128 in pretest and 121 in posttest at the intervention group and 131 in pretest and 122 in posttest in the control group. Data was collected by using self-administered questionnaire for knowledge and likert's scale was used for attitude and behavioural intention. Lecture, group discussion, role play and brainstorming were methods used for intervention. After two weeks of intervention, a post-test was done.

Results: Testing of hypothesis revealed that the knowledge about sexual harassment, anti-sexual harassment attitude and behavioural intention of using refusal skills in sexual harassment in the intervention group were significantly higher than that of control groups i.e. $p<0.001$, $p<0.001$ and $p<0.05$ respectively.

Conclusion: Sexual harassment risk reduction education intervention based on health belief model is effective to increase the knowledge, attitude and behavioural intention of participants. The findings of the study encourage further exploring creative approaches to programming in other violence prevention areas.

Keywords: Sexual harassment; Knowledge; Attitude; Behavoioural intention, Health belief model.

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INTRODUCTION

Sexual harassment (SH) is unwelcome conduct of a sexual nature, which can include unwelcome sexual advances, requests for sexual favors or other verbal, nonverbal or physical conduct of a sexual nature.[1] As SH encompasses a vast range of behaviors, there is much confusion about the problem. In South Asia, SH of girls and women is unrecognized as a form of abuse and harassment is referred to as "eve teasing".[2] In fact, harassment victims often do not understand what they are experiencing or even why they are being hurt by it. Also, the people around the victim may have difficulty in understanding and accepting that the harassment is occurring and their reactions may increase the victim's confusion and isolation. When SH victims speak out what they have experienced, instead of the harassers, they are often considered being the problem. For these reasons, and the fear that harassment can incite, most victims never report what they have experienced.

SH is a public health concern and detrimental to girls' psychosomatic health, a fact that has been expressed by students, educators, and community officials throughout the last decade [3-4]. At the individual level subjects of harassment experience emotional stress, depression, fatigue, anxiety, an inability to concentrate, humiliation and anger among other things.[5] SH should not be viewed as a private issue. Nor should harassment be considered purely a woman's issue .[5] SH is broadly recognized as a phenomenon that has serious and pervasive implications for society, not only as a social issue but also as an economic, legal and psychological well-being issue.[6] While SH and abuse of girls has come to be talked about relatively open in much of the industrialized world and Sub-Saharan Africa over the past few years, this is not the case in South Asia, where public discussion of sexual matters is largely taboo, especially where it relates to children. The issue of SH in adolescents is not prioritized and people do not want to talk openly though it is a big issue. SH is common among adolescents girls but due to social stigma and lack of skills, they can't refuse it.

The Health Belief Model[7] is one of the most widely tested models of health behaviours and has been very successful in predicting a plethora of health related behaviour and developing various health promotion interventions.[8] HBM proposes that people will be inspired to carry out preventive health behaviours in response to a perceived threat to their health.[9] It is predicted that health belief change will be positively correlated with protective behavior change.[10] This model declares that the individual perceived susceptibility to SH, perceived seriousness of SH and its consequences, perceived benefits in using refusal skills to reduce SH, perceived barriers in using refusal skills are essential to design a fruitful educational intervention on SH. HBM has six domains- perceived susceptibility to disease / threat to event, perceived severity, perceived barriers, perceived benefits, cues to action, and health action.[11] Understanding to these domains is important in the planning process for effective educational interventions [Figure 1]. Hochbaum and Rosenstock developed the HBM framework as a model for health educators. Application of this model in education intervention changes the individual's belief that led to perform safe behaviors.[11]

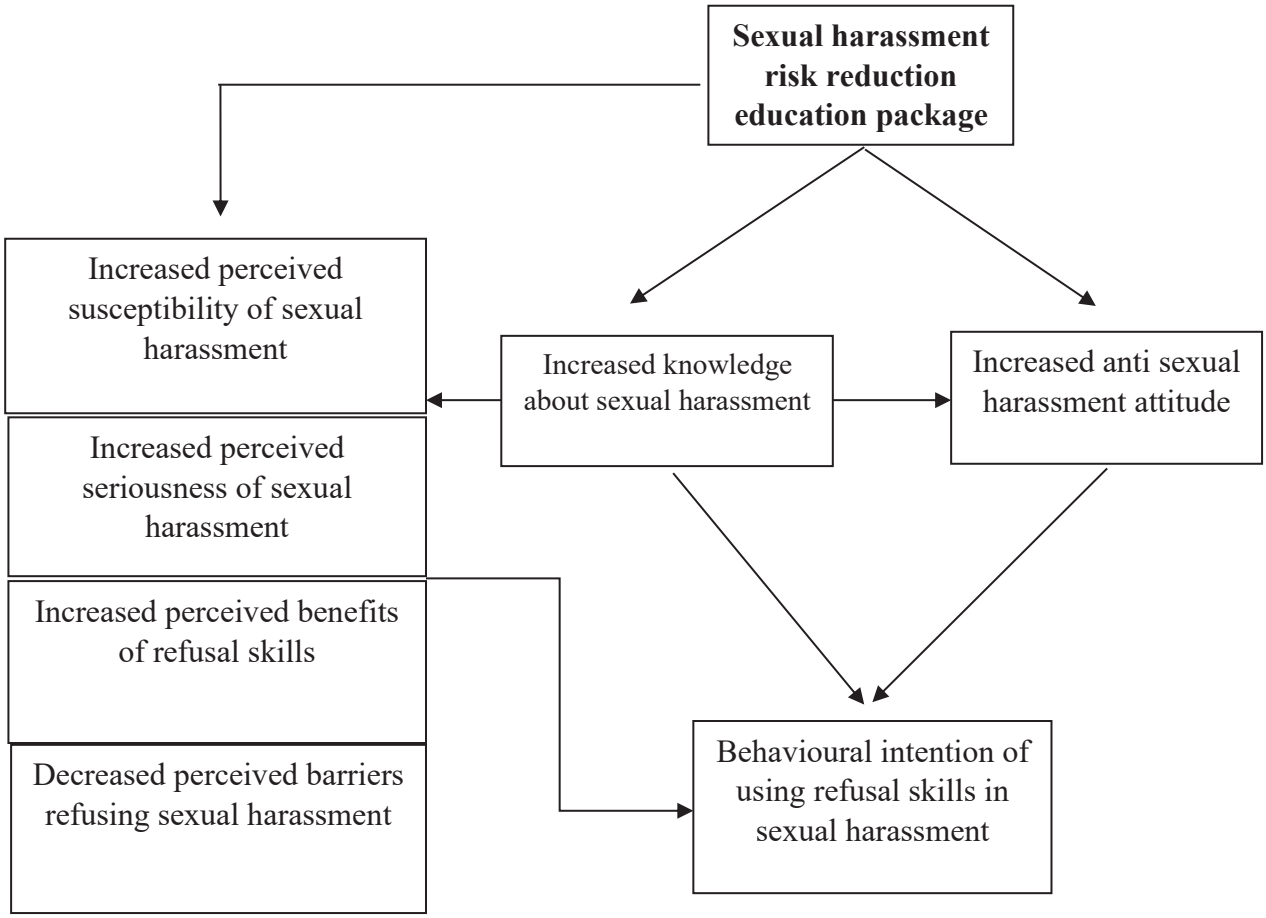

Figure 1: Theoretical framework of HBM with behavioural intention

METHODS AND MATERIALS

This was quasi experimental (pre-test and post-test with control group) study conducted among female students of secondary public school in Kathmandu. The required sample size for this study was 117 for each group which was calculated by using formula where is z- score equal to 1.96, (1-β) is the power of the test which was taken as 80 percent i.e. 0.8 and = desired change percent assuming 38 percent change in knowledge based on baseline study and adding 10 percent non response rate. Tokha Municipality, a semi-urban area located in the outskirts of Kathmandu metropolitan city was selected purposively. There were seven public secondary schools in Tokha Municipality. Among them three public schools were selected for study randomly. Then one school was randomly assigned as intervention school and two schools assigned as control. Due to large number of students, only class nine and ten were taken and divided into two intervention groups. Two control groups having similar characteristics were taken from other two different schools. The ratio of participants in intervention and control group was 1:1 and the total numbers of participants were 128 in pretest and 121 in posttest at the intervention group and 131 in pretest and 122 in posttest in the control group. Data were collected using structured questionnaires tool which was developed after comprehensive review of the relevant literature and continuous consultation with experts. This tool contain 10 knowledge related questions (yes, no and don't know), 10 attitude item scale, 11 HBM item scale and 3 behavioural intention item scale (five point likert's scale).

The knowledge was assessed based on the level of knowledge categorized into three levels: little knowledge- those with 50 percent or less correct responses, moderate knowledge- those with 51 to 79 percent correct responses and good knowledge- those

with 80 percent or more correct responses. Content validity of the research instrument was validated by a group of professionals including subject expert and linguistic professionals. Research instrument was developed in English language and translated into Nepali language by the help of Nepali subject expert teacher. To ensure consistency in meaning provided by both languages were compared. For the clarity and effectiveness Nepali version of the instrument was used. All developed instrument was pretested in public secondary school which was not in the sample of study and necessary corrections were done such as sequencing of questions, wording correction etc. Reliability testing of questionnaire measuring belief based on HBM was done using Cronbach's alpha which were within acceptable range for all subscales i.e. > 0.7.

The existing materials regarding the prevention/ reduction of SH risk was reviewed and modified in local contexts. Pre-testing of intervention package and necessary modifications were done. Intervention was concluded in the form of education based on HBM through using a protocol. In the intervention group, three sessions were taken each of 45 minutes in same day. 10 minutes break was taken between each session. Students were introduced about SH, out of danger and refusal skills. The sessions were taken by researcher herself. Slides and videos were shown. Lecture, group discussion, role play and brainstorming were methods used for intervention. A short film related with SH was shown to intervention group which had raised the issues of SH and shown how the victims solved their problem.

The theoretical framework used in this educational intervention was Health Belief Model. The construct of perceived threat of the Health Belief Model was addressed when the participants discussed how any person can be a victim of SH and what serious effect can be occurred from it. Likewise benefits and barriers of using refusal skills in any type of SH were discussed and participants were motivated to reduce the barriers. The interventions involved the efforts to decrease victim blaming attitude among the participants. Post-test was conducted after two weeks in both control and intervention groups. The intervention package was delivered to control schools after post-test in order not to deprive them from the education.

Data checking, compiling and editing were done manually by the researcher each day. Data entry format was prepared in computer by using EpiData (3.1 versions). Data was imported into IBM SPSS (version 21) where consistency of data was further checked, edited, coded and analyzed. Descriptive statistics were used to summarize the data. For each participant, the attitude and behavior intentions subscales were computed by summing the items, making sure reverse scoring was used with the appropriate items. The means of the total scores for each subscale were then generated. By summing all items for each participant and then calculating the average of the total score. Finally, the means of all subscale averages were estimated by dividing the prior calculated averages by the number of items on each subscale.

Normality of the control and experimental group data were assessed with Q and Q plots and histogram. According to the results, knowledge test data was normally distributed. Other data (gathered by the attitude scale, HBM scale and Behavioural Intention scale) was not normally distributed. To compare the knowledge test mean scores, parametric test (Independent-sample t-Test) was used whereas non parametric test (Man-Whitney U test) was used to analyze the difference in pre-test and post-test scores of attitude, HBM construct and behavioural intention (BI) scale.

Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Institute of Medicine, Maharajgunj Medical Campus. Written consent from the respective school and District Education office, Kathmandu was taken prior to approaching the students. Written consent from students and their parents/guardians was taken by explaining the purpose of the research study.

RESULTS

The mean knowledge in the pretest of the intervention group was 5.04 with S.D. 1.81 which was increased to 8.81 with S.D. 1.29 in posttest whereas the mean knowledge in the pretest of the control group was 4.97 with S.D. 2.01 which was slightly increased to 5.04 with S.D. 1.81 in posttest. The percentages of respondents who had got 80 percent or more in knowledge item questionnaire was increased by 68.5 percent in the intervention group from pre-test to post-test whereas there was a slight increase of around 4.1 percent from pre-test to post-test in the control group (Table 1). The intervention group had an overall pre-test mean for the anti SH attitude subscale of 3.45 with S.D. 0.45, which was increased to 3.69 with S.D. 0.46 at post-test. However, the control group did not report any change in anti SH attitude scores between pre-test and post-test as both overall mean scores were 3.3. The intervention group had an overall pre-test mean for the refusal skills-related behavioral intentions subscale of 3.90 with S.D. 0.70, which increased to 4.01 with S.D. 0.75 at post-test. Finally, for the control group the overall pre-test mean for behavior intention scores was 3.85 with S.D. 0.95 at pre-test and decreased to 3.71 with S.D. 0.92 at post-test (Table 2).

The independent t-test revealed that the mean scores of knowledge between the two groups was statistically insignificant before intervention [$t(257)=0.21$, $p>0.05$]. After intervention the mean score of knowledge in the intervention group was statistically significant than that of control group. [$t(241)=15.74$, $p<0.05$)] (Table 3). Mann-Whitney U test revealed that before intervention the mean scores of attitude towards sexual harassment between the two groups was statistically insignificant ($p>0.05$). After intervention the distributions of attitude scores between experimental and control group were found to differ significantly ($p<0.001$) (Table 4). Mann-Whitney U test revealed the mean scores of behavioural intention of using refusal skills in SH between two groups was statistically insignificant ($p>0.05$). After intervention behavioural intention scores in the intervention group was statistically significant ($p <0.05$) (Table 5). Total HBM construct scale was significantly different in post-test, but when we compared each of the construct separately, there was no significantly different in post-test in intervention group as compared to control group (Table 6).

Table 1: Overall assessment of knowledge

Knowledge level	Control group		Intervention group	
	Pre-test (n=131)	Post-test (n=122)	Pre-test (n=128)	Post-test (n=121)
Little knowledge	52 (39.7%)	44 (36.1%)	54 (42.2%)	0 (0%)
Moderate knowledge	65 (49.6%)	60 (49.1%)	59 (46.1%)	24 (19.8%)
Good Knowledge	14 (10.7%)	18 (14.8%)	15 (11.7%)	97 (80.2%)
Mean Knowledge	4.97±2.01	5.42±1.99	5.04±1.81	8.81±1.29

Table 2: Pretest posttest descriptive statistics on control and intervention participants

Constructs	Control		Intervention	
	Mean±SD		Mean ±SD	
	Pretest (n=131)	Posttest (n=122)	Pretest (n=128)	Posttest (n=121)
Attitude towards SH	3.34 ± 0.45	3.37 ± 0.54	3.45 ± 0.45	3.69 ± 0.46
Perceived susceptibility of SH	2.79 ± 0.97	2.79 ± 0.76	2.67 ± 0.16	2.97 ± 0.75
Perceived seriousness about SH	3.56 ± 0.08	3.54 ± 0.86	3.55 ± 0.86	3.53 ± 0.95
Perceived benefits of using refusall skills in SH	3.45 ± 0.89	3.55 ± 0.84	3.34 ± 0.91	3.55 ± 0.93
Perceived barriers of using refusal skills in SH	2.67 ± 0.96	2.71 ± 0.97	2.97 ± 0.94	3.05 ± 0.75
Behavioural intention f using refusal skills in SH	3.85 ± 0.95	3.71 ± 0.92	3.90 ± 0.70	4.01 ± 0.75

Table 3: Comparison of Pre-test and post-test mean of knowledge

Test	Group	n	Mean	SD	Df	t	p
Pre-test	Control	131	4.97	2.01	257	0.29	0.770
	Intervention	128	5.04	1.81			
Post-test	Control	122	5.42	1.99	241	15.74	<0.001
	Intervention	121	8.81	1.29			

Table 4: Comparison of pre-test and post-test mean ranks of attitude

Test	Group	n	Mean rank	z	p
Pre-test	Control	131	121.94	-1.758	0.079
	Intervention	128	138.25		
Post-test	Control	122	100.04	-4.902	<0.001
	Intervention	121	144.14		

Level of confidence ∝=0.05

Table 5: Comparison of pre-test and post-test mean ranks of behavioural intention of using refusal skills

Test	Group	n	Mean rank	z	p
Pre-test	Control	131	131.48	-0.326	0.744
	Intervention	128	128.49		
Post-test	Control	122	110.24	-2.665	<0.05
	Intervention	121	133.86		

Level of confidence ∝=0.05

Table 6: Comparison of Pre-test and post-test mean ranks of HBM construct scale

HBM Construct	Test	Control group	Experimental group	z	p
Perceived Susceptibility	Pre-test	135.66	124.20	-1.24	0.214
	Post-test	121.02	122.98	-0.219	0.827
Perceived Seriousness	Pre-test	129.77	130.24	-0.052	0.959
	Post-test	121.21	122.79	-0.178	0.859
Perceived Benefits	Pre-test	133.38	126.54	-0.742	0.458
	Post-test	116.73	127.31	-1.188	0.235
Perceived Barriers	Pre-test	119.19	141.07	-2.365	<0.05
	Post-test	110.18	133.92	-2.648	<0.05
Total HBM construct scale	Pre-test	122.45	137.72	-1.642	0.101
	Post-test	100.72	143.46	-4.742	**<0.001**

Level of confidence ∝=0.05

DISCUSSION

Sexual harassment risk reduction education program based on the HBM seems effective in changing the behavioral intention of adolescent girls to reduce the risk for SH. After intervention, girls in intervention group presented significant improvement in behavioral intention. Behavioral intentions are the most often utilized proxy in studies that aim to alter behavior. Intentions are often measured because most human actions are under rational control, so an individual's intentions are a reasonable predictor of their behaviour.[12] This ropes our hypothesis that a health education intervention with the application of HBM can be effective in encouraging the usage of refusal skills in SH by adolescent girls to prevent SH. The intervention increased the girl's knowledge above and beyond that of control groups at post-test which is statistically significant. These results are consistent with previous studies that have found sexual assault prevention programs can be effective in increasing participant knowledge and shifting attitude to be less supportive of assault.[13] Such a change in attitude can lead girls to be more proactive in preventing SH and result in school cultures that disdain, rather than subtly approve of SH. This could be a key component in decreasing SH on school.

Though the SH risk reduction education package significantly changes the knowledge, attitude and behavioural intention of the intervention group, there is no significantly difference in the variable of HBM in intervention group. The change in HBM variable is only noted if it is analyzed by summing all. Doing separately analysis of each construct of HBM perceived susceptibility, perceived severity, perceived benefits and perceived barrier is not significant difference across categories of group. This may be due to weak psychometric scale of HBM variable. Although knowledge and attitude change are important precursors to addressing SH, it is likely this is not sufficient to lead to changes in actual behaviours.[14]

It may be unrealistic to expect a standard, three-session class about 2 hour 15 minutes time duration SH risk reduction education package to have a lasting impact on behavior change of participants. Therefore, the goal of enhancing the effectiveness of this programming must never pause since the improvement of these interventions is essential to enhance the safety and wellbeing of girls nationwide. With the continued advancement of SH risk reduction education research and practice, including increased attention to factors such as theoretical bases of change, clearly defined content and longer exposure to educational information with clearly incorporating a skill building component can be effective to practice the refusal skills in SH and reduce its risk.

CONCLUSION

Sexual harassment risk reduction education intervention based on the health belief model is effective to increase the knowledge, attitude and behavioural intention of using refusal skills while experiencing SH among school girls. Education package regarding these issues is necessary to aware girls and empowering them with skills to handle this situation.

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