



Self-Defense Training for Enhancing Self-Esteem: Sexual Harassment Preventive Strategy—A Pilot Study among High School Girls of Coastal Region of Karnataka, India

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J Health Allied Sci^{NU}

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Abstract

Background Sexual harassment is a major public issue among teens. As a result, encouraging teenage girls to claim their rights and providing an atmosphere free of prejudice and violence is vital. Promoting high self-esteem may minimize the probability of teenagers experiencing the negative repercussions of harassment.

Objective This study sought to explore the potential of self-defense training to enhance self-esteem among high school girls.

Methods A quantitative research approach with quasi-experimental design was adopted. Three government high schools from seven clusters were randomly selected from Mangalore South Zone and 38 high school girls were recruited (control group = 18 from two schools and intervention group = 20 from one school). Data were collected using sociodemographic proforma and Rosenberg self-esteem scale. After pretest, eight sessions of self-defense training were conducted and a posttest was administered with an interval of 7 days, 1 month, and 3 months after the intervention. Ethical approval for the study was obtained.

Results A significant difference was found between the self-esteem scores of the intervention and control groups ($p < 0.001$).

Conclusion This study revealed that the self-defense training was effective in enhancing self-esteem. Enhancement of self-esteem and awareness of self-protection is key to remaining free from violence, assault, and harassment.

Keywords

- self-esteem
- self-defense training
- sexual harassment
- prevention
- adolescent girls

Introduction

Sexual harassment is a major public issue among teens. One in 5 women and 1 in 13 men report having been sexually abused as a child aged 0 to 17 years.¹ Around 120 million girls and young women under 20 years of age have suffered some form of forced sexual contact.¹ The prevalence of child sexual abuse rate of Asia is 11.2% for girls and 4.1% for boys.² Around 53% of Indian children reported experiencing different kinds of abuse,

which included being forced to nude photography, assault, inappropriate touching, and sexual abuse.^{3,4} The acts of abuses like eve-teasing, molestation, sexual abuse, and rape cover both physical and verbal abuses. However, they are all different parts of what is commonly known as sexual harassment or sexual misconduct.⁵ As per Vishaka guidelines and the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, sexual harassment is defined as “such unwelcome sexually determined behaviour, whether

Epub Ahead of Print: 11 November 2024

Published: 15 May 2025

DOI <https://doi.org/10.1055/s-0044-1792145>.
ISSN 2582-4287.

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Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India

This article was initially published as Online First by Thieme Medical & Scientific Publishers Pvt. Ltd., and later included in the Issue compiled by Scientific Scholar.

directly or by implication, such as: physical contact and advances, a demand or request for sexual favours, sexually coloured remarks, showing pornography, and any other unwelcome physical, verbal or non-verbal conduct of sexual nature.” Adolescent girls may experience various forms of sexual harassment, including physical (such as unwanted physical contact, such as strip searches conducted by or with the other sex, touching, and rape), verbal (such as unwanted sexual advances, jokes, or explicit remarks about a person’s body in their presence), and nonverbal (such as unwanted gestures, indecent exposure, and the display of offensive pictures). Sexual harassment has the potential to be extremely damaging, impacting a victim’s mental and physical health as well as their ability to succeed in their job. It may also cause victims to lose hope in life and develop a negative attitude toward work, education, and career opportunities.⁶ As a result, encouraging teenage girls to claim their rights and providing an atmosphere free of prejudice and violence are vital. The adoption of the document “A World Fit for Children” (2002) by UNICEF emphasizes the need of empowering children, including adolescents, to exercise their right to expression in line with their developing abilities. This includes fostering self-esteem and acquiring the necessary knowledge and skills for conflict resolution, decision-making, communication, and resilience in the face of challenging life circumstances. Self-esteem is the subjective recognition and valuation of favorable qualities of oneself by an individual. If an individual possesses robust self-esteem, they have a sense of self-assurance and a belief in their own abilities and competence to fulfill the demands of life. Lower levels of self-esteem may increase the vulnerability of adolescents to risky behaviors.⁷ Learning how to defend oneself physically and mentally against potential threats can boost self-confidence and overall self-esteem. Knowledge and skills to protect help boost sense of assurance and security in our daily life. Self-defense techniques are not only about brute force but also about leverage, timing, and strategy. The techniques demonstrate that size and strength are not always the determining factors in a confrontation. Even individuals with smaller builds can learn to defend themselves effectively against larger attackers through proper training. The study by Naganandini observed that 55% of adolescents had normal level of self-esteem, 36.67% of adolescents had high level of self-esteem, and 8.33% adolescents had low level of self-esteem. As adolescents may have varied levels of self-esteem, the study emphasized a great need for interventions to promote adolescents self-esteem to maintain a healthy mental state.⁸ According to a study conducted in Nairobi, Kenya, in 2013 that included a total of 522 girls at baseline, 24.5% reported sexual assault in the prior year, with the majority (90%) reporting assault by someone known to them like a boyfriend, relative, neighbor, teacher or pastor. In the self-defense intervention group, the incidence of sexual assault decreased from 24.6% at baseline to 9.2% at follow-up ($p < 0.001$), in contrast to the control group, in which the incidence remained unchanged (24.2% at baseline and 23.1% at follow-up; $p = 0.10$). Over half of the girls in the intervention group reported having used the self-defense skills to avert sexual assault in the year after the training. Rates of

disclosure increased in the intervention group, but not among controls.⁹ A cluster-randomized controlled implementation trial of empowerment self-defense training for sexual assault risk reduction among school-age girls in Malawi observed significant changes in sexual violence prevalence and knowledge for both primary and secondary students; favorable reductions were also observed in sexual violence incident rate among students overall (interaction effect, $p = 0.01$).¹⁰ A study in Gujarat, India, stated that after attending a self-defense training program for 5 days, 52.7% girls agreed that they were aware of their physical strengths, 48% girls agreed that they have mentally become stronger to face the attackers, 71.3% girls agreed that they have gained confidence to tackle such kinds of situations, 51.3% girls agreed that they now know that even a ballpoint pen is a big safety weapon for them, and 56% girls agreed that their confidence level has increased.¹¹ Rathore mentioned that self-defense helps gain confidence and control over fears and confidence is like a superpower itself. It also confidently assesses dangerous situations and helps navigate effectively. The study concluded that self-defense training works to increase the self-esteem of upper secondary level girl students.¹² Given the increasing incidence of crimes against girls in the country, it is critical to provide them self-defense training in schools to ensure their safety and security. Promoting high self-esteem may also minimize the probability of teenagers experiencing the negative repercussions of harassment. Keeping in mind the consequences of sexual harassment, it is necessary for adolescent girls to have adequate life skills to face sexual abuse situations in life. The study aimed to study the potential of enhancing self-esteem through self-defense training among high school girls. Self-protection and defense not only prevent children from harm but also increase their self-confidence and self-esteem. As there is limited literature available on the subject, exploration of the study can help plan appropriate capacity enhancement program with life skill training for adolescent girls.

Material and Methods

A quantitative research approach with quasi-experimental research design was adopted. Approvals were obtained from the scientific review board and ethics committee of the university (YEC-1 with protocol no. YEC1/2020/039, dated January 30, 2021). The CTRI registration is done with no: CTRI/2021/05/033336 (Registered on May 3, 2021). After obtaining permission from the Block Education Officer, Mangalore South, three government high schools from seven clusters were randomly selected from Mangalore south zone. The sample size was calculated by using G* power software at 1% level of significance and 95% power and the odds ratio was 4.42 (after the intervention) and the sample size obtained for the main study was 280 (140 for the control group and 140 for the experimental group). Hence for the current pilot project, 38 high school girls were recruited from three schools (18 girls from two schools in the control group and 20 girls from a school in the intervention group). The study included girls studying in the eighth and ninth standards in

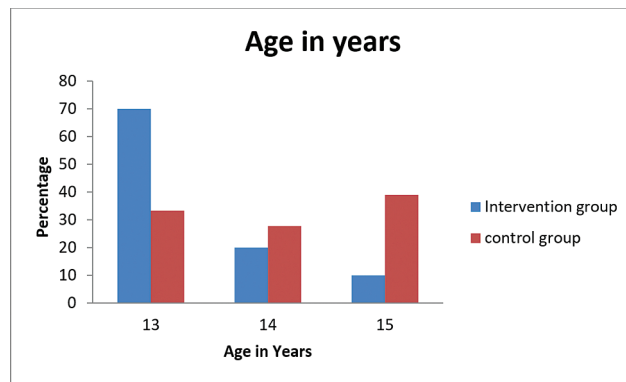


Fig. 1 Bar diagram representing the age of girls in years of intervention and control groups.

Kannada or English medium schools, and girls suffering from chronic illness were excluded. Data were collected using the sociodemographic proforma and the Rosenberg self-esteem scale ($r=0.7$).¹³ Content validity was ascertained from 11 experts. Reliability of the standardized tools were tested by the test-retest method, with $r=0.78$ and $p<0.01$ (2 months) and split half reliability, $r=0.77$. For the current setting, the reliability was checked by the researcher using the test-retest method with Cronbach's alpha test and the obtained score was $r=0.96$. The tool consisted of 10 items with equal number of positive and negative scoring items (see ► **Supplementary File** [available in the online version]). All items were answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. Through the school authorities, parental consent and assent by the adolescent girls were obtained. Pretest was conducted on November 2, 2022, followed by weekly 1 hour for 2 months for a total of eight self-defense sessions to participants taught by the researcher with the help of a trainer. The session included warmup exercises, selected self-defense techniques such as front attack block, group attack, dual attack, knee lock, elbow lock, and sharp object block. These techniques were demonstrated, and redemonstrations were performed by the students. Technique of usage of shawl, safety pin, pen, pencil, sprays, etc., were taught. The

posttests were administered after 7 days, 1 month, and 3 months after the intervention. The data were compiled and analyzed using SPSS version 27.

Results

A total of 38 participants successfully filled and returned the questionnaires (20 from the intervention group and 18 from the control group). The sociodemographic characteristics revealed that the majority (70%) of the participants were aged 13 years in the experimental group (with mean age: 13.4 ± 0.68 years) and 38.9% were 15 years in the control group (with a mean age of 14.15 ± 0.87 years; ► **Fig. 1**). Half of the students in the experimental group were from nuclear families, and in the control group, nearly half were from joint families. The education status of the fathers in the experimental group was high school level and in the control group, around 33.3% of the fathers studied till high school. The majority (60%) of the mothers in the experimental group studied up to higher primary school and around 44.4% of the mothers of the control group had no formal education. No participant underwent physical training in both the control and experimental groups. The majority (70%) in intervention group and 83.3% in the control group received information from health personnel (► **Fig. 2**).

The mean self-esteem scores in the intervention group increased from pretest to posttest 1 (15.30 ± 2.55 to 17.60 ± 1.90), pretest to posttest 2 (15.30 ± 2.33 to 19.05 ± 2.50), and pretest to posttest 3 (15.30 ± 2.55 to 17.60 ± 1.81). The independent t -test showed a significant difference ($p=0.001$) in the scores between the control and intervention groups. Thus, enhancement of self-esteem is clearly evident in the intervention group compared to the control group ($p<0.01$) at different time intervals with implementation of self-defense training program in the intervention group (► **Table 1**).

Discussion

This study revealed that the self-defense training was effective in enhancing self-esteem. The result is supported by the

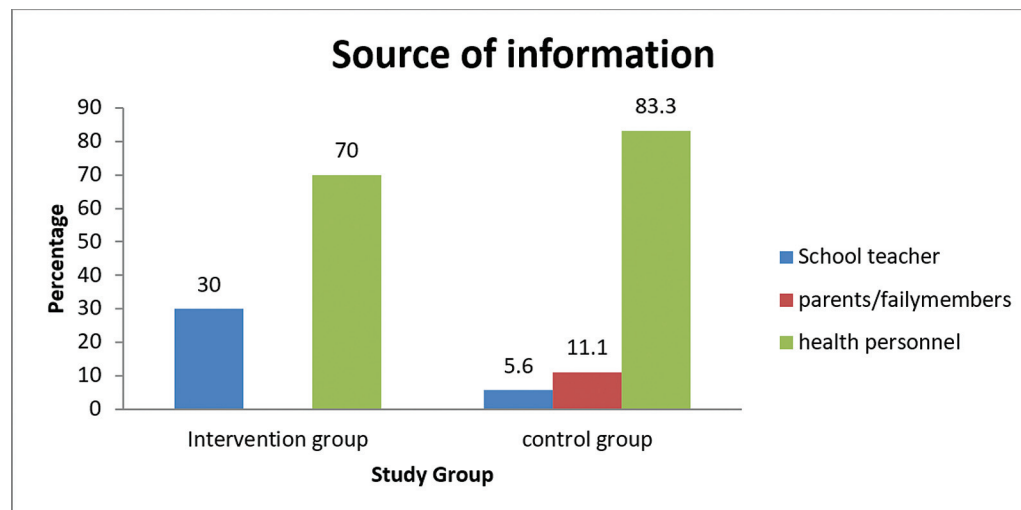


Fig. 2 Bar diagram representing the source of information of girls in the intervention and control groups

Table 1 Comparison of pre- and posttest self-esteem between the control and intervention groups

	Groups	N	Mean	Standard deviation	Mean difference/ significance	p-value
Pre test	Experimental group	20	15.30	2.55	0.91	0.25**
	Control group	18	14.39	2.25		
Posttest 1	Experimental group	20	17.60	1.60	3.21	< 0.001 ^a
	Control group	18	14.39	2.52		
Posttest 2	Experimental group	20	19.05	2.50	4.82	< 0.001 ^a
	Control group	18	14.22	2.18		
Posttest 3	Experimental group	20	17.60	1.81	3.10	< 0.001 ^a
	Control group	18	14.50	2.81		

Note: Data represented are mean, standard deviation, and mean difference of the level of self-esteem between the experimental and control groups. The experimental group received self-defense training. Statistical test used between the group was the “t” test.

Level of significance:

^aHighly significant $p < 0.01$.

*significant $p < 0.05$.

**Nonsignificant $p > 0.05$.

studies conducted by Rowe¹⁴ and Smith,¹⁵ which showed self-defense participants increased their self-esteem in the immediate posttest and at the 6-month follow-up, compared with their pretests, but not in comparison to the control groups. Supportive findings from a study by Sindhu revealed significant a difference between the pre- and post-self-defense intervention on self-confidence, self-esteem ($t = 16.86$, $p < 0.05$). The students felt confident about protecting themselves by boosting up with self-esteem and confidence after intervention.¹⁶ A supportive study El-Guindi et al among young female adolescents' practices to protect themselves against sexual harassment revealed that more than 1/10th of the young female adolescents only know how to protect themselves against sexual harassment before the educational program and the majority of the students were unaware and lacked many of the skills necessary to defuse a potentially sexual harassment behavior situation. After implementation of the program, the majority of them reported engaging in protective practices, with $p < 0.001$.⁶ The results of the study by Decker et al were adjuvant, which showed a significant increase in self-defense knowledge solely among intervention students (risk ratio [RR]: 3.33; 95% confidence interval [CI]: 2.76–4.02; interaction effect $p < 0.001$).¹⁰ Follo's work in Mexico on self-defense training to reduce the fear of violence among women and girls revealed that 98% of the participants would use real-life techniques in potential confrontations, and the improved capability of using techniques can reduce perceived fear of violence among this group of women and girls.¹⁷ A supportive result by Qasim et al revealed that karate practice may improve self-esteem, physical self-perception, and exercise self-efficacy in young adults.¹⁸ Jordan and Mossman observed that participation in self-defense programs not only resulted in increased self-defense skills but also, importantly, increased confidence and attitude to put these skills into action, if required.¹⁹ It is evident from a study by Howells and Bowen that it is possible within a primary school case study setting to improve self-esteem through physical activity interventions.²⁰ However, contrary to the present study

and the above findings, the study by Weitlauf et al found no significant changes in female college students' self-esteem at an immediate posttest or at the 6-month follow-up.^{21,22} Another study by Harwood-Gross et al found no significant differences between the experimental group participating in martial arts and the control group on the key study variable of aggression or self-esteem.²³ According to Hollander and Beaujolais, empowerment self-defense training not only reduces women's risk of sexual assault victimization but also leads to positive outcomes with the potential to reduce gender disparities and advance gender justice.²⁴

Conclusion

The current preliminary study has observed a significant increase in self-esteem among girls after self-defense intervention. Enhancement of self-esteem and awareness of self-defense and self-protection is a key to remain free from violence, assault, harassment, and other social violence. Although this project findings are based on a small sample, it has thrown light on the importance of adopting strategies against sexual harassment and remain free from social problem. To achieve feminist empowerment, women must learn self-defense skills that will allow them to adapt to any dangerous situations that may emerge in their life. Participatory approach by the public helps bring sustainable change in society. It requires support from stakeholders.

Funding

None.

Conflict of Interest

None declared.

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