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Design, Implementation, and Evaluation of a Training Package for Violence Prevention in Adolescents: Its Effect on Self-control and Social Skills

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Abstract

Background: Adolescence is a period marked by significant changes, during which individuals face major emotional, cognitive, and behavioral challenges. Violence remains a significant global concern, and factors such as self-control and social skills play a crucial role in reducing and managing adolescent violence.

Objectives: This study aimed to design, implement, and evaluate a training package for violence prevention (TPVP) in adolescents and assess its impact on self-control and social skills among students in Isfahan.

Methods: This study was conducted on sixty 13 - 15-year-old female students in Isfahan, Iran, during the 2022 - 2023 academic year. First, the TPVP was developed after reviewing relevant theories and existing training packages, then it was evaluated by a panel of faculty members from the Department of Social Medicine, psychiatrists, and clinical psychologists. The students were randomly divided into two groups: (1) an intervention group, and (2) a control group, with 30 students in each group. The intervention group received the TPVP and attended five training sessions. To assess social skills and self-control, the Inderbitzen and Foster Social Skills Questionnaire and the Tangney Self-control Questionnaire were administered to both groups before and three months after the intervention.

Results: Sixty female students aged 13 - 15 participated in this study. The mean self-control score in the intervention group was significantly higher than in the control group after the intervention (46.33 ± 6.488 vs. 40.44 ± 7.307, P = 0.002). Prior to the training, there was no significant difference in social skills scores between the two groups. However, following the intervention, the mean social skills score in the intervention group was significantly higher than in the control group (118.38.726 vs. 102.913.468, P < 0.0001).

Conclusion: The violence prevention training package was effective in improving self-control and social skills among students. The study demonstrated that the implementation of a structured TPVP can enhance both self-control and social skills in adolescents.

Keywords: Prevention, Self-control, Social Skills, Training, Violence

1. Background

Adolescence is a period of significant changes that pose major challenges to individuals' emotional, cognitive, and behavioral development, some of which can be unwanted. As adolescents experience physical, psychological, and social changes, they also face numerous psychological pressures. One of the most common challenges during this period is regulating emotions. When faced with difficult situations, adolescents often lose control and struggle to manage their behavior, which can lead to aggression. Aggression refers to observable behavior intended to harm others, whereas anger is an internal emotional state that can lead to aggression. Violence in adolescence encompasses a wide range of health problems,

including antisocial behaviors, cognitive difficulties, and harmful actions (1, 2).

Adolescent violence is a significant concern in both developed and developing countries. For example, murders and injuries related to violence among American youth aged 10 - 24 result in economic costs of $16.2 billion annually (3). Globally, the prevalence of physical violence ranges from 5% to 21%, while psychological violence affects 33% to 93% of adolescents (4). In Iran, the prevalence of violence among adolescents is estimated to range from 10% to 65.5%, highlighting the high level of violence in this population (5, 6). If violence is not properly managed, it can negatively impact both the physical and mental health of individuals, groups, and communities. For instance, individuals exposed to violence during childhood or adolescence are at greater risk of experiencing long-term issues such as chronic inflammation, depression, academic difficulties, and an inability to cope with stress in adulthood (7-10). Additionally, girls tend to use more verbal violence in interpersonal relationships, possibly because they develop social skills faster than boys and due to differences in physical strength (11).

Several factors contribute to reducing and controlling adolescent violence. Studies have shown that a high level of self-control is strongly linked to reduced aggression (12). Self-control enables individuals to respond appropriately in challenging situations, which is why it is emphasized as an important skill to learn from childhood through adolescence. Strong empirical evidence suggests that self-control can predict levels of aggression, with increased self-control leading to reduced aggression (13). Denson's research indicated that self-control training, cognitive control exercises, and mindfulness practices can improve executive functions and reduce reactive aggression (14). Hsieh and Chen's study found that participants with low inhibitory control and poor emotion regulation exhibited higher levels of aggression compared to those with better emotion regulation (15).

Moreover, psychosocial skills training, such as problem-solving and behavioral practice, helps adolescents develop strategies to create or maintain positive social relationships with family members, peers, and teachers. Improving social skills has proven to be significantly effective in reducing aggression among aggressive adolescents (16). Healy et al.'s research demonstrated that interventions targeting psychosocial competencies are effective in reducing aggression in elementary school children (17).

2. Objectives

Despite the prevalence of violence in developing countries, including Iran, and its serious personal and social consequences, as well as the variety of violence prevention programs available, there is a need for a comprehensive, skill-based, self-empowerment training package. This package should be designed for adolescents to use independently, anytime and anywhere, without requiring a trainer. This study was conducted not only to design, implement, and evaluate a violence prevention training package but also to investigate its effects on two components: (1) self-control, and (2) social skills among adolescent girls in Iran during 2022 - 2023.

3. Methods

This study employed both qualitative and quantitative methods and was conducted between November 2022 and April 2023. In the first stage, the content of the self-empowerment training package, based on a self-determination approach, was developed using both library and field research methods. The following resources were consulted: Scientific materials approved by the Ministry of Education and State Welfare Organization, guidelines from the Ministry of Health and Medical Education, approximately 15 articles from reputable scientific databases such as the Scientific Information Database (SID) and Science Direct, as well as review articles and books. Notable sources included anger management and violence prevention by the University of Australia's Forensic and Applied Psychology Research Group, and the second edition of the handbook of anger management and domestic violence offender treatment by Ronald T. Potter-Efron.

To ensure content validity, the training package was reviewed and evaluated by a group of faculty members from the Department of Social Medicine, psychiatrists, and psychologists. Experts were asked to rate the content using a Three-Point Scale: Necessary (score 2), useful (score 1), or unnecessary (score 0). After the content validation process, the final version of the package was prepared for implementation.

In the second stage of the research, the effect of the self-empowerment training package was measured using a pre-test-post-test quasi-experimental design. The participants were female adolescents aged 13 - 15 years from the 6th education district of Isfahan city. The inclusion criteria were secondary school students aged 13 - 15, willingness to participate in the study, and not having participated in any other training programs. Students who had attended a training session related to the research topic within the last three months or had a known psychiatric disorder were excluded from the study.

The violence prevention self-empowerment training package was a booklet consisting of five chapters. The chapters included the following topics:

- Chapter 1: Definition, symptoms, and positive and negative effects of violence

- Chapter 2: Cognitive training (recognition of thoughts, feelings, beliefs, thought replacement, etc.)

- Chapter 3: Making changes in situations that lead to violence (problem-solving strategy training)

- Chapter 4: Interpersonal skills training, including dialogue, expression, and conflict resolution

- Chapter 5: Replacement behavior strategy

The content of the self-empowerment violence prevention package was designed to be straightforward and practical. It explained physiological, psychological, and social changes during adolescence in simple language. Natural emotions like anger, how they manifest in adolescence, and methods for controlling them were addressed. In the chapter on violence, factors contributing to its occurrence, its control, outcomes, and warning signs of anger were presented in a visually engaging and easy-to-understand manner. Short-term and long-term anger control strategies were taught through exercises and various examples.

The package also provided guidance on identifying thoughts, feelings, and behaviors, as well as practical exercises for replacing negative thoughts, with the goal of enhancing teenagers' self-awareness. Later chapters focused on altering situations that provoke violence and anger, and problem-solving skills were introduced through examples and exercises. Interpersonal skills, communication, self-expression, and conflict resolution were covered using relatable examples. In the final chapter, alternative behavioral solutions were taught.

All content was designed to be practical, simple, and visual, with examples, exercises, and assignments that allowed teenagers to engage with the material independently, without the need for a trainer.

To assess the effectiveness of the package, the content for each session was provided to participants in the intervention group, who were expected to study the materials and complete the exercises before the next session. At a scheduled time, determined in agreement with the participants, a 90-minute review session was held with a trained psychologist who checked the exercises and provided further guidance. In addition, five weekly meetings were conducted through WhatsApp Messenger to support the training process.

In the first face-to-face session, students were provided with an explanation of the study, and the researchers distributed self-control and social skills questionnaires, along with a demographic form, for the participants to complete as self-reports. It is important to note that the meetings for the two groups were held separately. To complete the questionnaires again, a follow-up meeting was held three months after the intervention, where participants gathered, discussed the study, and filled out the questionnaires. After the study concluded, the control group was also given the training pamphlet.

3.1. Participants

A total of 60 female students from seventh to ninth grade (aged 13 - 15 years) in Isfahan participated in this pilot study. The students were divided into two groups: (1) intervention, and (2) control (30 students in each group) (18). The participants in each group were selected from two schools. Schools were chosen using convenience sampling, and the students within each group were selected via simple random sampling. A list of 13 - 15-year-old female students was created for each class, and each student was assigned a number. Based on a random number table, participants were then assigned to either the intervention or control group according to their assigned number.

Before obtaining informed consent, the researcher thoroughly explained the study protocol to the students. Informed consent was obtained from all participants before the start of the trial. All participants were informed that their participation in the research was entirely voluntary and that they could withdraw at any time. The study was approved by the Ethics

Committee of Isfahan University of Medical Sciences (IR.MUI.MED.REC.1398.515) and registered in the Iranian Registry of Clinical Trials (IRCT20210426051095N1).

3.2. Measuring Tools

In this study, Tangney's Self-control Questionnaire and Inderbitzen and Foster's Social Skills Questionnaire were used to evaluate students' self-control and social skills. Both groups completed the questionnaires before and three months after the intervention. The questionnaires were distributed to the students both in person and online.

Tangney's Self-control Questionnaire consisted of 13 questions designed to measure individuals' self-control. Responses were provided on a Likert Scale. The total score was calculated by summing the scores from all the questions, with a maximum possible score of 65 and a minimum of 13. This questionnaire included two subscales: (1) primary self-control and (2) inhibitory self-control. A higher score indicated greater self-control, while a lower score indicated less self-control (19). The validity and reliability of this questionnaire for the Iranian population were confirmed in a study by Mousavimoghadam et al. (20).

Inderbitzen and Foster's Social Skills Questionnaire included 39 items, each with five response options ranging from "never true" to "always true." For negative items, the scoring was reversed. The questionnaire contained two subscales: (1) prosocial behaviors (20 questions related to peer acceptance), and (2) asocial behaviors (19 questions related to peer dislike). The original version of this questionnaire had 40 items, but one was removed due to cultural differences in Iran. Social skills were evaluated by comparing each person's score to the average; scores above the average indicated high social skills, while scores below the average indicated low social skills. Based on the standardized test, a score of 98 was considered average (21). The validity and reliability of this tool have been examined in various studies in Iran (22, 23).

3.3. Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0. Participants' demographic information was presented as frequencies and percentages. First, the assumptions of statistical tests, including the continuity of the dependent variables (self-control and social skills), normality of data distribution, homogeneity of variance between the two groups, and the independence of individuals, were assessed. The Shapiro-Wilk test was used to check the normality of data distribution, while Levene's test was used to assess the homogeneity of variance. Since the results of both the Shapiro-Wilk and Levene's tests were greater than 0.05, the assumptions were met, indicating that the data followed a normal distribution. Descriptive indices for self-control and social skills (prosocial and asocial behaviors) were analyzed using independent *t*-tests and paired *t*-tests. For qualitative ordinal variables such as parents' education level, the Mann-Whitney test was employed, while Fisher's exact test was used for nominal variables (24, 25). Multivariate Analysis of Variance (MANOVA) was used to assess effect size, considering the group as the independent variable and the total scores of self-control and social skills post-intervention as dependent variables. A significance level of less than 0.05 was applied.

4. Results

The violence prevention training package was developed in five chapters, covering the definition of violence, its signs and symptoms, cognitive training, problem-solving strategies, interpersonal skills, and replacement behavior strategies. The package was created based on a thorough search of scientific resources and expert opinions. To evaluate the package's effect on self-control and social skills, 60 students participated in the study.

The mean age of adolescents in the intervention group was 13.84 ± 0.9, while in the control group, it was 13.77 ± 0.8 (P = 0.73). The average number of children in the family was 2.1 ± 0.7 in the intervention group and 2.2 ± 0.9 in the control group, with no significant difference between the groups, as indicated by the independent *t*-test (P = 0.54). Additional demographic data of participants are presented in Table 1.

At baseline, there were no significant differences between the two groups in terms of social skills and self-control scores. However, after the intervention, the mean self-control score in the intervention group was significantly higher than in the control group (46.33 ± 6.488 vs. 40.44 ± 7.307, P = 0.002). Similarly, the mean social skills score in the intervention group was significantly higher after training compared to the control group (118.35 ± 8.726 vs. 102.92 ± 13.468, P <

Table 1. Demographic Characteristics of Participants in the Intervention and Control Groups [a]

Variables	Control	Intervention	P-Value
Father's job			0.187 [b]
Self-employment	29 (96.7)	27 (87.1)	
Government employment	1 (3.3)	4 (12.9)	
Mother's job			0.320 [b]
Housekeeper	26 (86.7)	29 (93.5)	
Employed	4 (13.3)	2 (6.5)	
Father's education level			0.500 [c]
Primary education	11 (36.7)	6 (19.4)	
Intermediate education	4 (13.3)	8 (25.7)	
Diploma	12 (40)	15 (48.4)	
College education	3 (10)	2 (6.5)	
Mother's education level			0.338 [c]
Primary education	8 (26.7)	3 (9.7)	
Intermediate education	4 (13.3)	6 (19.3)	
Diploma	14 (46.7)	18 (58.1)	
College education	4 (13.3)	4 (12.9)	
Education level			0.924 [c]
Seventh grade	13 (43.3)	13 (41.9)	
Eighth grade	14 (46.7)	11 (35.5)	
Ninth grade	3 (10)	7 (22.6)	

[a] Values are expressed as No. (%).

[b] Fisher's exact test.

[c] Mann-Whitney U test.

0.0001). Although both groups showed improvement in their mean scores for self-control and social skills post-training, the intervention group demonstrated significantly better outcomes. These results are summarized in Table 2.

The partial Eta Squared for the self-control score after the intervention, using the MANOVA test, was 0.133, while for social skills, it was 0.298. The observed power was 0.759 for self-control and 0.993 for social skills, indicating strong statistical significance.

5. Discussion

This study aimed to design, implement, and evaluate a self-empowerment training package for the prevention of violence. Since self-control and social skills are critical factors in reducing violence, the impact of this educational package on these two aspects was examined. The results revealed that the mean scores for self-control and social skills in the intervention group were significantly higher than those in the control group after the training.

Prosocial behavior refers to a set of positive behaviors that enhance a person's popularity with teachers, friends, and society in general, thereby improving resilience (26). On the other hand, asocial behavior is characterized by negative behaviors that cause individuals to lose their social standing. These findings demonstrated that anger control training in adolescents helped improve the essential skills needed to enhance their quality of life.

Several models have been suggested to reduce aggression and improve the management of aggressive behavior. One well-established model that has proven effective in reducing aggression involves indirect mechanisms achieved through the enhancement of self-control skills in adolescents. Research indicates that self-control skills act as facilitating mechanisms leading to reductions in aggressive behavior (27). By improving social skills and self-control, adolescents not only enhance their relationships with parents, teachers, and classmates but also develop better coping mechanisms for anxiety and stress, which can significantly improve

Table 2. The Score of Self-control and Social Skills Before and After Training in the Two Groups [a]

Variables	Intervention Group	Control Group	P-Value [b]
Self-control			
Before intervention	42.03 ± 5.776	40.73 ± 6.726	0.434
After intervention	46.33 ± 6.488	40.44 ± 7.307	0.002
P-value [c]	< 0.0001	0.883	
Total social behavior			
Before intervention	94.09 ± 12.681	93.50 ± 8.377	0.567
After intervention	118.35 ± 8.726	102.92 ± 13.468	< 0.0001
P-value [c]	< 0.0001	0.050	
Prosocial behaviors			
Before intervention	39.14 ± 8.421	39.27 ± 6.269	0.947
After intervention	53.77 ± 6.147	38.46 ± 4.863	0.001
P-value [c]	< 0.0001	0.500	
Asocial behaviors			
Before intervention	56.36 ± 6.775	54.50 ± 6.922	0.249
After intervention	63.12 ± 5.510	55.23 ± 12.961	0.004
P-value [c]	0.001	0.732	

[a] Values are expressed as mean ± SD.

[b] Independent *t*-test.

[c] Paired sample *t*-test.

their academic performance. In an umbrella review conducted by Fazel et al., school-based psychosocial anti-bullying programs targeting children and youth consistently demonstrated effectiveness (28).

Studies have shown that social skills training can reduce violence and aggression. Moreover, empowering teenagers to control their behavior and manage their emotions has a significant positive effect on their psychosocial health. In line with our findings, Risisky et al. demonstrated that extracurricular social skills training reduced violent behavior. In their study, a violence reduction program was implemented as an extracurricular activity for high school students. This program focused on teaching new communication skills, providing a safe environment for recreational activities, and reducing delinquent behaviors by occupying students' free time. The program not only yielded positive effects on students' development but also significantly reduced the level of violence among students (29). Additionally, Anjanappa et al. found that cognitive-behavioral therapy (CBT), social skills training, and applied communication skills led to a reduction in violence among adolescents (2). Similarly, Sukhodolsky et al. demonstrated that enhancing communication skills reduced violent behaviors in children with disruptive behaviors, using parent management training (PMT) and CBT methods (30).

Various interventions have been designed and implemented to empower teenagers in preventing violence. One such program is youth empowerment solutions (YES), an after-school active learning initiative that engages middle school youth at the individual, interpersonal, and community levels, run by trained local teachers. This program increased prosocial behaviors through empowerment and directly reduced aggressive behaviors one year after its completion (31). Youth empowerment interventions aimed at violence prevention vary in their content. For instance, the Kabaddi project combined sports and socio-emotional learning, aiming to prevent violence by empowering adolescent girls. Participants engaged in weekly circles that enhanced awareness, skills, and confidence, while promoting mutual trust and motivation for individual and social change, alongside participating in sports training (32). Trajkovic et al. assessed the effect of another sport, volleyball, on aggression and physical fitness in 14 - 16-year-old students. Participation in an after-school volleyball program significantly reduced aggression compared to physical education classes alone (33). The potential mechanisms for reducing

adolescents' aggression through sports interventions may include enjoyment, motivation, and self-control.

Regardless of the intervention's content, self-control and social skills are key factors related to violence and aggression. Focusing on the development of values and appropriate social skills during adolescence is crucial.

5.1. Limitations

To interpret the findings, certain limitations in this study should be considered. First, the training sessions were held virtually due to the Covid-19 pandemic, and face-to-face classes would likely have yielded better results and greater efficiency. Second, the statistical population consisted solely of girls. Additionally, the study's limitations included a small sample size and short-term outcome assessment due to time and resource constraints. Future research conducted with larger groups, including both girls and boys, across different cultures, and with longer follow-up periods, can help generalize the findings of this study.

5.2. Conclusions

The findings of this research suggest that the violence prevention self-empowerment training significantly increased students' self-control and social skills. This training package appears effective in reducing violence by enhancing self-control and promoting social skills. It is recommended to assess the effects of this skill-based training package on boys as well.

Footnotes

Authors' Contribution: Study concept and design: Z. A., H. A., and F. Gh.; data acquisition: F. Gh. and S. L.; data analysis and interpretation: Z. A. and H. A.; drafting of the manuscript: Z. A., H. A., and F. Gh.; critical revision of the manuscript for intellectual content: Z. A. and H. A.; statistical analysis: Z. A. and H. A.; study supervision: Z. A.

Clinical Trial Registration Code: This trial was registered in the IRCT (IRCT20210426051095N1).

Conflict of Interests Statement: One of the authors has reviewed articles for this journal.

Data Availability: The dataset for this study is available upon request from the corresponding author, either during submission or after publication. The data are not publicly available due to patient consent considerations.

Ethical Approval: The ethical committee of Isfahan University of Medical Sciences approved this study (IR.MUI.MED.REC.1398.515).

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Informed Consent: Informed consent was obtained from all participants before the start of the trial.

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