

The Effect of Life Skills-Based Group Counseling on Stress in Female Adolescents: A Randomized Controlled Trial

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Abstract

Background: Adolescence is considered one of the most important periods in the life of any human being. In most cases, adolescents suffer from fear, anxiety, and stress during this period, and how to pass through this period considerably affects their mental and physical health.

Objectives: This study was conducted to investigate the effect of life skills-based group counseling on stress in female adolescents in the city of Zanjan.

Methods: The present study is a randomized controlled trial with parallel groups. Sixty four female adolescents under the coverage of health centers in the city of Zanjan in 2019 were initially divided into two intervention (n=32) and control groups (n=32) by blocked random sampling method. In the intervention group, eight sessions of life skills-based group counseling were conducted once a week for 90 minutes. Data were collected using Cohen's Perceived Stress Scale (PSS) and were analyzed using the Mann-Whitney U and repeated measurements tests in SPSS 18 software.

Results: The results indicated no significant difference between the two intervention (35.06 ± 9.56) and control (29.94 ± 9.16) groups before the intervention ($p=0.253$). The mean stress score two months after the intervention was significantly lower in the intervention group (29.94 ± 7.59) than in the control group (37.17 ± 9.16) ($p<0.043$).

Conclusion: Based on the study results, life skills-based group counseling can reduce stress in female adolescents. Therefore, it is recommended to use this method as a part of health system care for female adolescents in schools and comprehensive health centers.

Keywords: *consultation, group counseling, life skills, stress, female adolescents*

Introduction

Adolescence is considered one of the most important periods in the life of any human being, and according to the World Health Organization's (WHO) definition, the age of adolescence is 10 to 19 years [1]. The 2016 census in Iran showed that there were 5688384 people in the age group of

10-14 years and 11147381 people in the age group of 10-19 years [2]. Adolescence is passing through childhood to adulthood, which is manifested by physical, cognitive, and social cognition, as well as self-esteem, intimacy, and independence. How to pass through this period considerably affects adolescents' mental and

physical health [3]. Psychologists believe that this period is the most critical stage of human life, and it is called the emotion expression period and the stress period [4]. In most cases, adolescents suffer from fear, anxiety, and stress during this period [5], and due to mental and emotional changes, new roles and responsibilities, relationships with peers, lessons and school, family issues [6], and inadequate experience, they suffer from a lot of internal and external pressure [7]. With the onset of adolescence, numerous biological changes appear that can culminate in behavioral and emotional changes; in case of not having the necessary preparation, these changes may result in emotional and psychological problems in the adolescent [8].

An adolescent's lack of awareness of their physiological and emotional status causes them not to have a correct evaluation and reaction to stressful situations [9]. Stress means an individual's re-adjustment to new conditions [10] and a reaction he/she shows to new conditions [11]. If these stresses remain for a long time, they will accompany numerous physical, mental, and social diseases and damages [12,13].

The important point is that the individual should reduce the effects of stress on themselves since childhood and adolescence and spend their time on education, sports, recreation, and appropriate social communication because stress and its resultant suffering and restrictions make adolescence be associated with pain and bitterness [10]. Lack of mental health disrupts human progress, functioning, and duties, endangering society's health and leading to subsequent undesirable consequences [14].

Ways to cope with stress during adolescence are very important because, on the one hand, the framework of human personality is formed in this period, and on the other hand, this period is a course of mental stress and pressure [15]. Stress management means reducing stress to a degree in which it is no longer unpleasant, and we can have the best behavior and treatment [16]. As one of the life skills, the skill of coping with stress is the individual's effort to reduce, eliminate, or tolerate stress [11]. Acquiring life skills because of improving self-awareness and self-esteem and establishing a positive mental feeling affect stress reduction and lead to increased creativity in students [17].

Stress management and the use of coping strategies are weaker in girls than in boys. Therefore, holding stress management counseling sessions is appropriate to enhance self-esteem and self-expression in adolescents, particularly in girls [6]. Moreover, due to the presence of shame and embarrassment among female adolescents because of physical changes at the time of puberty and the lack of recognition, correct understanding, and adequate information among parents, teachers, and children regarding changes during puberty, there is a need for training and guidance in this period [18]. Lack of consultation and support for female adolescents will impose irreparable damage on them [19]. Due to the particular conditions of this period and the onset of mental and behavioral crises, and also prevention of acquiring incorrect information from non-expert individuals in this regard, it is necessary to begin training in girls around 9-10 or up to 12 years of age [20-22].

Consultation is a kind of communication and interaction between the counselor and the client, helping in appropriate self-knowledge and decision-making in order to solve the client's problems and issues. Group counseling is a simple and inexpensive method, causing the individuals to have a better attitude toward problems so that they notice that others also have problems like them, increase their relationships with others, and their attitudes toward themselves and their problems are improved [23]. Using the group counseling method, stress can be managed and reduced in individuals [24]. Therefore, holding stress management group sessions will be useful for reducing stress in adolescents [25]. Life skills are a collection of capabilities through which an individual can learn adaptive and appropriate behaviors, accept their social responsibilities, not harm themselves and other members of the society, and deal with life issues logically [26].

Research has shown that completing life skills training courses affects female adolescents' social competence, general health, assertiveness, flexibility, emotional reactions, health concerns, and mental health [27-32]. Determining the effectiveness of life skills training on coping styles of female adolescents revealed that life skills training was effective on the problem-focused style but not on the emotion-focused style [33].

Given that adolescence is one of the critical periods of individuals' lives and may be associated with incompatibility, and considering that adolescents are the future makers of the country and the nurturers of the next generation, and their current compatibility considerably affects their emotional, academic, social, occupational, and family issues, thus training life skills for this group will be strongly effective in creating their emotional, social, and academic compatibility. Therefore, since no research has been conducted in the form of life skills-based group counseling on the stress of female adolescents so far, and most studies have been conducted on specific groups of female adolescents, this study was carried out to investigate the effect of life skills-based group counseling on the stress of female adolescents. It is worth noting that the current study is part of the results of a larger study entitled "Investigating the Effect of Life Skills-Based Group Counseling on the Quality of Life and Stress of Female Adolescents" reporting the study results regarding the effect of life skills-based group counseling on the stress of female adolescents.

Methods

The present study is a randomized trial with parallel groups conducted on 64 female adolescents under the coverage of comprehensive health centers in the city of Zanzan from September 2019 to May 2020.

In order to perform a sampling of comprehensive health centers in the city of Zanzan in the current study, 4 out of 18 health centers were first selected by cluster sampling, the files of each center were assessed, and the households with female adolescents were selected and invited by the researcher to attend consultation sessions. Samples were then selected randomly from among the clients based on the population under coverage and divided into two intervention and control groups using the four block randomized

method in such a way that in each of the blocks of four, two allocations were assigned to the intervention group and two to the control group, six blocks were totally created in different states, and each block was numbered with a number. The blocks of four were selected based on the table of random numbers insofar as the sample size reached 64. Thirty-two girls were placed in the control group and 32 in the life skills-based group counseling group. The inclusion criteria included 10-12-year-old female adolescents, the occurrence of symptoms of thelarche, pubarche, and menarche during the last 6 months, residence in the city of Zanzan, willingness to participate in the research, and gaining a depression score of 13-20, an anxiety score of 9-14, and a stress score of 15-25 (mild and moderate) in the Depression Anxiety Stress Scale 21 (DASS-21). Female adolescents were not included in the study in case of having a history of mental illnesses or major stressful events since six months ago (death of a loved one, accident, severe family dispute, parental divorce, migration). The exclusion criteria included being absent more than one session in consultation sessions, withdrawal of continuing participation, and incidence of major stressful events during the study (death of a loved one, accident, severe family dispute, migration).

After selecting the eligible samples and obtaining written consent, the samples were entered into the study in groups of 8 people, and after completing the required courses in this regard, group counseling was conducted in eight 90-minute sessions as weekly by a trained researcher as follows: The first session included pre-test and giving a speech on puberty health and introduction; the second and third sessions included stress management skills; the fourth and fifth sessions included coping with emotions (negative mood); the sixth and seventh sessions included the problem-solving skills. The post-test was carried out in the last session and two months after the intervention (Table 1).

Table 1: The Protocol of Life Skills-Based Group Counseling Sessions

Session	Objectives and Contents of Sessions
First	Introduction; explaining the consultation goals, the way of implementing, and the time of holding consultation sessions; defining life skills and their history; familiarity with adolescence, features, and changes of adolescence; training health during puberty (skin and hair, menstruation, mouth and teeth, and nutrition...) and life skills; implementing pre-test
Second	Presenting a summary of the previous session; providing explanations regarding self-awareness to evaluate one's positive and negative characteristics; defining stress, types of mental stress and physical and mental changes during stress, and ways to cope with stress and control mental stress; class activity (expressing several stressful situations and choosing the best way to cope with them in groups); and finally presenting assignments regarding stress management.
Third	Presenting a summary of the previous session; reviewing the assignments of the previous session; reviewing and presenting the goals of this session; providing recommendations for adapting to stress (regulating the physical environment, encouraging oneself, enriching the spiritual life, etc.); giving a speech on coping skills (changing one's attitude and inner perception, changing the way of interacting with the environment, increasing the physical ability for coping, changing the environment), time management and its importance in stress reduction; and finally giving assignments regarding stress management.
Fourth	Providing explanations about the goals of this session; reviewing the assignments of the previous session; responding the participants' questions; then defining depression, its symptoms, and its effect on feelings, thoughts, and body; and giving assignments in the regard
Fifth	Reviewing the assignments of the previous session; answering individuals' questions about the topics of the previous session; implementing thought changing steps; identifying automatic negative thoughts; assessing cognitive errors and evidence technique and doing exercises with the participants in this regard; giving assignments to be done at home.
Sixth	Reviewing the assignments of the previous session; giving a speech about the types of coping; presenting a questionnaire for determining the problem and also determining the problems of the group members; giving a speech about maladaptive cognitions in problem solving; giving a speech about the precise description of the problem; providing objective and real examples by the participants themselves; and presenting assignments to be done at home.
Seventh	Reviewing the assignments of the previous session; giving a speech about mental fluidity; giving a speech about brainstorming; giving a speech about the evaluation of solutions; giving a speech about solution implementation process; homework.
Eighth	Discussing the goals of the session, reviewing the assignments of the previous session, and finally evaluating the implementation of the solutions and assessing the difficulty and ease of the implementation of the solution and the usefulness of the sessions and the post-test and the end of the session was announced [28].

Data collection tools were a demographic questionnaire and the Cohen's Perceived Stress Scale (PSS) [29]. The PSS, developed by Cohen et al. in 1983, contains 14 questions; each question is scored from 0 to 4. This scale is used to measure the perceived general stress in the last month and also the thoughts and feelings regarding stressful events, control, overcoming, coping with psychological stress, and experienced stresses. Dowran et al. (2006) have calculated Cronbach's alpha coefficient for this questionnaire as 0.74 [30]. In Saadat et al.'s (2014) research, the reliability of the PSS was obtained higher than 0.70 using Cronbach's alpha

method. By calculating the simple correlation with a researcher-made benchmark question, the construct validity coefficients of this scale were calculated as 0.63, which was significant at the 0.05 level. The Cronbach's alpha coefficient was equal to 0.725 in the current research, indicating the tool's reliability.

Two months after the intervention, the questionnaires were completed again in both intervention and control groups to assess the intervention's effect. Figure 1 shows the research implementation steps. The resulting data were collected during 6 months and analyzed by SPSS version 16 software using the chi-square, Mann-

Whitney U, and Friedman statistical methods. After performing the interventions and reviewing the results, a one-day session was also held for the control group to follow the ethical standards. This study was conducted after obtaining approval from the Ethics Committee of Zanjan University

of Medical Sciences (code: IR.ZUMS.REC.1398.094) and obtaining permission from the honorable Vice-Chancellor of Health of Zanjan province.

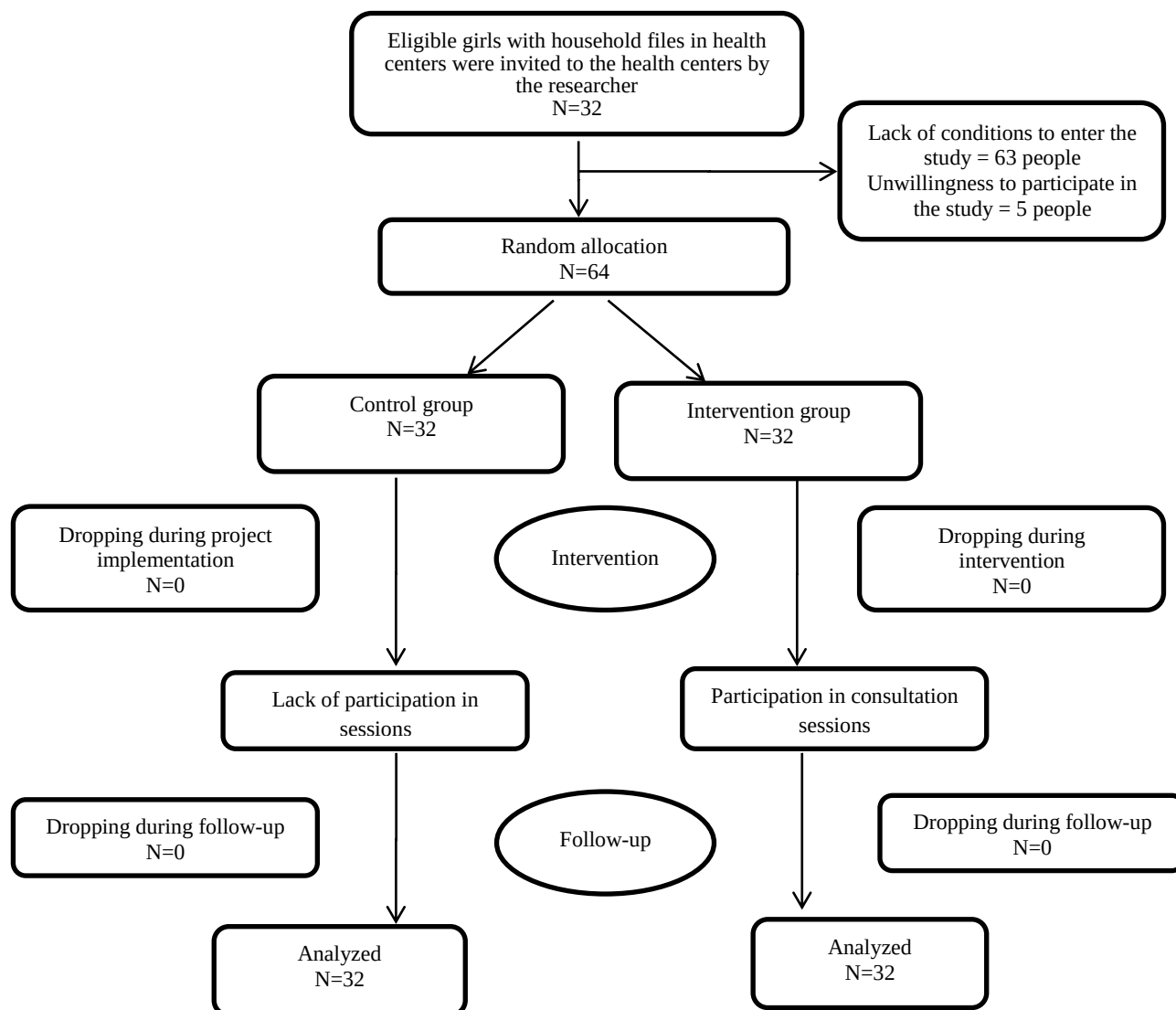


Figure 1: Research Implementation Stages

Results

According to the results, the intervention and control groups were homogeneous in terms of demographic characteristics (Table 2). Based on the results of Table 2, most of the students were in

the sixth grade, the students' age mean $\pm$ standard deviation was 11.0 ± 375.70 in the intervention group and 11.40 ± 0.71 in the control group and had no statistically significant difference ($p=0.83$).

Table 2: Comparing Individual and Social Characteristics of Investigated Samples Between the two Intervention and Control Groups

Variable		Intervention Group		Control Group		P-Value*
		Mean	SD ^a	Mean	SD ^a	
Variable	Group	Number	Percentage	Number	Percentage	
Education level	Fourth grade	5	15.6	4	12.5	0.95
	Fifth grade	4	12.5	5	15.6	
	Sixth grade	15	46.8	16	50.0	
	Seventh grade	8	25.0	7	21.8	
Father's occupation	Employee	14	43.7	13	40.6	0.12
	Worker	5	15.6	4	12.5	
	Freelancer	11	34.3	15	46.8	
	Retired	2	6.2	0	0.0	
Mother's occupation	Housewife	23	71.8	23	71.8	0.70
	Employee	9	28.1	9	28.1	
Father's education	Illiterate	2	6.2	0	0.0	0.69
	Guidance school	5	15.6	7	21.8	
	High school	12	37.5	14	43.7	
	University	13	40.6	11	34.3	
Mother's education	Illiterate	2	6.2	2	6.2	0.99
	Guidance school	11	34.3	10	31.2	
	High school	11	34.3	10	31.2	
	University	8	25.0	10	31.2	

^aStandard Deviation

*Chi-square

The results of the Mann-Whitney U test, confirming the equality of variances, indicated no statistically significant difference between the perceived stress scores in the intervention and control groups before the intervention ($p=0.253$).

Also, based on the findings, the mean perceived stress scores in the intervention and control groups had no statistically significant differences immediately and two months after the intervention ($p<0.05$) (Table 3).

Table 3: Comparing the Mean Perceived Stress Scores in Different Stages of the Study Between the two Intervention and Control Groups

Stages	Group	Mean	Rank Mean	Mann-Whitney U Statistic	Z Statistic	Significance
Pre-test	Intervention	9.56	35.06	430.00	-1.144	0.253
	Control	9.16	29.94			
Pre-test	Intervention	5.28	25.52	288.500	-3.019	0.003
	Control	8.09	39.48			
Follow-up	Intervention	7.59	27.83	362.500	-2.020	0.043
	Control	9.16	37.17			

The Friedman's test in Table 4 showed that in the intervention group, the perceived stress score had first a descending trend over time, which was statistically significant ($p=0.001$). Then, a relative increase was observed again in the follow-up time but the difference was still significant compared to before the intervention ($p=0.001$). The results

also indicated that there was initially a trivial descending trend in the control group, which was not statistically significant ($p=0.074$). Then, an ascending trend was created in the mean perceived stress score, which was statistically significant ($p=0.018$).

Table 4: Comparing the Mean Perceived Stress Scores in Each of the Groups Based on the Study Stages

Group	Group	Rank Mean	Z Statistic	Significance Level*
Intervention	Pre-test-Post-test	13.00	-4.576	0.001
	Pre-test-Follow-up	13.00	-3.473	0.001
	Post-test- Follow-up	12.48	-3.391	0.001
Control	Pre-test-Post-test	13.88	-1.785	0.074
	Pre-test-Follow-up	13.00	-0.149	0.881
	Post-test- Follow-up	13.00	-2.356	0.018

***Friedman test**

Based on the obtained results, in Table 5, the interquartile range of stress decreased in the intervention group two months after the intervention, indicating stress reduction. The Friedman's test also showed that the stress variable had a statistically significant change in the intervention group in different stages ($P=0.001$), and considering the mean scores,

stress decreased over time. The Friedman's test also indicated statistically significant changes in the control group in terms of stress ($P=0.006$) and the stress score increased two months after the intervention compared to that immediately after the intervention; in other words, the stress score increased over time.

Table 5: The Ranking of the Mean Perceived Stress Scores in Each of the Groups Based on the Study Stages

Stress	Before the Intervention		After the Intervention		Two Months After the Intervention		P-Value*
	Median	Interquartile Range	Median	Interquartile Range	Median	Interquartile Range	
Intervention group	9.00	3	5.50	4	8.00	3	0.001
Control group	9.00	2	7.50	6	9.00	5	0.006

Friedman test*Discussion**

The current study was conducted to investigate the effect of life skills-based group counseling on stress in female adolescents under the coverage of comprehensive health centers in the city of Zanjan in 2019.

Confirming the research hypothesis, the results indicated that life skills-based group counseling was effective in reducing the stress of female adolescents. Based on the results, the stress scores were significantly different between the intervention and control groups after the intervention. The results showed that the level of stress decreased in the intervention group and increased in the control group during the follow-up period.

Adolescence is accompanied by numerous physical, emotional, and cognitive changes, and the onset of new social relationships and communication with peers simultaneously leads

to increasing pressure and stress in adolescents [34]. Stress affects adolescent mental health; therefore, stress control and management training is necessary to prevent mental health problems [35]. Various studies have been carried out to investigate the effect of life skills training on reducing the stress of different groups of society, the results of which are consistent with results of the current study. One of these studies is a study investigating the effect of life skills training on reducing stress among university students, the results of which indicate that life skills training can result in stress reduction in this group [36]. Group training of stress management skills has also been shown to have positive effect on the ambiguity tolerance among neglected and poorly supervised adolescents [37]. The results of a study conducted on the effect of life skills training on reducing the mental stress of mothers of mentally retarded children are also consistent with the

findings of the present study [38]. The effect of training the skills to cope with negative emotions on reducing stress and anxiety of male students has also been investigated and the results indicate the reduction of stress and anxiety in this group, which is consistent with the present study.

Given the results of these studies, in learning the methods of coping with negative mood, the adolescent learns how to cope with emotions and control negative mood and behaves in a favorable manner in critical and stressful conditions; thus, the individual's coping skill increases. Acquiring the skill to cope with negative mood leads to promoting self-confidence and mental health in adolescents and preventing its resultant stress and problems [39]. Group training of problem-solving skills has been shown to increase the level of general compatibility and its components in incompatible female students. The results indicated that this skill culminated in increasing the general, emotional, social, and academic compatibility of incompatible female students. Considering that the adolescent's functions are disturbed during adolescence due to physical, emotional, and psychological changes, acquiring problem-solving skills can reduce the adolescent's behavioral, psychological, emotional, social, and academic inconsistencies by activating his/her mind in finding appropriate solutions. The adolescent learns to first define the problem, and then analyze it, imagine practical solutions and their results, and evaluate his/her functioning after choosing and implementing the best solution. Therefore, by acquiring this skill, the adolescent acquires experience gaining [27]. Based on the results of studies conducted under various stressful conditions, the use of positive coping methods is effective in reducing the negative effects of stress [40]. The results of a study conducted to investigate the effectiveness of stress management group training on depression, anxiety, and stress of fatherless adolescents by Turkman et al. were consistent with the results of the current study and confirmed the effectiveness of training stress management skills on adolescents' emotional reactions. Therefore, acquiring the skills to cope with stress gives adolescents more abilities to cope with the stresses stemming from the changes in adolescence and spend this important period with better mental health [41]. In a study, Hori et al.

(2007) assessed the effectiveness of stress management training among the students of Hiroshima University in Japan. The findings of their research indicated that stress management training for 3 weeks was effective in recognizing and controlling the stress of the experimental group immediately after the intervention but not on the students' level of stress in the final follow-up [42], which is not consistent with the findings of the present research. The reason for this inconsistency can be related to the different training duration, in Hori's study, the intervention time was much shorter than the intervention duration in the current study, and different research populations can also be effective. The results of a study investigating the effectiveness of a comprehensive health promotion group program on academic stress, anxiety, and depression among female adolescents in India revealed that the stress management group intervention led to improving the adolescents' mental health [43], which is consistent with the present research. The results of Shokoohi Yekta et al.'s (2014) study entitled "The Effectiveness of Problem-Solving Skills Training on Stress and Parenting Style" indicated that participating in the problem-solving based parenting style workshop was not able to reduce the stress of the intervention group significantly [44], which is not consistent with the results of the current research. This inconsistency can be due to the different research communities, different materials presented in the training sessions, or the short duration of the intervention mentioned in this study.

One of the limitations of this research is the use of self-report questionnaires, for which the participants were provided the required explanations for correct and accurate completion of these questionnaires.

Finally, it is recommended to use other psychological approaches for conducting research on the current study's variables in future studies. It is also recommended to compare the individual counseling method with the group counseling method using life skills training on the stress and quality of life of female adolescents.

Conclusion

Based on the mentioned materials, it can be concluded that life skills group counseling will

considerably affect reducing female adolescents' stress and consequently improve their quality of life. Considering the large population of adolescents who will be the future makers of the country and future mothers, consultation and life skills training will effectively help improve the health of society. Therefore, policymakers should plan and take the essential actions to use these methods to improve individuals' health in society, particularly adolescents, as a crucial group influencing the health of society. Healthcare workers in health centers can be the best option to merge and perform mental and physical care in female adolescents. Therefore, it is suggested to consider a consultation for female adolescents as a part of care and actions taken in healthcare centers.

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Conflict of interest

The authors declare no conflict of interest.

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