

## Original Article

## The effect FRIENDS program on the anxiety of adolescent girls

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### Abstract

**Background:** Anxiety is one of the most common psychological problems among adolescents which have been almost considered by researchers. In this regard, the present study was conducted to examine the effect of the FRIENDS training program on the anxiety of female adolescent clients referred to Tolou-e-Now Health Counseling Center of Bam.

**Methods:** This study was a randomized controlled trial. The statistical population included 65 people of female adolescents with anxiety disorder referred to Tolou-e-Now Health Counseling Center of Bam, who were studying in academic year 2018-2019. Among them 30 people whose total anxiety level were higher than intermediate, were selected through convenience sampling method and randomly assigned to control (n=15) and experimental (n=15) groups. The experimental group received the FRIENDS training program for 10 sessions during 2 months and the control group did not receive any intervention. Spielberger State-Trait Anxiety Inventory was used to collect data. The data were analyzed using analysis of covariance and SPSS software version 22.

**Results:** the results of analyzing the data showed that FRIENDS program training had a statistically significant effect on reducing both obvious and hidden anxiety in female adolescents in experimental compare to control group. The rate of the effect of this training program was estimated 33.4% with statistic potent 92.4.

**Conclusion:** FRIENDS training program could be considered as a protective intervention on reducing anxiety of adolescents.

**Keywords:** Adolescents; Anxiety; FRIENDS program; Randomized Controlled Trials as Topic.

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### Introduction

One of the important issues in the field of mental health is anxiety. Anxiety can be a multidimensional variable, which is known as obvious and hidden anxiety, and its dimensions are measured by rrelated questionnaires. Hidden anxiety represents individual's

personality anxiety and some people are more prone to be affected than the others. Hidden anxiety is created when people encounter stressful stimulus, while obvious anxiety occurs in a special position and the person feels tension and conflict against it and does not control himself/herself (1).

Many psychologists know anxiety as the main root of many mental disorders. This issue increases the importance of treating anxiety, which seems to be able to help people in managing anxiety situations. One of the most widespread methods of intervention that the World Health Organization emphasizes it based on sufficient evidence to prevent and reduce the anxiety of children is the FRIENDS program that was developed by Paula Barrett in Australia based on the approach of cognitive therapy (2).

The FRIENDS program helps children and adolescents learn ways to cope with fear, concern, and depression, and provide the necessary conditions for promoting and growing their emotional resilience and self-esteem (3).

Training FRIENDS program has affected the prevention and treatment of emotional disorders and improvement of psychological well-being by emphasizing positive psychology (4).

Research suggests that the FRIENDS program reduces psychological disturbances and behavioral problems and increases life skills and self-esteem in children (5, 6).

And in general, in this anxiety management program, self-esteem, problem solving, psychological resistance, self-expression and positive relationships with others are taught (7).

According to the mentioned subjects, and in order to help mental health, and in particular the reduction in female adolescents' anxiety, this study examined the effectiveness of training the FRIENDS program on the anxiety of the clients referred to the Counselling Center of the Bam city.

## Methods

The present study was randomized controlled trial with pretest-posttest design. The statistical population of the study

included all 65 female adolescent clients with anxiety referred to Tolou-e-Now Counseling Center in Bam who were studying in the academic year 2018-2019. 30 individuals were selected among them based on the convenient sampling method and ease of access due to the researcher's employment in Tolo-e-Now Counseling Center in city of Bam. These 30 individuals were people whose total anxiety scores were higher than 86 or in a better sense, with anxiety level more than moderate.

This statistical sample was randomly divided into control and experimental groups. In this study, Spielberger ,1970, Anxiety State-Trait Inventory questionnaire was used to collect data. This questionnaire was developed by Spielberger ,1970, and includes separate self-assessment scales for measuring trait and state anxiety. State anxiety scale includes 20 items that examine the feelings of the individual's anxiety which measures derangement, distress, nervousness and self-hatred at the present time.

The trait anxiety scale also includes 20 items that assess the usual and general feelings of the individuals. Scoring method was based on Likert scale from 1 to 4 (1=very low, 2= low, 3= high, and 4= very high), which the higher score represent higher anxiety. The reliability and validity of the questionnaire have been assessed in several researches. Mahram ,1993, calculated the validity and reliability of the questionnaire in an Iranian community in the city of Mashhad and by calculating Cronbach alpha for 600 normal subjects, reported its reliability for state anxiety scale as 0.91 and its reliability for trait anxiety scale as 0.90. Also, he used concurrent criterion method to obtain validity. According to this study, for both state and trait anxiety scales there was significant differences between normal and criterion groups by comparing the observed means ( $P<0.05$ ), and the validity coefficient of the scale was reported between 0.73 and 0.86 using test-retest method. This scale also has a good correlation with other scales for assessing anxiety such as Tylor obvious anxiety indicating criterion validity of this instrument

Table 1. Content of FRIENDS program

Session	Subject
First Session	The Introduction of the FRIENDS program
Second Session	The Introduction of feeling
Third Session	The relationship between thoughts and feeling
Fourth Session	Learning to deal with worries - recognizing emotions, relaxation, and manner of good feel.
Fifth Session	Learning to deal with worries - developing positive self-statement.
Sixth Session	Learning to deal with worries - Challenge with negative and useless thoughts.
Seventh Session	Learning to deal with worries - developing problem-solving skills.
Eighth Session	Learning to deal with worries - a step-by-step plan and encouraging self to success.
Ninth Session	Learning to deal with worries - role play and the use of the practice in FRIENDS skills.
Tenth Session	Review and summarize part of the learnings and face potential problems.

.For conducting the research, two weeks before starting the treatment, pretest was done as the baseline. The experimental group received 10 sessions of FRIENDS training program once a week from March 2018 during 2 months but the control group did not receive any intervention. Two weeks after the training of the experimental group, posttest was done. To observe ethical considerations, the necessary information was given to the participants, they were ensured about confidentiality of their information, and the research was done with informed consent of the participants. After conducting the research, due to ethical considerations and the effectiveness of the FRIENDS program, the control group was taught the Friends program.

FRIENDS program is a cognitive-behavioral program for children that was designed by Barrett (7). In the studies in Australia and inter-cultural studies in 17 countries in the world, the effectiveness of the program has been confirmed. This program consisted of seven letters each of which in this acronym indicates interventions as follows:

Table 2. Demographic information of participants

Age category	Number(n)	Percent (%)
12-14 years	10	33/33 %
14-16 years	18	60 %
16-18 years	2	7/6 %
Total	30	100 %

*F: Feelings (Talk about your feelings and care about other people's feelings);*

*R: Regular detension; Relax (Do "milkshake" breathing, have some quiet time)*

*I: I can try! (We can all try our best, thinking; green and red thinkings)*

*E: Encourage for problem-solving (Step plans to Happy Home)*

*N: Nurture (Quality time together doing fun activities)*

*D: Don't forget to be brave! (Practice skills everyday with friends and family)*

*S: Stay happy"*

The content of the FRIENDS program taken from Barrett et al. (1999) has been presented in (Table 1).

Data were analyzed using analysis of covariance and SPSS software version 22.

## Results

The most individuals were in the 14-16-year range (18 individuals; 60 percent), then individuals were in the 12-14-year range (33.33%), and 2 individuals (6.7%) were in the 16-18-year range (Table 2). As mentioned in the Table 3, the mean and standard deviation of obvious anxiety have been  $44.2 \pm 4.32$  before the intervention in the experimental group which has reached  $35.8 \pm 3.21$  after the intervention and this difference is significant statistically ( $p = 0.04$ ) but in the control group, the mean and standard deviation of obvious anxiety have been  $44.6 \pm 3.82$  in the pretest which has reached  $41.8 \pm 5.12$  in the posttest and

Table 3. The comparison of the mean score of obvious and hidden anxiety of the pretest and posttest in each group

Score		Pretest	Posttest	paired t-test	
Group		Mean $\pm$ SD*	Mean $\pm$ SD*	T	P
experimental	Obvious anxiety	44.2 $\pm$ 4.32	35.8 $\pm$ 3.21	3.14	0.04
	Hidden anxiety	42.9 $\pm$ 4.72	32.5 $\pm$ 3.45	3.78	0.002
	Total anxiety	87.1 $\pm$ 8.91	68.3 $\pm$ 7.82	4.02	0.001
control	Obvious anxiety	44.6 $\pm$ 3.82	41.8 $\pm$ 5.12	2.32	0.1
	Hidden Anxiety	42.7 $\pm$ 4.36	43.1 $\pm$ 3.98	2.54	0.45
	Total anxiety	87.3 $\pm$ 8.78	84.9 $\pm$ 7.98	2.01	0.62

\*SD=Standard deviation

This difference is not significant statistically ( $p = 0.1$ ). The mean and standard deviation of hidden anxiety have been 42.9 $\pm$ 4.72 before the intervention in the experimental group which has reached 32.5 $\pm$ 3.45 after the intervention and this difference is significant statistically ( $p = 0.002$ ) but in the control group, the mean and standard deviation of hidden anxiety have been 42.7 $\pm$ 4.36 in the pretest which has reached 43.1 $\pm$ 3.98 in the posttest and this difference is not significant statistically ( $p = 0.45$ ). Also, the mean and standard deviation of total anxiety have been 87.1 $\pm$ 8.91 before the intervention in the experimental group which has reached 68.3 $\pm$ 7.82 after the intervention and this difference is significant statistically ( $p = 0.01$ ) but in the control group, the mean and standard deviation of total anxiety have been 87.3 $\pm$ 8.78 in the pretest which reached 41.8 $\pm$ 5.12 in the posttest and this difference is not significant statistically ( $p = 0.62$ ) in Table 4.

The results indicated that the mean of the pretest scores of anxiety has an insignificant relationship with posttest scores. Through the examination of this

relationship, it is observed that the difference between the weighted averages of anxiety scores of the experimental group is lower than the control group and this difference is significant ( $p=0.001$ ). Also, Eta square or the effectiveness rate demonstrates that 33.4% of the difference in the variances of the subjects' anxiety scores in the posttest is due to group membership overall. In summary, the FRIENDS program has reduced the anxiety of the experimental group by 33.4% compared to the control group. The statistical power of 92.4% indicates high statistical accuracy and sufficient sample size to evaluate this hypothesis.

### Discussion

The present study was conducted to examine the effect of the FRIENDS training program on the anxiety of female adolescent clients referred to Tolou-e-Now Counseling Center of Bam. The results of analyzing the data showed that FRIENDS program training had a significant effect on reducing anxiety in female adolescents and the rate of the effect of this training program was estimated 33.4% with statistic potent 92.4.

Table 4. The results of the investigation of analysis of covariance of the anxiety scores in experimental and control groups

Source of changes	Sum of squares	Degree of freedom	Mean of squares	Statistic F	Significance level	Effectiveness	Statistical power
Pretest	0.18	1	0.18	0.23	0.573	0.012	0.086
Group membership	8.82	1	8.682	15.05	0.001	0.334	0.924

The obtained results of the present study are congruent with the results of Lock and Barrett (9), Barrett and May (7) and Qajarieh, Alipour, Shahani Yeilagh and Davoodi (8). Using FRIENDS program, Lock and Barrett showed that there was a significant decrease in anxiety of the experimental group. Barrett (10) and Barrett and May (7) studied and confirmed the effectiveness of the FRIENDS program on reducing anxiety. In other researches, the results of Heidari et al (11) indicate the effectiveness of FRIENDS program on reducing anxiety. Qajarieh, Alipour, Shahani Yeilagh and Davoodi (8) indicated that the FRIENDS program was effective in reducing anxiety.

In explaining and justifying this finding of the research, in addition to its empirical support mentioned above, the overall orientation of cognitive-behavioral therapies and related hypotheses should be respected. In such interventions, especially the FRIENDS education program which is based on cognitive-behavioral therapy, feeling and behavior are largely the product of cognition. Thus, through the intervention of the FRIENDS program, which is based on cognition, behavior, and emotions, it gets proved that, at the cognitive level, individuals learn positive thinking skills about themselves, others, and the environment, and challenge negative self-talk as well, and pay attention to their positive characteristics.

According to cognitive theory, in this case, the individual can identify his worrying thoughts and based on them, try to solve problems, communicate positively with others and behave adaptively at the behavioral level. In this case, anxiety will come down along with the reduction of anxiety and excessive fear, which the findings in this study have been in this direction. Besides, the FRIENDS program encourages individuals to imitate positive roles and build a supportive network and facilitates unconditional relationships, love, empathy, acceptance, and safety for them,

and physiologically, helps humans learn self-regulation.

Therefore, this program causes changes in thinking or cognition, feelings, and behavior. In other words, under the impact of teaching the FRIENDS program, new beliefs other than initial experiences and parental behavior get reinforced, in which new data and experiences were evaluated and absorbed based on these beliefs. Because fundamental beliefs were activated and started by important events and lead to assumptions. This results in the formation of a stream of automatic thoughts that were related to the person, his performance, and the future and are known as three cognitive aspects. These automatic thoughts lead to emotional, cognitive, and physical changes (12).

Now, according to Barrett's views, it seems that FRIENDS training program has been able to provide the basis for emotional resilience and increased self-esteem as well as cognitive coping with anxious events by improving dysfunctional beliefs and the role of fear self-talk, useful attitudes, actions, and also reward and reinforcement and its consequences for one's efforts to overcome fear and anxiety which has resulted in reduced anxiety.

According to the obtained results of the present study and other similar studies in this field, it can be said that the FRIENDS program encourages the adolescents to imitate the positive roles and create the supporting grids; and this program causes some changes in the sensitive cognitions and thoughts as well as the individuals' behaviors. It also can provide a situation and opportunity for increasing adolescents' emotional resilience, self-esteem, as well as cognitive coping with stressful events by modifying ineffective beliefs, and the role of fear self-talk, attitudes and useful measures, reward reinforcement and its consequences for adolescents to overcome fear and worry, which are resulted to adolescents' reduced anxiety. Thus, we can conclude that training FRIENDS program

as a protective and therapy intervention is effective in reducing adolescents' anxiety, and it is also suggested it is considered by educators in training the adolescents.

However, using self-report instrument, the limit of the statistical population (female adolescents) with anxiety for referring to Tolou-e-Now Health Counseling Center of Bam in 2018-2019 academic year and lack of follow-up studies due to lack of time were the limitations of the present study. But since the obtained results of the present study and other similar studies in the field of effectiveness of the FRIENDS program, which approve the reliability and validity of the program in nurturing cognitive and social skills, the education trainers and planners as well as the educational and curriculum policy-makers are recommended to modify the educational system from informal training periods, that is, kindergarten plans to higher education ones, and incorporate plans as FRIENDS program in formal educational curriculum of the country. Also, by presenting educational programs (in-service), the possibility of acquaintance of teachers with interactive, discussion-based, and empirical-oriented learning methods is provided, first as the participant in training courses and then as the promoter. It is also suggested that a similar research is conducted with greater samples, vaster geographical area, and in other adolescents including male adolescents in order to generalize the results and compare them, as well as by using the other collecting data instruments than questionnaire such as interview.

### ***Authors' contributions***

Study concept and design: GSM, SHT, MHZD; Data gathering: GSM, HJ; Data analysis: GSM, SHT; Writing manuscript: GSM, SHT, MHZD, HJ; Revise manuscript: GSM, SHT, MHZD, HJ; Approve manuscript: GSM, SHT, MHZD, HJ.

### ***Conflict of interest***

None declared.

### ***Source(s) of support***

There was no financial support

### ***Ethical statements***

The current study was conducted in accordance with the Declaration of Helsinki, and it was approved by the vice-chancellor of research and technology, To consider ethical issue, the collected data were not revealed to anyone, except for the researchers.

### ***Informed Consent***

In this study, the researchers used collected data using innominate questionnaires and the participants entered the study with informed consent.

### **References**

1. Horvath A, Montana M, Lanquart J, Hubain P, Szűcs A, Linkowski P, Loas L. Effects of state and trait anxiety on sleep structure: A polysomnographic study in 1083 subjects. *psychiatry research*. 2016;14(5):101-110.
2. Mohit A, Shah Mohammadi D, Bolhari J. Independent national evaluation of mental health, Iran, 1995. *Iran J Psychiatry Clin Psychol*. 2017;3(11):4-16.
3. Liddle I, Macmillan S. Evaluating the FRIENDS programme in a Scottish setting. *Educational Psychology in Practice*. 2020;26(1):53-67.
4. Barrett P, Lock S, Farrell L. Developmental differences in Universal preventive intervention for child anxiety. *Clinical Child Psychology and Psychiatry*. 2005;4:539-555.
5. Thompson H, Lonsdale J. Adapting the manual: Reflections on modifying standardised group materials. *Clinical Psychology Forum*. 2018;18(8):21-34.
6. Stallard P, Skryabina E, Taylor G, Phillips R, Daniels H, Anderson R, Simpson N. A randomised controlled cluster trial comparing the effectiveness and cost effectiveness of a school based cognitive behaviour therapy programme (FRIENDS) in the reduction of anxiety and improvement in mood in children aged 9/10. *Public Health Research*. 2015;14(3):226-140.
7. Barrett P, May L. Introduction to FRIENDS anxiety prevention and treatment for children aged 7–11 and youth aged 12– 16. Brisbane, Australia: Australian Academic Pres. 2007;1:26-35.

8. Qajariyeh M, Alipour S, Shahni Yilagh M, Davoodi I. The Effectiveness of Friends Resilience Training on Anxiety in Female Students. *Psychological Methods and Models*. 2018;9(3):69-83.
9. Lock S, Barrett P. A longitudinal study of developmental differences in universal preventive intervention for child anxiety, *Behaviour Change*. 2003;20(3):183-199.
10. Barrett P. My FRIENDS youth for life: Group leaders' manual for youth 6 Ed. Australia: Pathway health and research center, Brisbane. 2012;1:170-182.
11. Heydari M, Bakhtiarpour S, Makvandi Naderi F, Hafizi F. Evaluation of the effectiveness of FRIENDS program Education on anxiety in children of Shiraz, *psychological methods and models*. 2016;24(7):23-38.
12. Kendall P, Flannery Schroeder E, Panichelli Mindel S, Southam Gerow M, Henin A, Warman M. Therapy for youths with anxiety disorders: A second randomized clinical trial, *Journal of consulting and clinical psychology*. 2014;65(3):366-380.