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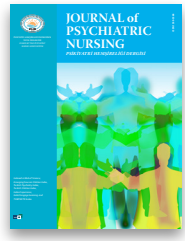

Qualitative Research

The efficacy of the triple P: Positive parenting program for parents of teenagers in Iran

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Abstract

Objectives: Adolescence is a stage of life with fast cognitive, biological, and neurological changes. It has been shown that behavioral problems increase in late childhood and early adolescence. When mental, emotional, and behavioral health disorders are not effectively treated, the impact on the individual, their families, and society more broadly can be devastating and long-lasting. The aim of this study is to determine the effectiveness of Standard Teen Triple P (STTP) with parents who have behaviorally disturbed adolescents.

Methods: The research was conducted using quasi-experimental research on 78 parents who had teenagers aged between 11 and 16 years experiencing detectable behavioral and emotional problems. The participants were allocated to two groups, that is, 39 participants to the intervention group, and 39 to the control group. The data were collected using a demographic questionnaire, the strengths and difficulties questionnaire, conflict behavior questionnaire, and general health questionnaire-28. The STTP was carried out for the intervention group for 10 weeks. The data were collected immediately after the intervention, and also 2 months after the intervention. The data were evaluated using t-test, χ^2 test, variance analysis, multivariate analysis of covariance, and analysis of covariance test.

Results: It was found that participation in the STTP resulted in improvement in parents' mental health, reduction in adolescent problem behaviors, and fewer parent-adolescent conflicts.

Conclusion: STTP must be made available to parents of teenagers in Iran.

Keywords: Adolescent behavioral problems; parental mental health; parenting programs; positive parenting program; standard teen positive parenting program.

Puberty is a major adaption period for teenagers and their families.[1] Among stages of life, adolescence is characterized with rapid changes in terms of biological, cognitive, and neurological characteristics.[2] For many adolescence is the most problematic and anxious stage of a child's life. It has been shown that behavioral problems increase in late childhood and early adolescence.[3] The behavioral problems tend to continue in late adolescence, and they can even lead to an obstacle to progress in adulthood.[4] Behavioral and emotional problems during adolescence are one of the major problems facing schools and families in different countries including Iran. The last two decades have shown that mental disorders are growing among young individuals.[5] without an efficient treatment for emotional, mental, and behavioral disorders, the individual, families, and society shall suffer long-term consequences. These disorders' costs reach about $247 billion every year for young individuals under 24 years so they are one of the most expensive health issues of childhood.[6]

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Studies have shown that the problems posed during adolescence are influenced by their relationship with parents and family's functioning, and they can result in social, emotional, and physiological disorders.[7] Parent-adolescents conflicts will lead to some adulthood maladaptation such as depression, unacceptable behaviors, behavioral problems at school, academic failure, and self-esteem problems.[8] The extensive review of the texts indicates that parents are a significant factor in preventing problem behaviors.[7] Based to the theory of social learning, it is necessary to make changes in parents' behaviors to solve children's behavioral problems.[9] This is the case because parents' attitudes have a major role in shaping children's behavior.[10] Parenting programs have been extensively applied according to this approach over the last 30 years.[11,12] The meta-analysis researches conducted on relevant social learning indicate the effectiveness of positive parenting programs (Triple P) on the basis of social learning model.[13,14] The analysis focused on the Triple P shows that it is one of robust and effective programs.[15,16]

Triple P was developed in 1979 at the University of Queensland's Parenting and Family Support Center, and it is being practiced currently in more than 28 countries. Triple P is a multilevel intervention program based on social learning principles[17] that have been developed to prevent and solve children and adolescents' emotional, behavioral, and developmental problems by promoting parents' skills, knowledge, and self-confidence.[18] This program aims to promote the positive relationship between parents and children, and it supports children's growth and contributes to the acquisition of skills needed to manage problem behaviors. Moreover, it trains couples the effective relationship skills and some courses of action to reduce their stress.[18,19] Triple P seeks to address the supportive and changeable risk factors existing from the beginning in the family which have either undesirable or supportive effects on children and teenagers' development. For this purpose, five main rules of positive parenting constitute the foundation of the program: Secure and pleasant environment, a positive learning environment, positive regulations, rational expectations, and parents' self-care.[18–20]

Many studies have been conducted on the effectiveness of this program in preadolescence, and strong evidence has been put forth of the efficiency of preventive and clinical Triple P interventions in the trials of randomized controlled of this program with the parent of children under 11 years old, children's parents participating in the study. However, little research has been conducted on family treatment models in adolescents. The evidence over an extensive range of diverse levels shows a reduction in problem behaviors of these children and parents' dysfunctional approaches. These cases are usually featured with a higher level of positive parenting approaches, parents' satisfaction, parents' general trust, a higher level of efficient parenting, and a decrease in parents' stress and depression.[21–24]

What is presently known on this subject?

- Behavioral and emotional problems during adolescence are one of the major problems facing schools and families. According to the social learning theory, it is necessary to make changes in parents' behaviors to solve children's behavioral problems. The analysis focused on the positive parenting program (Triple P) shows that it is one of the most effective and robust programs. However, few studies have been conducted on the effectiveness of Triple Ps in adolescents with behavioral problems.

What does this article add to the existing knowledge?

- This study reveals that Standard Teen Triple P (STTP) leads to the reduction in problematic adolescent behaviors, and fewer parent-adolescent conflicts, which adds to the existing evidence about the effectiveness of Triple P for teenagers.

What are the implications for practice?

- Highlighting the efficacy of Teen Triple P, and the use of this program by mental health professionals who provide health and education services to parents and adolescents.

Teen Triple P is a program for parents of children between 11 and 16 years of age. It has an identical structure for parents of younger children; however, it places major emphasis on improvement in adolescents' emotion regulation, problem-solving, and risk management. This program deals with key challenges of adolescents' development including teenagers' requirement for more autonomy and freedom, peers' impacts, biological changes along with neurological changes, and sexual maturation in the development of the brain. Standard Teen Triple P (STTP) is the fourth level of the Triple P, an individual face-to-face version of Teen Triple P which is designed to stop and deal with emotional, behavioral, and developmental problems in adolescents through improving the skills, knowledge, and confidence of parents. This program is appropriate for teenagers who have some problems; however, they may either have or lack diagnostic criteria for a behavioral disorder.[25,26] STTP is appropriate for those who are concerned about their children's behavior and development. They may be concerned that the relationship they have with their children is not positive; their teenagers do not have autonomy and self-control skills; or that they have not found an appropriate way to prevent themselves from risk-taking and inappropriate behaviors.[26,27] Due to the concern and embarrassment of some parents about sharing problems with others, social anxiety, problems in receiving materials, and due to the concern of the spread of the COVID-19 disease at the time of research and the inflexibility of group programs, from the individual and facing version of this program was used online and in person.

The results of Teen Triple P that were conducted in different ways including group, self-guide, and standard programs, indicate considerable advancements in parents' behavior and self-confidence, a decrease in teenagers' behavior problems, a decrease in parent-adolescents conflict, improvement in family relationships, and parents' psychological adjustment.[28–33]

In trials in countries such as Australia, New Zealand, and Germany, the effectiveness of the Triple P for teenagers has been shown in a group setting.[31,34,35] However, there is limited evidence of the efficiency of the study concerning the effect of STTP on teenagers with behavior problems.[28] This study was conducted in a culturally different environment among teenagers with behavior problems to determine the effect of the educational program designed based on STTP, with Iranian Azari-speaking parents who have teenagers with behavior problems. The main hypothesis was that STTP would reduce behavioral problems in teenagers as well as reduce conflict between them and their parents. Another hypothesis was that the program will impose a positive effect on the well-being of parents.

Materials and Method

Study Design

The quasi-experimental group comparison design was applied in this research. Among the 56 health and treatment centers covered by Tabriz University of Medical Sciences, four health centers were randomly selected.

Participants

Sampling was done from households that had teenage children aged 11–16 with their names registered in the integrated healthcare system.

Inclusion Criteria

Assessment of competency of families to participated in the study was carried out in two steps: 1 – A telephone interview was conducted to assess the appropriateness of the program; (a) 11- to 16-year-old teenagers, (b) One parent report concerns regarding their child's behavior, (c) The teenager is not in contact regularly with a psychologist or psychiatrist for emotional or behavioral problems. 2 – Parents' responses to Strengths and Difficulties Questionnaire (SDQ) were examined. SDQ online or in person was provided to them the teenagers needed to obtain a score in the borderline range or higher on this questionnaire. After filling out the questionnaires by the two parents, the family was assumed eligible even in case one of the parents showed that the teenager obtained a score in the elevated range on the SDQ.

Exclusion Criteria

Teenagers who suffered mental autism, retardation, schizophrenia, psychosis, obsessive-compulsive disorder, bipolar disorder, nocturnal enuresis, or attending less than eight sessions in training were excluded from the study.

In total, 360 families of adolescents were contacted either through telephone. One hundred and five families were removed from the study due to not meeting the inclusion criteria, 81 parents were not much concerned about their teenagers' behaviors, eight teenagers were in contact with the psychologist, 16 parents did not meet the conditions and did not have enough time to participate in the interventions, 55 parents were not willing to participate in the study anymore. It was not possible to contact 10 parents, thus 190 families received the SDQ either through the Internet (161), or in person (29). One hundred and twelve families (55.7%) were excluded from the study because none of the parents reported serious problem on the part of their children with SDQ (the child under study failed to obtain the score in the clinical or borderline range on the SDQ Total; borderline range=14–16 and clinical range=17 and over).

Seventy eight remaining families were assigned to one of two conditions (39 parents to intervention conditions and 39 parents to control condition), respectively. Telephone interview with parents for sampling started in February 2020 and continued until July. Educational sessions and data collection started in August 2020 and continued until the end of February 2021.

To specify the size of the sample group, Type I error equal to 0.05 and Type II errors equal to 0.20 were taken into account. A minimum number of 25 subjects were required by each group based on the report by Stallman and Ralph[36] using the program NCSS-PASS, the SDQ total score, and standard deviations 12.29 (7.05), 7.69 (3.61), 12.94 (7.06), 10.71 (6.35), 11.69 (5.95). Under intervention conditions, 35 parents completed all sessions, while one individual had left the education before the 2-month evaluation. Five parents refused to stay in the study after being informed that they had been allocated to the control group. Thirty-five individuals in the intervention group and 32 individuals in the control group provided the post-intervention data, while 34 individuals from the intervention group and 31 individuals from the control group provided the follow-up data (Fig. 1).

In addition, 58% of teenagers were male. All parents who had been contacted were female, and they were all biological parents of the give adolescents, and all these families had two parents. The analysis of χ^2 of the demographic variables indicated a similar distribution of features among the two groups. There was not any significant difference among the adolescents in terms of gender, age, marital status, education, job, and health status.

Program Content

The STTP program provides information to parents about on practical strategies and recommends healthy intervention and management of problematic behaviors in their children. This program has been designed for parents of 11–16-year-

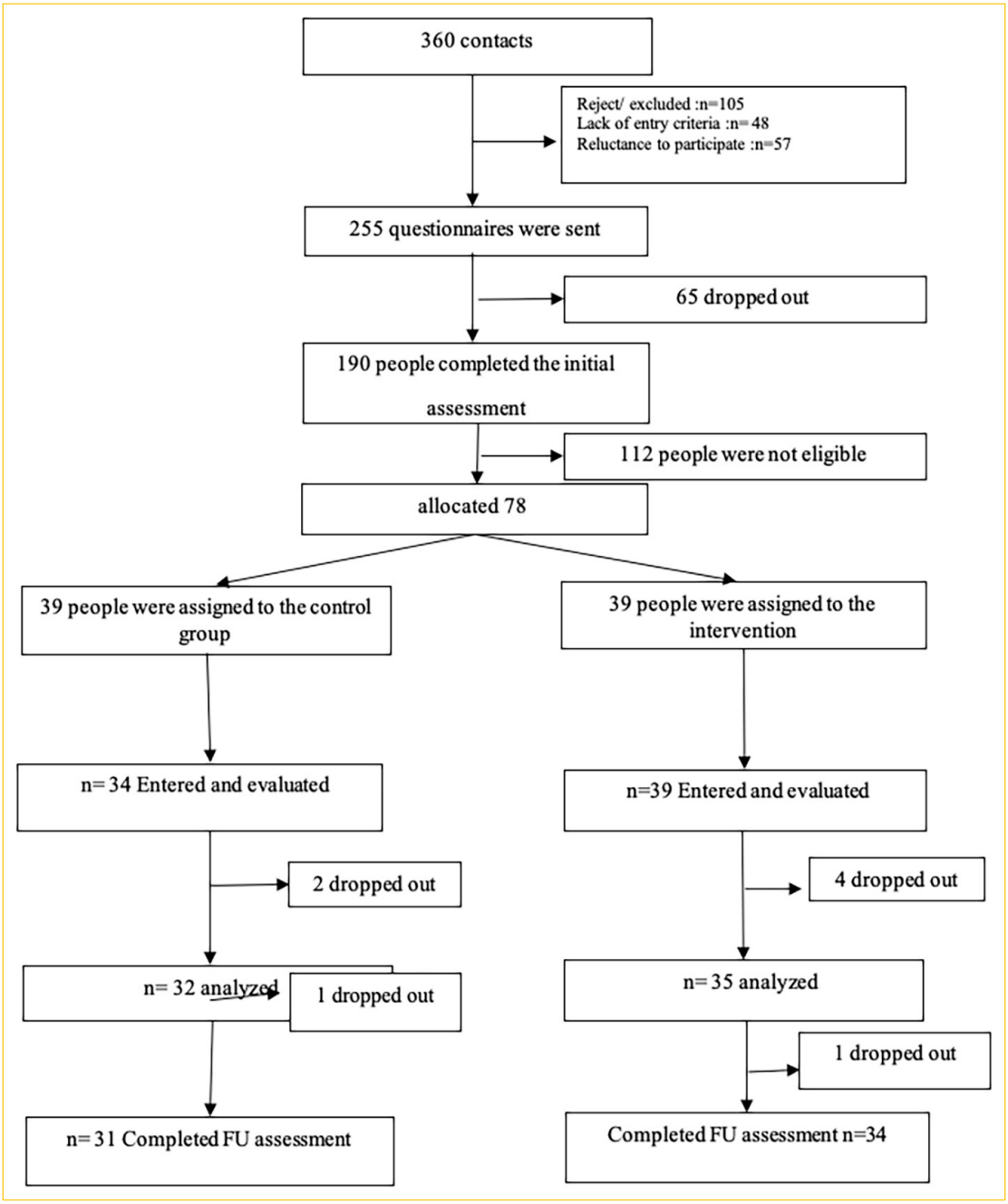

Figure 1. Allocation of participants.

old teenagers, and it includes 10 sessions that are conducted individually. Due to the spread of coronavirus, the first, second, and fifth sessions are held in person and other sessions are held through Skype or WhatsApp which last up to 90 min. Active education methods were used to help parents. These methods include PowerPoint presentations, modeling, sending educational voice messages and educational pamphlets, and receiving feedback and assignments. A summary of educational items was provided to each family making it possible for them to write down their goals, tasks, and other items. A self-regulation program was employed in all sessions, and the parents were asked to determine the goals they sought to achieve by changing behaviors and supervising their progress. In this study, the sessions were conducted by corresponding author, who has completed special courses of Triple P. Mothers were invited to participate in the sessions (Due to more interest and time), and were asked her to share the instructions and contents with the father.

The session's content is based on Triple P program. STTP includes five types of content. Three sessions for evaluation, two for parenting skills, two sessions for management of behavior problems, two sessions for dealing with high-risk be-

haviors, and a closing session. In the first session, an interview was conducted about the existing problem, the history of the adolescent's development, and family history. In the second session, the adolescent was invited to a short interview. During the second session, one topic and duty were determined to observe the interaction between the parent and adolescent. The practitioner, in the third session, apprises parents of the evaluation results. Over the following six sessions, some strategies and techniques were provided and practiced to achieve their goals. At the beginning of the next sessions, the provided techniques were reviewed, and the feedback and usage of strategies were evaluated and directed at home. The parents were asked to express their problems implementing the given instructions and to practice and show the strategies and techniques presented in the previous session through role playing. They received feedback from the training coach during the practice, refined their goals, and revised their plan of parenting accordingly. In the last session, some more complementary information on solving parent-adolescent problems, generalizing the use of strategies, and maintaining treatment results, was provided to them.

Application of the Study

The results of this research can help in management and planning to implement teen Triple P, especially for teachers and parents. Today, investing for the health of adolescents and young people in educational environments is one of the most important interventions of health systems. Therefore, by providing the ground for these preparations, a fundamental step can be taken in the direction of improving the mental health of the family, reducing negative consequences, and preventing high-risk behaviors in teenagers. Furthermore, research findings can be used in clinical education and counseling. Holding educational and counseling courses of teen Triple P to empower psychiatric nurses, psychologists, and other health service providers can be important to respond to the concerns and problems of parents in the field of parenting adolescents in health centers and schools. As well, the results of the present study can be used as a foundation for future research.

Data Analysis

The data analyses were carried out in IBM Statistical Package for the Social Sciences Statistics for Window ($p<0.5$). The frequency (percent) N (%) and mean±standard deviation were used to represent descriptive statistics. Chi-squared and independent t-tests were utilized for comparing the control and intervention groups. The mean scores of differences between the four measures over time were examined using Analysis of covariance (ANCOVA). This method enabled us to control individual differences at baseline (pre-intervention) while assessing conditions effects after intervention and at follow-up. It is commonly used for analysis of quasi-experimental studies.[37]

Taking into account several results obtained by the study and the treatment effects after intervention and at follow-up stage; a step-down approach was used for each measure through examining omnibus tests of treatment effects through multivariate analysis of covariance (MANCOVA). In this test, post-treatment and follow-up scores were considered as dependent variables; while intervention condition was considered as independent variables. In addition, pre-intervention was considered as covariate.

In cases where considerable treatment influence was spotted by MANCOVA, follow-up analyses were carried out using independent univariate ANCOVAs to examine condition effects at post-treatment and follow-up, and also the pre-intervention scores were analyzed in each to control the process.

Changes within the group were also assessed utilizing repeated-measures ANOVA, while time (Pre, Post, and FU) was considered as a categorical variable.

As group differences in terms of mean change, effect sizes were computed for pre/post-intervention and between follow-up and pre-intervention. To determine the effect of variable sizes, partial η^2 was utilized so that when it is higher than 0.14, it is considered as a large effect size.[38]

Ethics

The procedures with the participation of human subjects were completely in as per the Helsinki Declaration and the standards of the institutional and/or national research committee. The study received an ethical approval from the Ethics Committee of Tehran University of Medical Sciences (IR.TUMS.FNM.REC.1397.105) as part of a Ph.D. dissertation. The permission for sampling was given by Tabriz University of Medical Sciences. Informed consent was obtained from all subjects.

Measures

The parents completed the sociodemographic questionnaires, General Health Questionnaire (GHQ-28), SDQ, and Conflict Behavior Questionnaire (CBQ), while adolescents only completed the CBQ.

Sociodemographic Information

There were 15 items in total in the sociodemographic data collection form that covered the information on parents and their children's education, job, and health status.

Adolescent's Behavioral Problem

Parents' understanding of their adolescents' problems and antisocial behaviors was evaluated using SDQ (Goodman,

Table 1. Mean±standard deviation of measures at three stages of the study

Measure	Group	Pre	Post	Follow-up
Teenager CBQ	Intervention	14.44±2.19	12.91±1.08	13.3±1.19
	Control	14.93±1.48	14.70±1.53	14.77±1.70
	p	0.29	<0.001	<0.001
Parent CBQ	Intervention	16.06±1.77	7.32±1.7	7.5±1.46
	Control	15.19±1.78	14.97±1.85	15.1±1.92
	p	0.054	<0.001	<0.001
Strengths and difficulties questionnaire	Intervention	19.41±2.35	12.15±1.21	12.15±0.96
	Control	19±2.53	18.87±2.32	19.16±2.56
	p	0.49	<0.001	<0.001
GHQ	Intervention	27.46±4.33	12.79±3.51	14.59±2.4
	Control	24.96±4.09	24.9±4.19	25.83±3.34
	p	0.013	<0.001	<0.001

CBQ: Conflict behavior questionnaire; GHQ: General health questionnaire.

1997; 1999).[39] This questionnaire is usually utilized in the studies conducted to evaluate Triple P efficiency. This questionnaire includes a self-report form for 11–16-year-old adolescents and a parent and teacher form for 4–16-year-old children. In this study, only parental reports have been used. This questionnaire includes 25 items that find the positive and negative behavior patterns. This questionnaire includes five subscales: Antisocial behaviors, attention deficit and hyperactivity, problems with peers, emotional problems, and conduct problems. The scores of subscales were added up to make up the total score. The SDQ features test-retest reliability, good internal consistency, and discriminant validity. Goodman obtained a 74% sensitivity and specificity of 95% feature for the SDQ total score index. He reported Cronbach's alpha for different scales as 0.73 to evaluate the internal reliability of SDQ in his sample.[40] The validity and reliability of this questionnaire have been successfully conducted in Iran by Tehranidoust et al.[41] They showed the figures of 74% and 95% in the parent SDQ. The cutoff point obtained was equal to or very close to that reported by Goodman. Cronbach's alpha of this questionnaire was estimated at 0.74 in the present study.

Conflict in Parent-adolescent Relationship

CBQ (short version) was used to evaluate the perceived conflict and communication in parent-adolescent relationship (CBQ-20; Robin & Foster, 1989).[42] The correlation of CBQ (20 items) with the 75-item scale is equal to 0.96 which is an acceptable reliability and validity. The scale contains a parent-report form (20 items) and two parallel adolescent forms (20 for the father, 20 items on the adolescent's mother, for example, when we talk to each other, my father tends to be bossy). They are asked to express if each sentence is true of or not, with true equal to 1 and false equal to 0, and negative items reverse-scored. The scores are added up, with higher scores indicating a greater conflict between parents and teenagers. The average score was obtained in both 20-item mother-father forms to obtain the single ratings for each teenager. Cronbach's alpha of parents' CBQ questionnaire was estimated at 0.82 in the present study.

Parents' Adjustment

Parents' adjustment was assessed using GHQ-28.[43] A GHQ is a scale designed as a preliminary screening tool to detect psychiatric disorders at different centers and environments, and it examines different factors affecting mental health in the areas of physical symptoms, anxiety, social function disorders, and depression. Each area includes seven questions. The questions were scored based on a four-point Likert scale, and they have been scored as 0–1–2–3. Higher scores show an increased risk of psychiatric disorders. The questions examine the mental status of the individual over the last month. The reported reliability was high (0.78–0.9) in GHQ, and a high internal and cross validity (Cronbach's alpha 0.9–0.95) was shown, and high internal stability was also reported.[44] The reliability and validity of this questionnaire in Iran were successfully examined.[45] Cronbach's alpha of this questionnaire was estimated at 0.88 in the present study.

Results

Table 1 shows the descriptive statistics for all measures in three stages of the study. The control and intervention groups were similar at the beginning of the study with respect to all measures ($p>0.05$) except for GHQ score. Independent samples t-test highlighted a significant difference in the groups with respect to all measures at both post-treatment and follow-up stages.

Table 2. Results of multivariate and univariate comparison of the two groups at post-treatment and follow-up after controlling for pre-treatment scores using analysis of covariance

Measure	Omnibus test			Group effect and effect size at Post-treatment			Group effect and effect size at follow-up		
	Wilks' lambda	F (2.61)	p	F (1.64)	p	Partial η^2	F (1.62)	p	Partial η^2
Teenager CBQ	0.58	21.51	<0.001	43.56	<0.001	0.41	24.46	<0.001	0.28
Parent CBQ	0.12	219.27	<0.001	361.12	<0.001	0.85	392.4	<0.001	0.84
Strengths and difficulties questionnaire	0.08	345.37	<0.001	508.56	<0.001	0.88	527.60	<0.001	0.88
GHQ	0.23	99.95	<0.001	104.51	<0.001	0.63	201.41	<0.001	0.75

CBQ: Conflict behavior questionnaire; GHQ: General health questionnaire.

The results of multivariate and univariate ANCOVA are displayed in Table 2. As listed in this table, the control and intervention groups had statistically significant differences with respect to all measures at treatment and follow-up stages. Furthermore, all effect sizes of partial eta square (η^2) were >0.25. As values for partial η^2>0.14 are usually considered as large effect size, we conclude that the difference between the two groups was remarkable, especially for SDQ and parent CBQ scores.

Interestingly, similar results of follow-up along with profiles in Figure 2 suggest a stable and lasting effect of intervention in terms of all measures.

Results Reported by Parents

In the SDQ using MANCOVA, a considerable total effect was shown after the intervention and follow-up after 2 months F (2,61)=345.37, p<0.001. Analyses of covariance,[1] a separate variable after the intervention and follow-up, determined the considerable differences in the group in both periods compared to the baseline score F (1,62)=527.60, p<0.001 and F (1, 64)=508.56, p<0.001. Furthermore, the ANCOVA[2] indicated that time had a significant effect on the comparison made between control and intervention groups using repeated measures, F (2,63)=89.63, p<0.001. These findings indicated that parent reports of teenagers' performance as one result of parents' participation in the STTP-based educational group were improved compared to the control group, and these advances were maintained in the 2-month follow-up.

Effect sizes reflect the difference of the intervention and control group as for mean change from pre- to post- and pre- to follow-up show a considerable treatment effect.

Identical results were observed for conflicts between parents and children and parents' health status[3] using CBQ and GHQ. A considerable multivariate effect for intervention condition F (2,61)=219.27, p<0.001, was found in parents' CBQ report form. Univariate analyses conducted independently for mean score at post-intervention and follow-up were carried out after the intervention and follow-up, where considerable group differences were found at each time point in relation to the baseline score. Variance analysis using repeated measures illustrated that time had a significant effect the comparison made between the intervention and control Group F (1,63)=187.25, p<0.001(Table 3).

Comparison between parents' health status using GHQ mean scores showed significant group differences in post-intervention and follow-up in relation to baseline scores F (2,61)=99.95, p<0.001. Univariate analysis showed considerable group differences at post-intervention group, F (1,64)=104.51, p<0.001, and these differences between groups were continued at the 2-month follow-up F (1,62)=201.41, p<0.001. Repeated measures ANOVA illustrated that time had a significant effect in the comparison made between the control and intervention groups F (1,63)=22.25, p<0.001 (Table 3). The results indicate that the participation in STTP-based group will lead to an improvement in the general conditions of parents compared to parents in the control group, also these advances will be maintained in the 2-month follow-up, and large effect sizes show the large effect of treatment in relation to that of the control group.

Results Reported by Teenagers

The group differences in CBQ scores in the follow-up and post-intervention were found to be significant, F (2,61)=21.51, p<0.001, through the omnibus multivariate test. Univariate analysis indicated considerable group differences at post-intervention, F (1,64)=43.56, p<0.001, and follow-up F (1,62)=24.46, p<0.001, in relation to the baseline scores. Analysis of variance indicated a significant effect

1 Univariate tests of group differences at post intervention and follow-up, controlling for pre intervention scores (ANCOVA).

2 ANOVA.

3 Well- being.

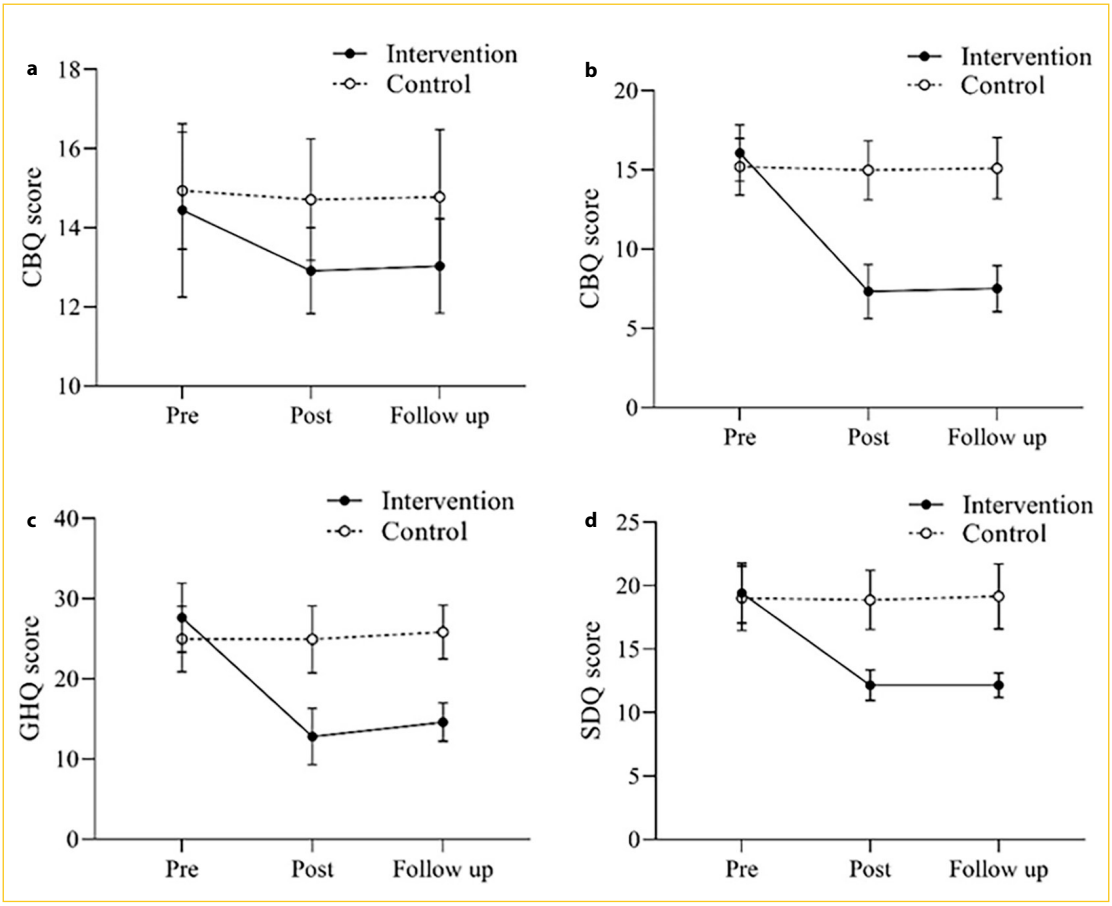

Figure 2. Profiles of different measures in intervention and control groups shown as Mean±standard deviation. (a) Teenager CBQ score, (b) Parents' CBQ score, (c) Teenager GHQ score, (d) Teenager SDQ score.

CBQ: Conflict behavior questionnaire; GHQ: General health questionnaire; SDQ: Strengths and difficulties questionnaire.

of time in the comparison made between the intervention control groups F (2,126)=15.89, p<0.001. These findings indicate that there was a considerable improvement in the parent-adolescent conflict reported by teenagers after parents' participation in STTP-based educational intervention, as well as the improvement that was maintained in the 2-month follow-up. However, parents reported a greater decrease in the conflict than teenagers.

Table 3. Results of repeated measures analysis of variance shown as mean±standard deviation.

	Group	Pre-treatment	Post-treatment	Follow-up	Group effect and effect size
Teenager CBQ	Intervention Control	14.44±2.19 14.93±1.48	12.91±1.08 14.70±1.53	13.3±1.19 14.77±1.70	F (2.126)=15.89, p<0.001, Partial η=0.45
	p	0.29	<0.001	p<0.001	
Parents CBQ	Intervention Control	16.06±1.77 15.19±1.78	7.32±1.7 14.97±1.85	7.5±1.46 15.1±1.92	F (1.63)= 187.25, p<0.001, Partial η=0.86
	p	0.054	<0.001	<0.001	
Strengths and difficulties questionnaire	Intervention Control	19.41±2.35 19±2.53	12.15±1.21 18.87±2.32	12.15±0.96 19.16±2.56	F (2.63)= 89.63, p<0.001, Partial η=0.77
	p	0.49	<0.001	<0.001	
GHQ	Intervention Control	27.62±4.29 24.96±4.09	12.79±3.51 24.9±4.19	14.59±2.4 25.83±3.34	F (1,63)= 22.2, p<0.001, Partial η=0.75
	p	0.013	<0.001	<0.001	

CBQ: Conflict behavior questionnaire; GHQ: General health questionnaire.

Discussion

Parents' programs that are currently available in Iran have not been thoroughly evaluated. The conditions of these programs for adolescents' parents are even more pronounced. The effects of STTP, a behavioral family intervention for parents with problematic adolescents, on adolescents and their parents were examined. The study tried to attenuate adolescents' problem behaviors by decreasing parents' reliance on ineffective parenting strategies. The findings supported the evidence about the benefits of parental Teen Triple P. This research also shows the cultural connection of the program with Iranians. Another advantage of this study is analyses of data of teenagers and their parents.

The results supported the primary hypothesis stating that parents' participation in STTP positively affects both adolescents' problem behaviors and conflict between them and the parents. The findings are in agreement with the results of trials in other countries. An improvement has been typically reported in SDQ scores by the studies conducted in Australia, News land, and Germany.[14,26,28,30,31,34,35] However, Chu et al.,[35] Arkan et al.,[22,23,46] and Steketee et al.,[25] collected the data on teenagers and reported some improvements in several cases of measurements including total SDQ score. Again Chu et al.,[35] reported decreased levels of conflict using self-reported data made by teenagers. Arkan et al.,[23] reported decreased levels of conflict using self-reported data made by teenagers and as well as parent-report form. The only research provided individually was the study conducted by Salari et al.[28] (2014) in Australia where parents stated a decrease in both destructive problem behaviors of adolescence and negative effects accompanied with problems of adolescence, and also greater improvements in parent-adolescent relationship.

The second hypothesis stating that participation positively affected parents' well-being was also supported. A basic principle of the Triple P system was the importance placed on parents' in looking after themselves to make sure of their mental health allowing them to act as a more efficient parent.[47,19] Most of the research works mentioned have typically been used a different intervention compared to the GHQ in this type of research; however, stress control was reported in agreement with the results of this study.[22,23,28,30,35,46–49]

If the present findings are interpreted based on the limitations and advantages of this study, its strengths are the use of a relatively large sample size compared to other similar studies with follow-up, as well as data collection from adolescents and parents. Observational measures of parent-adolescent interaction were taken by following health protocols despite financial constraints and coronavirus quarantine requirements. The applied scales were limited, and future researches will be enhanced using the scales containing more information on teenagers' behavior, parenting methods, and parent-adolescent relationship with use of a randomized controlled trial. Another limitation was that not all face-to-face meetings were held due to concerns about the spread of the Covid-19 virus, which was virtual instead. Further researches at different centers and in different cities in Iran, comparing them with other local programs that are currently being carried out, and also implementing Teen Triple P in the group will be valuable.

Knowing that parents play a pivotal role in the maturation of their adolescents' health, approaches for providing support to parents are critical. Given the high prevalence of mental health disorders, significant impact, and unmet treatment needs, psychiatric mental health nurse practitioners have the opportunity, as well as the ethical and professional obligations, to play a leading role in improving child and adolescent mental health.[6]

Conclusion

Teen Triple P Program was effective in enhancing parents' mental health, reducing problem behavior of adolescents, and preserving less conflict behavior of adolescents with parents. Thus, the Teen Triple P needs to be available to a greater number of parents of adolescents in Iran.

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