Avicenna Journal of Neuro Psycho Physiology

doi: 10.32592/ajnpp.2023.10.2.105 2023 May;10(2): 73-80 https://ajnpp.umsha.ac.ir

Original Article

Comparing the Effectiveness of Acceptance and Commitment Therapy and Reality Therapy on Psychological Flexibility and Responsibility in Divorced Women

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Received: 19 Jun 2023
Accepted: 31 Jul 2023
ePublished: 20 Aug 2023

Abstract

Background and Objective: Psychological flexibility is a person's ability to fully communicate with the present as a conscious and aware human being and his ability to change or continue his behavior in the direction of his values with responsibility and consideration. The result of self-behavior, reliability, and trustworthiness in behavior, as well as the sense of commitment, are related to the larger social structure. Therefore, the purpose of this research was to compare the effectiveness of Acceptance and Commitment Therapy and Reality Therapy on psychological flexibility and responsibility in divorced women.

Materials and Methods: This semi-experimental study was conducted with a pretest-posttest control group design and a follow-up. The research population included all divorced women in Hamedan City, Iran, who referred to the family court of Hamedan city between 2019 and 2022 and got divorced. Out of this population, 3 groups of 20 people were randomly selected and assigned into two experimental groups and a control group using the availability sampling method and completed the Hayes Acceptance and Action Questionnaire (2000) and Goff's Responsibility Questionnaire (1982) in three pre-test, post-test, and follow-up stages. The experimental groups underwent weekly 90-minute group training sessions focused on skill-building using acceptance and commitment, while the control group received no training. The data were statistically analyzed in SPSS22 software using the repeated measures ANOVA and a significant level of $p < 0.05$.

Results: The results showed that the effects of both Reality Therapy and Acceptance and Commitment Therapy were significant on psychological flexibility (P=0.010) and responsibility (P=0.015). Acceptance and Commitment Therapy, compared to Reality Therapy, significantly increased psychological flexibility in divorced women.

Conclusions: According to the results of this research, it can be said that the goal of Acceptance and Commitment Therapy and Reality Therapy was to improve behaviors that would probably lead to psychological flexibility and responsibility in women, which was the internal or external reward.

Keywords: Acceptance and Commitment Therapy, Psychological flexibility, Reality therapy, Responsibility

Background

One of the most significant stresses we might experience in married life is divorce [1], an unpleasant event that causes profound changes in a person's lifestyle [2]. One of the important and negative effects of divorce is its psychological impact on divorced women. The majority of social studies reveal that the effect of bad divorce is greater on women than on men [3]. Following divorce, women face the pressure of raising children, depression, anxiety, loss, loneliness, and uncertainty about the future [4]. A group of researchers, in a comparative study of the mental health of divorced women and married women, found that divorced women, in addition to anger, had more depression, anxiety, and stress than married women, which indicated their low mental health [5], which is related to the quality of life of people after divorce. One of the factors that plays a significant role in reducing the mental pressure of divorced women is cognitive flexibility [1]. Cognitive flexibility is the ability to change cognitive cues to adapt to changing environmental stimuli, and includes three factors, namely the perception of controllability, perception of different options, and

perception of behavior justification [6].

In other words, it can be said that flexibility means success in coping with existing stressful conditions, which involves emotional and behavioral dimensions [7]. Cognitive flexibility plays an essential role in the ability to adapt to constantly changing environments and has been associated with various purposeful behaviors, including creativity, problem-solving, and decision-making skills [8]. Research results indicate that low cognitive flexibility has a negative effect on the ability to use cognitive restructuring, which is a method of reducing emotional distress. In other words, high cognitive flexibility helps people to focus more on alternative methods of cognitive changes [9].

The results of a study by Johnson suggest a significant relationship between cognitive flexibility and the aspects of mental health in a clinical group [10]. Therefore, it can be said that low cognitive flexibility can create tensions and pressures in divorced people, which in turn causes a decrease in the cognitive flexibility of people [11].

Resilience is one of the important psychological dimensions of human life, which can have a great impact on the mental health of people, especially women. Resilience is the person's ability to persevere against difficult situations and overcome them by maintaining mental health, humor, and mental well-being [12]. It is the opposite of vulnerability, although personality traits are considered to be affected by environmental factors to some extent [13]. Resilience can offer hope by showcasing the countless people who refuse to give up and persevere through adversity [14]. Some theories consider resilience as a response to a specific event and others consider it a stable coping style [15]. In this regard, the results of studies have shown that the resilience coefficient was significantly lower in divorced women than in married ones [16]. Moreover, the resilience process changes over time and can greatly improve people's mental health after painful and adverse experiences [1].

Considering the negative consequences of divorce, it is highly important to identify effective educational and therapeutic approaches to increase psychological flexibility and responsibility. One of the treatment models that has been receiving the attention of therapists in helping solve psychological problems in recent years is the treatment based on acceptance and commitment. Acceptance and Commitment Therapy is considered one of the treatments of the third wave of behavioral therapy. According to the framework theory of mental relations, humans do not respond to stimuli based on their previous interactions; rather, their response to stimuli depends on the mutual relationships of these stimuli with other events [17]. The goal of acceptance and commitment therapy is to move from psychological inflexibility to psychological flexibility. The underlying principles of acceptance and commitment therapy include acceptance or willingness to experience disturbing events without trying to control them as well as value-based action or commitment combined with the desire to act as meaningful personal goals before eliminating unwanted experiences [18], which increases responsibility. Reality therapy, which is one of the newest approaches to counseling and psychotherapy, is based on the theory of choice and control. In this type of therapy, people try to fulfill their basic needs through better choices [19]. The main goal of the reality therapy approach is to help people be aware of their needs, monitor their behavior, and make appropriate choices [20].

Objectives

This research aimed to investigate and compare the effectiveness of acceptance and commitment therapy and reality therapy on psychological flexibility and responsibility in divorced women.

Materials and Methods

This applied semi-experimental research was conducted with a pretest-posttest control group design and a 1-month follow-up. The statistical population of this research consisted of all the divorced women in Hamedan city, Iran, who went to the family court of Hamedan city between 2019 and 2022 and got divorced. Sample selection was done using the availability sampling method. The sample size was determined as 20 individuals in each group based on similar studies, such as research by Faryabi et al. [21], and considering the effect size of 0.40, the confidence level of 0.95, the test power of 0.80, and the dropout rate of 10%. The samples were randomly divided into three groups (n=20 each) involving two intervention groups (acceptance and commitment therapy and reality therapy) and one control group (who had falls during the intervention and were reduced). The participants filled out the required questionnaires in 3 stages. The eligible women were those aged 25 to 45 years who had a history of marital life of 1-3 years and a high school diploma or higher degree. On the other hand, the individuals who were absent for more than two sessions, and did not cooperate and perform the specified assignments in the class, and were unwilling to continue participation in the research process were excluded from the study. To observe ethical considerations in this research, all individuals participated with their consent. The

participants were assured of the confidentiality of their personal information. They were also informed of the possibility of withdrawal from the study at any research stage, and their participation was appreciated at the end of the study. This research had the code of ethics IR.IAU.K.REC.1401.076.

The intervention group 1 received acceptance and commitment therapy in eight 90-minute sessions once a week for two months as a group. The summary of cognitive behavioral therapy sessions is presented in Table 1 [22].

The intervention group 2 was subjected to reality therapy for eight 90-minute sessions per week as a group. The summary of reality therapy sessions is presented in Table 2 [23].

Research instruments

1. Hayes Acceptance and Action Questionnaire

This 19-item questionnaire, designed by Hayes (2000), assesses psychological flexibility. The replies to the items are scored on a seven-point Likert scale of 1=never true, 2=very seldom true, 3=seldom true, 4=sometimes true, 5=frequently true, 6=almost always true, and 7=always true. The total score of this tool is obtained in the range of 19 to 133, and the total score of psychological flexibility is calculated by the sum of all items. In the original version of the questionnaire, the reliability coefficient of this scale using Cronbach's alpha method was reported to be 0.90, and the reliability coefficient using the test-retest method was reported to be 0.73 [24]. In research by Abbasi et al. [25], the reliability coefficient was determined at 0.81 using Cronbach's alpha method, and its content and face validity were also confirmed. In the present study, the reliability of this instrument was investigated by calculating the Cronbach's alpha coefficient (α=0.87).

Goff's Responsibility Questionnaire

The Responsbility Questionnaire was proposed for the first time by Goff (1982). This 42-item scale was used to measure such characteristics as conscientiousness, sense of commitment, hard work, seriousness, trustworthiness, behavior based on order and regulations, logic, and sense of responsibility [26]. The responses to this questionnaire are scored as 0 and 1. This means that if the subject agrees with each statement, he puts a checkmark in front of it, and if he disagrees with each statement, he puts a cross. The reliability coefficients of this tool were calculated by Hasanian et al. at 70%-81%. In the present study, Cronbach's alpha coefficient study was 0.79 [27].

Statistical analysis

Data were analyzed in SPSS22 software using descriptive statistics (mean and standard deviation) and repeated measures ANOVA.

Table 1. Summary of treatment sessions based on Acceptance and Commitment Therapy

Session	Content
First session	Conducting the pre-test, evaluating the participants in the research, performing diagnostic interviews, regulating the treatment
Second session	Getting to know the therapeutic concepts of acceptance and commitment therapy, creating insight in the participants towards the control of problem and challenge
Third session	Creative despair training and familiarization with the list of discomforts and problems that the client has tried to get rid of
Fourth session	Creating acceptance and mindfulness by avoiding trying to control and creating a cognitive disorder, reviewing the previous session and assignments
Fifth session	Value-oriented life education, selection and review of previous meetings and assignments
Sixth session	Evaluating goals and actions, specification of values, goals, and actions and their obstacles
Seventh session	Re-examining values, goals, and actions, familiarity and involvement with enthusiasm and commitment
Eighth session	Identifying and removing obstacles to committed action, summarizing and implementing post-examination

Table 2. Summary of Reality Therapy

Sessions	Content
First session	Conducting the pre-test, evaluating the participants in the research, performing diagnostic interviews, regulating treatment
Second session	Getting to know the therapeutic concepts of reality therapy, creating insight in the participants towards controlling the problem and challenge
Third session	Creative despair training and familiarization with the list of discomforts and problems that the client has tried to get rid of
Fourth Session	Creating acceptance and mindfulness by avoiding trying to control and creating a cognitive disorder, reviewing the previous session and assignments
Fifth meeting	Value-oriented life education, selection and review of previous meetings and assignments
Sixth session	Evaluation of goals and actions, specification of values, goals, and actions and their obstacles
Seventh session	Re-examination of values, goals, and actions, familiarity and involvement with enthusiasm and commitment
Eighth session	Identifying and removing obstacles to committed action, summarizing and implementing post-examination

Results

In this research, there were 55 participants in three groups: reality therapy (n=18), acceptance and commitment therapy (n=17), and control group (n=20). The mean scores of participants' age in the reality therapy group, acceptance and commitment

group, and control group were 31.33±4.17, 30.18±4.07, and 32.4±4.43 years, respectively. In the reality therapy group, 12 individuals had no children, in the acceptance and commitment therapy group, 13 participants had no children, and in the control group, 13 people had no children. Considering the level of education, in the reality therapy group, 3 participants had a degree lower than a high school diploma, 6 had a high school diploma, and 9 had a higher degree than a high school diploma. In the acceptance and commitment therapy group, the level of education of 2 participants was less than a high school diploma, 9 people had a high school diploma and 6 people had more than a high school diploma. In the control group, the level of education of 2 individuals was less than a high school diploma, 8 had a high school diploma, and 10 had higher than a high school diploma. The mean scores of the length of the marital life in the reality therapy group, acceptance and commitment therapy group, and control group were evaluated at 5.22±2.42, 5.53±2.38, 6.15±2.18 years, respectively. In the reality therapy group, the mean time passed since the divorce was 24.67±7.84 months, in the acceptance and commitment group, it was 27.06±9.00 months, and in the control group, it was 26.55±7.19 months.

Table 3 tabulates the mean (standard deviation) and the Shapiro-Wilk index (significance level) of the variables of psychological flexibility and responsibility in the participants of the research groups, in the three stages of pre-test, post-test, and follow-up.

According to Table 3, in the two experimental groups, the mean scores of both psychological flexibility and responsibility variables increased in the post-test and follow-up stages. On the other hand, no similar changes were observed in the mentioned stages in the control group. As Table 3 shows, to test the assumption of normality of data distribution, the Shapiro-Wilk values related to the dependent variables were examined for all three groups in the three stages of pre-test, post-test, and follow-up. Accordingly, the results showed that the Shapiro-Wilk value was insignificant for both dependent variables in all three groups and all three stages of the study. The normal distribution of dependent variables in the three groups and stages was confirmed in this research.

To evaluate the hypothesis of homogeneity of the error variances of psychological flexibility and responsibility variables among the groups, Levene's test was used, the results of which showed that there was not a significant difference in the error variance of the scores related to any of the two dependent variables in the three groups and stages. Therefore, the assumption of the homogeneity of error variances among the data related to the research variables was maintained. Next, the assumptions of homogeneity of the covariance matrices of the dependent variables were checked using Box's M statistic and Mauchly's test for sphericity, the results of which are presented in Table 4.

According to Table 4, the results of the analysis showed that Box's M statistical index was not significant for any of the two dependent variables. This study confirmed the assumption of homogeneity of the covariance matrices of the dependent variables for the variables of psychological flexibility and responsibility. Furthermore, based on the results of Table 4,

Table 3. Mean (standard deviation) and Shapiro-Wilk index (significance level) of psychological flexibility and responsibility in the three stages of pre-test, post-test, and follow-up

	Variable	Group	Pretest	Posttest	Follow-up
Mean (SD)	Psychological flexibility	Reality therapy	50.72 (8.86)	71.61 (8.31)	69 (9.32)
		ACT	53.35 (9.13)	75.47 (9.93)	79.35 (10.11)
		Control	52.60 (8.47)	49.70 (7.72)	50.90 (7.92)
	Responsibility	Reality therapy	15.39 (3.16)	25.56 (4.49)	24.83 (4.29)
		ACT	16 (3.61)	20.47 (4.14)	22.47 (4.35)
		Control	18.80 (3.32)	16.69 (3.94)	16.75 (3.364).
Mean (SD)	Psychological flexibility	Reality therapy	0.972 (0.829)	0.960 (0.599)	0.916 (0.109)
		ACT	0.968 (0.790)	0.894 (0.054)	0.948 (0.425)
		Control	0.946 (0.343)	0.932 (0.171)	0.958 (0.495)
	Responsibility	Reality therapy	0.954 (0.495)	0.933 (0.222)	0.925 (0.455)
		ACT	0.956 (0.557)	0.895 (0.055)	0.975 (0.899)
		Control	0.969 (0.725)	0.945 (0.291)	0.908 (0.058)

ACT: Acceptance and commitment therapy

Table 4. Results of testing the assumptions of the equality of the variance-covariance matrices and the equality of the error covariance matrix

Variable	Equality of variance matrix of covariances			Equality of the error covariance matrix		
	Box's M	F	P	Mauchly's statistics	$\chi 2$	P
Psychological flexibility	6.62	0.51	0.913	0.966	1.77	0.413
Responsibility	18.15	1.38	0.165	0.993	0.35	0.838

Mauchly's test showed that the Chi-square value of none of the dependent variables was significant. Therefore, the assumption of sphericity was maintained for dependent variables. After evaluating the assumptions of the analysis and ensuring that they were established, the data were analyzed using the repeated measures of ANOVA.

Table 5 summarizes the results of multivariate analysis comparing the effects of reality therapy and acceptance and commitment therapy on psychological flexibility and responsibility.

Table 5 shows the significant effect of implementing independent variables on psychological flexibility (Wilks's lambda=0.449, η^2=0.330, F=12.57, P=0.001) and responsibility (Wilks' lambda=0.587, η^2=0.234, F=7.79, P=0.001).

Table 6 provides the results of the repeated measures ANOVA in explaining the effect of implementing reality therapy and acceptance and commitment therapy on psychological flexibility and paternal responsibility.

Table 6 reveals that in addition to the group effect and the time effect, the interaction effect of group × time for psychological flexibility (η□□ 0403, F=17.55, P=0.001,) and responsibility (η□□ 0.246), F=8.49, P=0.001) was significant. These findings indicated that the implementation of independent variables significantly affected psychological flexibility and responsibility.

Table 7 gives information about the results of the Bonferroni test scores related to psychological flexibility and responsibility in three groups and three stages of implementation.

The Bonferroni test results presented in Table 6, comparing the effect of time, demonstrate a statistically significant difference in the mean scores of psychological flexibility and responsibility in the pretest-posttest and pretest-follow-up phases; nevertheless, the mean difference of those scores in the posttest-follow-up stages was not significant. Moreover, the results of the Bonferroni test comparing the group effects in Table 6 show that the mean difference of psychological flexibility and responsibility in the two groups of reality therapy and acceptance and commitment therapy was statistically significant, compared to the control group. In this respect, the implementation of reality therapy and acceptance and commitment therapy increased the mean of both psychological flexibility and responsibility in the post-test and follow-up stages, in comparison to the pre-test stage.

The results of the Bonferroni test comparing the effects of the groups in Table 7 show that the difference in the effect of the two methods of reality therapy and acceptance and commitment therapy was significant on psychological flexibility (P=0.010) and responsibility (P=0.015). Acceptance and commitment therapy, compared to reality therapy, significantly increased psychological

Table 5. Results of the multivariate analysis test in evaluating the effect of independent variables on psychological flexibility and responsibility

Dependent variable	Wilks lambda	F	df	P	η	Test power
Psychological flexibility	0.449	12.57	4, 102	0.001	0.330	1.00
Responsibility	0.587	7.79	4, 102	0.001	0.234	0.997

Table 6. Results of repeated measures ANOVA in explaining the effect of independent variables on psychological flexibility and responsibility

Variable	Effects	Sum of squares	Sum of squared error	F	η	P
Psychological flexibility	Group effect	9926.81	4497.89	57.38	0.688	0.001
	Time effect	5514.28	4083.91	70.21	0.575	0.001
	Group × time	5214.36	7724.80	17.55	0.403	0.001
Responsibility	Group effect	948.89	1076.35	22.92	0.469	0.001
	Time effect	765.61	591.82	67.27	0.564	0.001
	Group × time	420.72	1289.24	8.49	0.246	0.001

Table 7. Bonferroni post hoc test results for pairwise comparisons of the effect of groups and times on psychological flexibility and responsibility

Variable	Stages		Mean difference	Standard error	Probability value
Psychological flexibility	Pretest	Posttest	-13.37	1.75	0.001
	Pretest	Follow-up	-14.19	1.69	0.001
	Posttest	Follow-up	-0.82	1.49	1.00
Responsibility	Pretest	Posttest	-4.93	0.69	0.001
	Pretest	Follow-up	-5.29	0.65	0.001
	Posttest	Follow-up	-0.36	0.68	1.00
Variable	Differences	Between groups	Mean difference	Standard error	Probability value
Psychological flexibility	Reality therapy	ACT	-5.61	1.82	0.010
	Reality therapy	Control	12.71	1.75	0.001
	ACT	Control	18.33	1.77	0.001
Responsibility	Reality therapy	ACT	2.61	0.89	0.015
	Reality therapy	Control	5.76	0.85	0.001
	ACT	Control	3.15	0.87	0.002

flexibility in divorced women. On the other hand, Table 7 shows that reality therapy significantly increased responsibility in divorced women, compared to acceptance and commitment therapy. Therefore, the results of the present study showed that reality therapy and acceptance and commitment therapy increased psychological flexibility and responsibility in divorced women. In addition, the findings demonstrated that reality therapy was a more effective method for increasing responsibility in divorced women, while acceptance and commitment therapy was a more effective method for increasing psychological flexibility in this population.

Discussion

The results revealed that reality therapy led to a rise in psychological flexibility in divorced women, which was consistent with other findings. Mazaheri Tehrani et al. [28] showed in their research that reality therapy training was effective on cognitive flexibility in mothers having children with specific learning disabilities. In the same vein, Nasiri et al. [29], Gudarzi et al. [30], and Nadaf et al. [31] reported in their research that the nature of reality therapy boosted psychological flexibility. In explaining this finding, it can be said that one of the most basic elements of psychological flexibility is the component of values, which in reality therapy has a high overlap with the topic of the ideal world and moral-based action. In reality therapy group sessions, the ideal world and ideal desires of group members were discussed; these topics were shown to be effective in increasing attention to values and, as a result, enhancing psychological flexibility. Another element that is emphasized in psychological flexibility is the acceptance of things that cannot be changed by a person. To give an example, grief is something that cannot be reversed. In modern reality therapy, the way of dealing with events is divided into plans in which intelligent planning is done to change the situation. Therefore, learning these programs increases the psychological flexibility of the divorced person.

In addition to this, other research results showed that treatment based on acceptance and commitment can boost psychological flexibility in divorced women. This finding was consistent with the results reported by Zulfiqari et al. [32], Levin et al. [33], Fashler Samanta et al. [34], and Brown et al. [35]. In explaining this finding, it can be said that the stage after divorce is more difficult for people than the stages before and during divorce because they have to accept the reality that that is the end of the life they supposed would reach the achievement of perfection and growth, know their values, and take steps to reach new goals [36]. Divorced women in this group learned through constructive or creative frustration that although avoiding internal experiences in the short term has a reducing effect on unpleasant experiences, in the long run, it has various destructive effects, which can lead to inflexibility. Divorced women were encouraged to accept the responsibility of their behavioral changes and stop avoidance by increasing their behavioral treasury and solving conflicts with more awareness. They broadened their perspectives on problems and events through acceptance and cognitive dissonance. This treatment helped divorced women regain their lost self-esteem and get rid of the feeling of fear and anger towards themselves, their ex-husband, the people around them, and in general the failure they had in their married life. Acceptance and commitment therapy teaches divorced people to focus on the present rather than dwelling on their lost marriage and the difficulties they may face in the future. Identifying the goals that match their values and sticking to their goals even with annoying thoughts and feelings can help such women be able to manage their lives better and more efficiently and enjoy a healthier and more satisfying life. In the treatment process based on acceptance and commitment, psychological flexibility is introduced as the basis of psychological health. In this approach, mindfulness and behavior change strategies are used to increase psychological flexibility along with functional behaviors.

Although there was a significant difference between the two methods of reality therapy and acceptance and commitment therapy on psychological flexibility in divorced women, acceptance and commitment therapy was a more effective method for increasing psychological flexibility compared to reality therapy. In the explanation of this finding, it can be said that considering that the entire focus of the treatment is based on acceptance and commitment to increase flexibility that has been addressed in all sessions, it is obvious that compared to other treatments that priorities other specific goals, such as improving relationships, in this method, boosting psychological flexibility is of higher priority. All the exercises and metaphors used in acceptance and commitment therapy sessions are focused on increasing psychological flexibility. Therefore, it is natural that compared to any therapy, it is superior in increasing psychological flexibility. Nevertheless, the capability of other treatments (in this research, reality therapy) to increase the amount of psychological flexibility can be a new and significant scientific finding.

The analysis of other results of the research showed that there was a significant difference between the effectiveness of the two methods of reality therapy

and acceptance and commitment therapy on responsibility in divorced women, and reality therapy is a more effective method for increasing responsibility in comparison to acceptance and commitment therapy in divorced women. This finding was consistent with those reported by Asadi-Khalili et al. [37], Eskandari et al. [38], and Burhani et al. [39].

In explaining this finding, it can be said that considering that one of the basic principles of choice theory and reality therapy is to increase people's responsibility, a significant part of the training directly increases the responsibility of the group members in therapy sessions. It was expected that reality therapy would be more effective in increasing responsibility. Reality therapy can be seen as an existential therapy from the point of view of paying attention to the right to choose and, subsequently, the need to be accountable and responsible for this right to choose. The choice is fully responsible; therefore, individuals do not consider the past, the behavior of parents, the impact of genes, the incidence of negative events, the existence of luck, or the unconscious as the determining causes of their behavior. Although the effect of these behaviors cannot be denied and the prominent figures of reality therapy also confirm this effect, they do not consider these factors to be the main determinants.

This research, similar to other studies, had limitations, among which one can mention the lack of long-term follow-up, the cross-sectional nature of the research implementation in terms of time and place, and the limitations of group training for individual skills. Regarding this, it is suggested to conduct research on men and compare the results with this research. It is also recommended that group- and person-based therapies be examined and compared.

Conclusions

According to the results of this research, it can be stated that the goal of acceptance and commitment therapy and reality therapy is to increase behaviors that would probably lead to psychological flexibility and responsibility in women.

Compliance with ethical guidelines

The study participants first read the written informed consent form and completed it if they were willing to participate in the study. In addition, the study protocol was approved by the Research Ethics Committee (IR.IAU.K.REC.1401.076) and registered.

Acknowledgments

The authors would like to thank all the participants who greatly cooperated in the research.

Authors' contributions

All the authors participated in the initial writing of the article and its revision, and all accepted the responsibility of accuracy.

Funding/Support

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of Interest

The authors declare that they have no conflict of interest.

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