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The effectiveness of group-based reality therapy based on choice theory upon cognitive flexibility and women marital satisfaction

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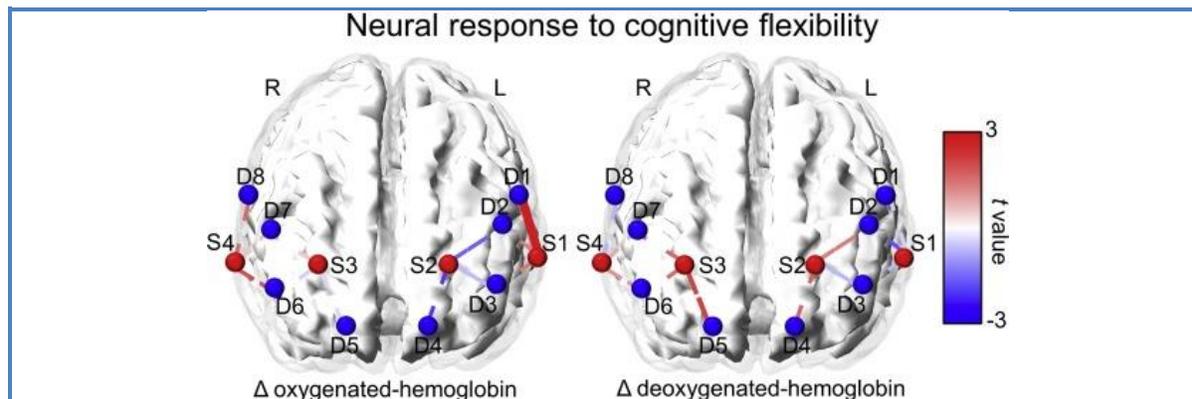
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ABSTRACT

The purpose of this study was to evaluate the effectiveness of the reality therapy based on the group choice theory on cognitive flexibility and marital satisfaction of married women. The research method was semi-experimental and the study population included married women in 1397, living in Tehran. In this research study, available sampling method was used. Sample size according to the conditions of access to the subjects, 30 patients (15 control and 15 experimental groups) were considered. The instrument of this study was a structured diagnostic interview, cognitive flexibility questionnaire (CFI), and Enrique's satisfaction questionnaire. The results revealed that, the reality therapy based on choice theory in group method had a significant effect on the cognitive flexibility as well as its subscales in married women. Also, reality therapy could have a significant effect on women's satisfaction.

Graphical Abstract



Introduction

Family is considered as one of the most fundamental units of society and it is the foundation of social organization in any culture and society [1]. What is significant in marriage is marital satisfaction. In fact, one of the vibrant facets of a marital system is the satisfaction that spouses sense and experience in their connection. Marital satisfaction is a mental depiction and concept of whether matrimony is decent, happy, or satisfying. In other words, marital satisfaction is the subjective expression of one's marital relationship, which includes characters, interactions, interpersonal interactions, preferences, and recognition the other party [2]. Marital satisfaction has emotional impact many aspects on couples' personal and social life, and is the foundation stone of family operative, which means that couples are interested in each other and have a positive attitude toward matrimonial life [3].

According to Olson's multivariate theory, the disturbed family constructions lead to unfairness and marital dissatisfaction among couples [4]. According to Olson's multivariate model theory, correlation (family cohesion), emotional proximity among family members, adaptation, flexibility, and change rate in family management are among determinants factors

for marital satisfaction rate. Families who practice thrifty and extravagant have greater difficulties with marital satisfaction and life satisfaction [5].

Another variable that contributes to family health and satisfaction is the cognitive flexibility. Cognitive flexibility denotes to the degree of one's accepting experience before internal and external experiences. This personality peculiarity exists in different individuals at varying degrees and defines the type of reaction that people experience [6]. Cognitive flexibility claims that flexibility requires the ability to interconnect with the present moment and the power to distinguish oneself from intrinsic psychic thoughts and experiences [7]. Flexible people are curious about the inner and outer world and their lives are opulent in terms of experience. Since they love new experiences, they want more. Not only they do not avoid exposure to internal and external experiences, they also sometimes seek acquiring new experiences [8].

Glasser choice theory is one of the most prevalent therapeutic interventions in cognitive psychology field on describing human beings, defining behavior rules, and how to achieve satisfaction, happiness, and success. In this way of treatment, facing the reality, accepting accountability, diagnosing basic requirements,

morally judgment about the right or wrong behavior, focusing on here and now, internal control and accordingly achieving a positive identity that is directly interrelated to self-esteem have been emphasized [9]. The choice theory is about making a better choice; however, before that everyone should recognize the reason for their bad choices. The choice theory states that it is you who choose all of your actions, counting your misery [10]. The group-based reality therapy teaching, which is derived from choice theory, is intended to stimulate the patrons to take practical steps to change the current unwelcome situation [11].

Studies and research in the field of marital satisfaction have only been chosen by researchers for about two decades [12]. Many studies have demonstrated that, the marital dissatisfaction has in-depth negative effects on the people's physical and psychological health, counting unhealthy physiological reactivity, lessened immune function, and austere and disparaging patterns of marital conflict. Likewise, in the emotional and sensitive dimension, marital dissatisfaction is connected with many negative emotions in unembellished and damaging degrees, comprising depressive mood, touchiness, and decreased sexual desire [13]. Black and Lobo (2008), appraising research in flexibility field, resolved that flexible families have characteristics such as positive attitude, presence of spirituality in effective family relationships, financial management in the family along with the support system [14]. Boroumand *et al.* (2013) and Jeldkar *et al.* (2014) reported that, group-based choice theory teaching has a positive effect on the couples' flexibility, while group-based choice theory teaching increased the marital satisfaction [15, 16]. According to the results, it can be concluded that, the group-based choice theory teaching can be used to progress the marital relations and

decrease the conflicts and therefore avert the marital conflicts.

Many researches have been conducted in the world, in particular in Iran, on the effectiveness of reality therapy on various constituents of mental health [17, 18]. However, given the prominence of flexibility role in marital satisfaction in couples' reality therapy teachings regarding substantial theoretical support that proposes the relationship between cognitive flexibility and marital satisfaction, conducting a scientific research in this field seems is in dire need. Conducted research in choice theory and reality therapy field authorizes the effectiveness of this teaching and treatment in a diversity of conditions and complications. Research proposes that reality therapy was effective in severe and chronic psychiatric patients with a drug dependency history [19], marital satisfaction [20, 21], flexibility and marital satisfaction [22], marital desolation [23], happiness and accountability [22, 25], reducing mind rumination [26], improving self-esteem [27, 28], improving self-concept and self-perceive [29], change motivation, hope, and quality of life [30] and improving maladaptive behaviors and reducing aggressive [31], marital satisfaction, sexual self-esteem, and reduction in women's marital conflict in women wanting divorce, couples' social commitment mental well-being, and mental health [32-34].

Regarding the aforementioned issues, there are gaps in this area. First of all, most research in the field of marital satisfaction is descriptive or causal-comparative, namely the factors that cause marital satisfaction and marital dissatisfaction are defined. Conducted research has discretely observed flexibility with marital satisfaction, and ever since this section plays a crucial role in marital satisfaction, there is a need to investigate and gauge these two components with marital satisfaction with the intention of deriving those models, policies and

programs to increase flexibility which in the end lead to marital satisfaction. Secondly, there is another problem that the concept of cognitive flexibility becomes misunderstood in public mind, and even in experts and colleagues' speeches in the field of psychology and counseling.

Also Glasser's approach claims based on increasing the likelihood of success, satisfaction, hope, and other positive aspects of human nature by taking accountability, increasing the amount of internal control, flexibility, and similarly.

The aim of this study was to investigate the effectiveness of the group-based reality therapy based on choice theory upon cognitive flexibility and marital satisfaction in married women in Tehran.

Materials and Methods

Population, sample, and sampling method

This study stands as an applied research and is quasi-experimental in terms of the methodology. In this study, the experimental and control groups were assessed three times, once before the start of training and the second time after training, and one month after the test for follow-up trial. Therefore, the experimental group was affected by the independent variable (group reality therapy based on choice theory) whereas the control group received no training. The under-study population was all married women who have visited the family counseling center in Tehran municipality district 9 in the first 6 months of 1977 who lived in Tehran. The under-study sample was based on the type of quasi-experimental design and 30 individuals (15 experimental and 15 control) were replaced by random sampling method. To carry out this study, married women with at least two years of marriage who had marital conflict were selected.

These women greeted to participate in such meetings, thus they were invited. Participants were homogenized by education level. Under the same conditions and over a specific time period, the effectiveness of reality therapy began and re-examined after the end of the course.

Participants participated voluntarily in these sessions and they were ensured that their information would be kept confidential and that respondents' names would not be cited in the questionnaires. There was no time limitation in the application of the questionnaire and the respondents were obliged to give in to after finishing the questionnaire. After collecting the questionnaire, the prerequisite raw data were extracted and the data were endorsed, defined and analyzed using the SPSS 21 software and then data were analyzed by repeated measures analysis of variance. It should be noted that, to observe the ethical issues, control group were suggested that research plans will be implemented on them after research is completed.

Inclusion criteria

-Willingness, inclination and satisfaction with participating in the project-No history of mental illness in particular-Being present in all meetings-Not having delay more than 10 minutes in meetings.

Exclusion criteria

-To participate in other therapies concurrently -Austere physical illnesses that prevent them from joining meetings-acclaiming they are not consent to continue cooperation-Those who answered the questionnaires incompletely- Having psychiatric illnesses and taking medicine during meetings. The numerous stages of group reality therapy based on the choice theory in this study are abridged in 8 two-hour sessions as follows.

Table 1. Summary of group reality therapy protocol based on choice theory.

Session	Content
1	1. Getting to know clients and emotionally communicating with them 2. Creating a structured interview with pre-determined questions
2	1. The concept of needs, control and selection of behavior and inner psychology and couples' perceptions are observed.
3	1. Problem-solving circular schedule to address preserving marital principle and using negotiation method to balance needs and harmony and plan teaching to fulfil spouses' needs in a way that enhances and sustains marital life. 1. Checking the progress of prepared plans.
4	2. The amount of need for fun (entertainment) in each couple. 3. Investigating the differences in couples' need for happiness. 4. Examining couples' current behaviors to satisfy their need for happiness and its effect on triggered conflict. 5. Using problem solving rubric to design, adjust, and satisfy the need for happiness in couples in a way that improves the marital relationship.
5 and 6	These two sessions, like the third and fourth sessions, comprise problem-solving circles, couples' needs, and planning to resolve their differences, and are not much different from previous ones.
7	Examining the designed plan to attract spouse affection, refusal of excuse, creating a problematic circle and negotiating to agree on fulfilling the needs of love and belonging, survival, power, freedom and fun.
8	Evaluation of experiences and post-test implementation

Research tools

1) Structured Diagnostic Interview:

To create the preliminary therapeutic relationship, diagnose and vindicate entities and participate in group reality therapy sessions, a structured diagnostic interview was conducted based on the diagnostic and statistical manual of mental disorders (DSM-V) criteria. Likewise, this interview was a means of group matching based on the inclusion criteria.

2) Cognitive Flexibility Inventory (CFI):

The cognitive flexibility inventory (CFI) was presented by Dennis and Vander Wal [35] and is a short 20-item self-report instrument designed to degree the type of cognitive flexibility that one needs for a successful challenging and substituting Dysfunctional thoughts with more effective thoughts. The scoring of this questionnaire is a Likert scale. This questionnaire was used to evaluate the individual non-clinical progress in developing

flexible thinking in the conduct of cognitive-behavioral treatment for depression and other mental illnesses. In Iran, there are three subscales for this questionnaire including, alternatives, controls, and replacements to human behavior. The validity of the questionnaire was 0.39 and its convergent validity with (BDI-II) and concurrent validity of the questionnaire with depression of Martin and Rabin cognitive flexibility scale was 0.75 [35]. Shareh *et al.* [36] reported the coefficient of retest for the whole scale as 0.71 and the Cronbach's alpha coefficients for the whole scale was 0.90. Likewise, the reliability of the questionnaire was calculated as 0.85 by means of Cronbach's alpha method.

3) Enrich marital satisfaction questionnaire:

This questionnaire has two systems: one with 15 questions and the other with 125 questions. The used questionnaire in this study has 47 questions, which Sloymaniyan adapted from the

125-question. The grading of questions is from completely agreed to completely disagree, with a scaling of one to five. A set of questions that have completely agree has a score of five and the rest of the questions are rated in reverse way. Alson *et al.* (1989) stated the validity of the form using the Cronbach's alpha method as 0.92 [37]. Soleimaniyan (1994) calculated and described the internal consistency of the test for the long form as 0.93 and for the short form 0/95 and their coefficient was obtained 0.95 for 47-question form of Soleimaniyan Research Questionnaire (1994). In the current study, the reliability of the questionnaire was calculated 0.91 using Cronbach's alpha method [38].

Statistical analysis

Statistical analysis was performed using SPSS software ver. 22.0. ANOVA was used to compare multiple data sets. $P < 0.05$ was taken to indicate a significant difference between group means.

Results and Discussion

Out of 30 participants, 16.70 % were 30 to 35 years, 50 % 36 to 40 years, 20 percent 41 to 45 years, and 13.30 % were 45 years or older, plus in terms of educational level 30 Percentage had diploma, 20 % of postgraduates, 36.7 % had bachelor degree and 13.30 % had master degree. Table 2 provides the descriptive indicators for the research variable

Table 2. Descriptive statistics (central and distribution) of research variables.

Group	N	Pre-test		Post-test		Follow-up test	
		Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Cognitive-flexibility Control	15	39.13	8.28	38.53	6.45	37.00	6.07
Cognitive-flexibility Experimental	15	38.13	5.04	64.00	7.40	63.67	9.47
Marital satisfaction Control	15	59.33	9.77	61.33	11.17	62.60	10.82
Marital satisfaction Experimental	15	61.33	11.17	117.67	32.18	104.80	15.17

Before going on to scrutinize the research hypotheses, what we should consider is the issues of observing statistical assumptions. Earlier than statistical calculation, assumptions about independent individual scores, normal distribution of variables using Kolmogorov-

Simonov test, linearity using Test for linearity ($P < 0.05$), associated variable independency and experimental practice, as well as measuring error-free variable were observed in completely controlled conditions.

Table 3. Assumption test while variables are normal distributed.

Variable	Z	significance level
Cognitive-flexibility	0.59	0.87
Marital satisfaction	0.95	0.32

As can be inferred from findings in Table 3, as the level of significance obtained in the K-S test

is more than 0.05 in the variables, it can be concluded that the variables under study are statistically normal distributed.

Table 4. Levin test results on the assumption of equality of variances.

Dependent variable		Coefficient F	Degree of freedom 1	Degree of freedom 2	Significance level (P)
Cognitive-flexibility	Pre-test	4.12	1	28	0.051
	Post-test	0.30	1	28	0.59
	Follow-up test	3.26	1	28	0.066
Marital satisfaction	Pre-test	0.17	1	28	0.69
	Post-test	1.03	1	28	0.23
	Follow-up test	1.75	1	28	0.20

The results of this test demonstrated that the significance level of the two variables is greater than (0.05) in all three situations,

consequently the two groups do not have significant differences in variance, hence this assumption for conducting the test is observed.

Table 5. The results of the Mauchly's test supposing the covariance equality assumption.

dependent variable	Mauchly's W	Chi-Square	df	sig
Cognitive-flexibility	0.86	3.78	2	0.15
Marital satisfaction	0.41	0.64	2	0.72

The results of this test display that, as the acquired significance level is greater than (0.05), and the value of calculated Chi-Square is not

significant, consequently the covariance equality assumption is accepted.

Table 6. Results of the analysis of variance for intra-item factor and its interaction with the group

Source of Changes		Sum of squares	df	Mean of squares	Coefficient F	Significance level (P)	Impact size	Statistical coefficient
Cognitive-flexibility	flexibility	2973.622	2	1486.811	34.227	0.0001	0.55	1
	Group-flexibility	3668.422	2	1834.211	42.224	0.0001	0.601	1
	Error variance	2432.622	56	43.44				
Marital satisfaction	Marital satisfaction	14303.356	2	7151.678	22.879	0.0001	0.45	1
	Group-Marital satisfaction	11919.756	2	5959.878	19.066	0.0001	0.405	1
	Error variance	17504.889	56	312.587				

Consistent with the results of Table 6, as intra-item factor of cognitive flexibility and marital satisfaction in the three levels of pre-test, post-test and follow-up test are equal to the significant level (0.0001) and this value is smaller than the standard significance level which is 0.01. It can be determined that the scores of cognitive flexibility and marital

satisfaction in these three levels have significant differences. Likewise, as the inter-reaction between cognitive flexibility factor and marital satisfaction and group is also significant (0.0001) and this value is smaller than the significance level of standard which is 0.01, consequently it can be concluded that the

interaction effect between cognitive flexibility and marital satisfaction and group is significant.

Hence, the first hypothesis of the research grounded on the effect of group reality teaching based on choice theory on the cognitive flexibility (total score) of married women is accepted and it is settled that there is a significant difference between the mean scores of cognitive flexibility in the experimental and control groups. Similarly, comparing the means of post-test scores related to the cognitive flexibility displayed that, the experimental group (64) had higher scores in cognitive flexibility than the control group (38.53). Likewise, based on the consequences, in marital satisfaction variable, the second hypothesis based on the effect of group reality teaching based on choice theory upon marital satisfaction of married women, is accepted and it is settled that there is a significant difference between the mean scores of marital satisfaction in the experimental and control groups. Moreover, comparison of means in post-test scores of marital satisfaction displayed that the experimental group (117.66) scored higher in marital satisfaction than the control group (61.33).

The aim of this study was to investigate the effectiveness of the group-based reality therapy based on choice theory upon cognitive flexibility and marital satisfaction in married women in Tehran. Results showed that choice-based reality therapy had a significant effect on cognitive flexibility. The obtained results in this unit are constant and consistent with those of Boroumand *et al.* (2013), Jeldkar *et al.* (2014), Casstevens (2010), Shafiei *et al.* (2015), Atadokht (2015), Najafi, Naderi and Sahebi (2015). Casstevens (2010), by applying reality therapy and choice theory in health programs at psychological rehabilitation organizations showed that the effect of choice theory teaching effectively leads to adequate cognition,

flexibility, knowledgeable targeting and comprehensive planning. Their findings rise the sense of self-efficacy, accountability, progress cognitive flexibility, surge self-esteem and self-confidence, and growth dealing with skills.

Parish (2010) claims that this approach pursues to learn one discern and identify his/her own needs, aptitudes, and skills, thus have a sound assessment of them based on research entitled "Everything you can have with choice theory and the effectiveness of reality therapy". Incidentally, choice theory teaches the individual how to targeting to satisfy individual needs based on reality and accountability. Designing and executing mindful planning to achieve short-term and long-term objectives will lead to self-regulation and flexibility policies.

In various researches, cognitive flexibility is highly correlated with components such as accountability and internal control. If people have an optimistic and accurate perception of themselves, they will experience a sense of value and cognitive flexibility. One of the reasons that improved the experimental group's scores after eight sessions of intervention was that throughout these sessions, patrons were trained to recognize and meet their elementary needs grounded on the reality therapy approach, since meeting the group's needs properly can increase the cognitive flexibility and self-esteem. It also emphasizes the strengthening the source of the internal control. Those individuals are able to attribute success to them and have faith in that thought, behaviour, and emotion they experience are under their control. Moreover, if they come to this conclusion that their behaviour does not lead them to meet their needs, they choose behaviour and accept accountability for the consequences of their choice. Therefore, based on the aforementioned issues and conducted research, the reason for cognitive flexibility augment in women based on the reality therapy approach will be uncovered.

In the present study, these findings also presented that choice theory-based reality therapy had a significant effect on marital satisfaction of married women. The obtained results in this portion of the study are constant with the results of Khalili *et al.* (2016), Dizjani *et al.* (2016), Sa'adati Shamir *et al.*, (1397), Mirzaniya *et al.* (1977), Abbasi *et al.*, (1396), Farahbakhsh *et al.* (2006), Hosseini Ghaffari *et al.* (2008), Nasr Esfahani (2010), Arabpour *et al.* (1391), Jeldkar and *et al.* (2014), Soudani *et al.* (1395), Akbari and Pouya Manesh (2014), Dizjani *et al.* (2014). 1395), Conner (1998), Caughlin (2002), Robey, Wubbolding and Carlson (2012) [39-41].

Caughlin's (2002) results on couples' interventions presented that teaching the concepts of choice theory was effective both on declining male expectation/female withdrawal communication patterns and on female expectation/male withdrawal communication patterns.

Relationship pattern in couples communication can reinforce the family's foundations, and when confronted with difficulties, couples try to find resolutions to their problems and when they apply this method, they feel that understand each other and will get higher marital satisfaction.

Wubbolding, Casstevens and Fulkerson (2017) brought into being in their research that choice theory-based reality therapy through producing an accessible and supportive atmosphere by means of techniques such as suspending judgment on therapists, assisting self-disclosure, paying attention and prioritize their mental perceptions of problems in the direction of changing behaviour and thoughts. In choice theory-based reality therapy, individuals through self-assessment focus on behaviour that is beyond their control and focus on the controllable facets. To decrease the negative and dysfunctional emotions through the positive

internal dialogue and to highlight the abilities. Consequently, one can progress and experience a sense of authorization, accountability, and satisfaction.

Conclusion

One of the limitations of this study is that the present research has been done only on married women in Tehran and no-one else and caution should be implemented when generalizing the outcomes to other samples. Likewise, the plain use of self-reporting tools instead of studying actual behaviour designates that perhaps subjects may have tried to show they better than what they really are, or else that respondents were more motivated to present community-oriented responses in this way. Given the low research background in this ground, it is recommended that researchers in their future research explore the affiliation of the variables in this study on other samples. It is also recommended to evaluate the follow-up test for conducting the equivalent research. According to the obtained results of this study on the effect of group reality therapy based on the choice theory upon cognitive flexibility and marital satisfaction in married women, it is suggested that the counsellors in counselling centres and psychological services in instructive and therapeutic sessions should pay superior attention to the aforementioned method.

Conflict of Interest

We have no conflicts of interest to disclose.

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