

ORIGINAL ARTICLE

The Comparison of the Effects of Training Self-awareness and Problem-solving Skills on Marital Satisfaction of Married Women: A Randomized Controlled Trial

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ABSTRACT

Background: One of the most important causes of marital dissatisfaction is the lack of life skills. This study aimed to compare the effects of training self-awareness and problem-solving skills on marital satisfaction of married women.

Methods: This study was a randomized field trial conducted in Gorgan since October 2019 to September 2020. A total of 105 married women were allocated to one of two interventions or a control group based on triplex block randomization. Data collection tools were the Persian version of the self-awareness questionnaire, problem-solving questionnaire and Four ENRICH Couple Scales. The participants completed the questionnaires before (T1), immediately (T2), and one month after the intervention completion (T3). The first intervention group received self-awareness skills training and the second received problem-solving skills training one session per week for four weeks. The control group did not receive any training. Data were analyzed using One-way ANOVA, Kruskal-Wallis, Chi-square, Fishers exact test, exact test, repeated measure ANOVA, and Bonferroni test, using SPSS 16. A P value <0.05 was considered significant.

Results: The mean score of ENRICH Scales in the three groups, immediately and one month after the intervention, were not statistically significant ($P>0.05$). However, in the problem-solving group, the scale of marital satisfaction was significantly different at T2 and T3 (31.40 ± 4.55 , 33 ± 5.21 , $P=0.008$). In the self-awareness training group at T1 and T3, the mean of the conflict resolution scale (32.60 ± 63.28 , 33.94 ± 5.74 , $P=0.03$) was significantly different.

Conclusion: The results showed that problem-solving skills training was more effective in increasing the score of marital satisfaction compared to self-awareness skills training.

Trial Registration Number: IRCT20190721044290N1.

Keywords: Person-centered psychotherapy, Marital therapy, Interpersonal relations, Communication barriers

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INTRODUCTION

Marital satisfaction is the experienced joy and pleasure of the couples in all aspects of their marriage. In the first four years of marriage, it is affected by a wide range of stress-generating factors.¹ Divorce, as one of the most valid indicators of marital dissatisfaction, is prevalent in the first years of marriage.² According to the Iran's National Organization for Civil Registration, in 2017, 47.3% of all divorces occurred in the first five years of marital life.³

Mutual understanding, the ability to resolve disputes, agreement in financial management, leisure time, number of children, and sexual and emotional satisfaction are some of the factors affecting marital satisfaction,⁴ and communication skills can predict marital satisfaction in the couple.⁵ Also, in a couple with an ineffective and undesirable interpersonal relationship, women have less marital satisfaction than men.⁶ On the other hand, women use more destructive strategies in managing their relationships. In the first years of marriage, these strategies increase the instability of relationships and divorce rates.⁷

Lack of life skills is among the most important causes of marital dissatisfaction. Life skills are a group of interpersonal skills that enable people to communicate effectively and make informed decisions.⁸

Self-awareness is one of the prerequisite skills for interpersonal and social relationships because when people achieve a deep knowledge of themselves, they understand others better, are less in conflict, and do not feel inferior or anxious.⁹ It was reported that self-awareness skills training is effective in improving female sexual satisfaction as a factor related to marital satisfaction.¹⁰

Problem-solving is a cognitive-behavioral process in which one tries to discover adaptive and practical solutions to specific daily life problems.¹¹ By learning this skill, people identify problems and then find a suitable solution through negotiation.¹² Problem-solving skills are effective in increasing

marital satisfaction.^{12, 13}

Among life skills, self-awareness and problem-solving skills are a form of self-control that help a person cope with everyday problems independently. It is stated that increasing the awareness of couples about each other's desires and needs through mutual understanding and finding a suitable solution leads to marital satisfaction.¹⁴

Although various studies have shown the effect of problem-solving skills training, self-awareness training or general life skills training on marital and/or sexual satisfaction,^{10, 12, 13, 15} to the best of authors' knowledge, it is not yet known which skills have the most significant impact on marital satisfaction. Therefore, this study aimed to compare the effect of self-awareness and problem-solving skills training on marital satisfaction of married women.

MATERIALS AND METHODS

This experimental study was a randomized controlled field trial with two intervention groups and one control group. The study was performed on 105 married women with a minimum of six months to maximum of five years of marriage referred to Gorgan health centers since 2019 October 23 to 2020 August 20. According to Ahmadi et al.,¹⁶ the required number of samples was determined 25 people at the confidence level of 95%, with a test power of 80%, using the following formula in each group:

$$n = \frac{(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2 (SD_1^2 + SD_2^2)}{(\mu_1 - \mu_2)^2} = \frac{(1.96 + .84)^2 (22.14^2 + 26.44^2)}{(121.6 - 140.73)^2} = 25$$

Since the number of groups was more than two, the final sample size in each group was 35 subjects using the following formula:

$$n^* = n\sqrt{g-1} = 25\sqrt{3-1} = 35$$

Given the 15% dropout rate, the number of samples in each group was 40. Although

the estimated dropout rate was 15%, more samples withdrew from the study in practice. It was 43.8% in the self-awareness, 40% in the problem-solving and 45.7% in the control groups. According to this dropout, more people (73 in the self-awareness, 65 in problem solving, and 70 in control groups) entered the study. Some participants withdrew from participating in the classes after attending one session due to the multi-session classes, holding classes in the summer, being employed, having a small child, and being in the COVID 19 pandemic time. People who discontinued interventions were replaced with other participants, so 26 subjects in the self-awareness group, 32 in the problem solving group, and 32 in the control group continued till the follow up phase (Figure 1). Inclusion criteria, based on medical records, were residence in Gorgan, high school education and higher, permanent marriage, the first

marriage of each couple, six months to 5 years of marriage, being in the reproductive age (18-45 years old), no history of reproductive organs surgery or malignancies (uterus, ovaries and breasts), no chronic medical conditions (e.g., diabetes, kidney (dialysis), and multiple sclerosis), no debilitating diseases, and psychological disorders (e.g., anxiety, depression or the use of related drugs). Moreover, not studying or being graduated in psychology or counseling, not attending psychotherapy sessions, not having a history of infertility, not suffering unfortunate events in the past six months, not being in menopause stage, not abusing substances by each couple, and obtaining a score below 40 of the Enrich Marital Satisfaction sub-scale were the other inclusion criteria.

The exclusion criteria were getting pregnant, experiencing unfortunate events, having psychological disorders during the

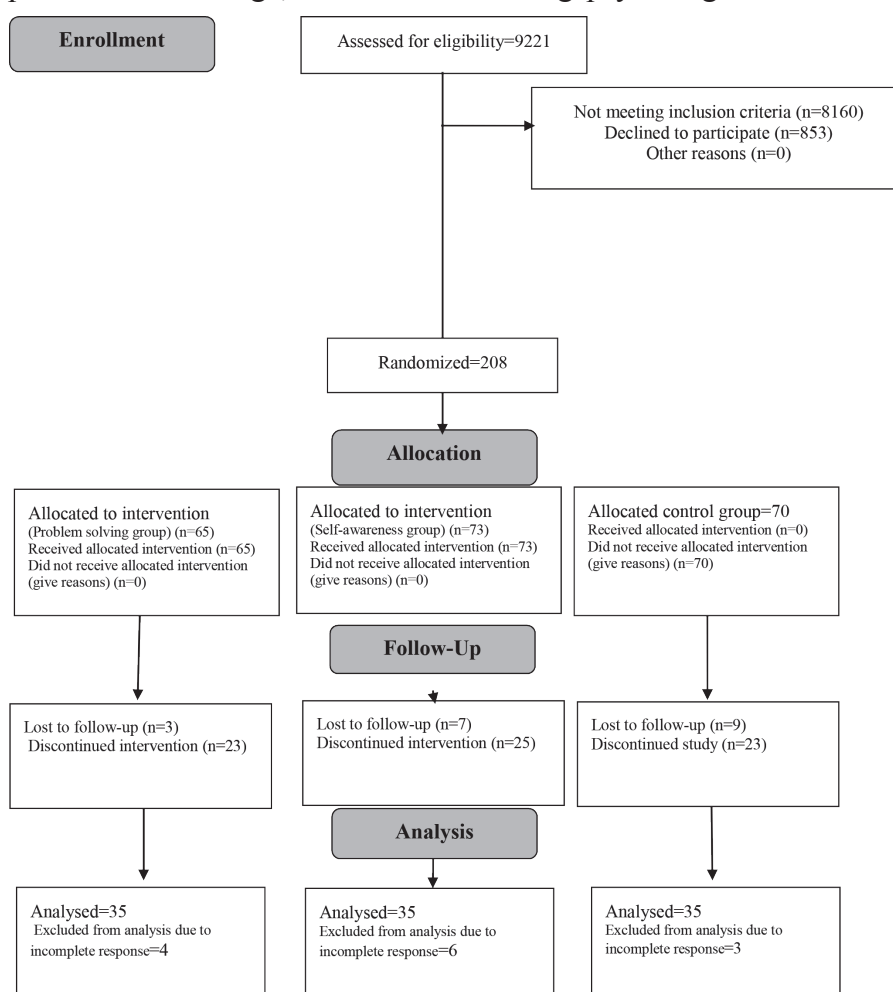


Figure 1: CONSORT diagram of the participants of the study

study, and being unwilling to continue.

Data were collected using demographic characteristics form, Persian version of self-awareness scale, Cassidy and Long's problem-solving questionnaire, and Enrich marital satisfaction questionnaire. The demographic information form included the age of each couple, education and occupation of the couple, period of acquaintance before the start of marriage, duration of the marriage, type of marriage, and number of children and their sex.

The self-awareness scale was designed by Fenigstein, Scheier, and Buss in 1975. This questionnaire has 23 items and 3 sub-scales of private self-awareness (10 items), public self-awareness, (7 items), and social anxiety (6 items). The items are scored using the 5-point Likert scale, ranging from strongly disagree (0) to strongly agree.⁴ The score of each sub-scale and the total scale are 0-40, 0-28, 0-24, and 0-92, respectively. A principal component factor analysis for instrument Construct validity showed three factors accounting for 43% of the variance. Test-retest reliabilities were. 84 for the Public Self-Consciousness scale, 0.79 for the Private Self-Consciousness scale, 0.73 for the Social Anxiety scale, and 0.80 for the total score. Cronbach's alpha was 0.70, 0.65, 0.74 for the private self-awareness, the public self-awareness, and the social anxiety sub-scales, respectively.¹⁷

The Persian version of the self-awareness scale was standardized in Iran by Latifian and Seyf in 2007. The number of items and subscales are similar to those of the original scale. The validity of the items was assessed using expert opinion and internal correlation coefficient (ICC). ICC was 0.15 between private self-awareness and public self-awareness and -0.01 between private self-awareness and social anxiety. ICC between social anxiety and public self-awareness was 0.18. The reliability of the scale using Cronbach's alpha coefficient for the three components was between 0.57 and 0.84.¹⁸ In the present study, Cronbach's alpha was 0.6, 0.46, 0.72, and 0.65 for the private

self-awareness, the public self-awareness, the social anxiety sub-scale, and overall scale, respectively.

The problem-solving questionnaire was designed by Cassidy and Lang (1996). This measure was developed in two sequential studies, but the results were reported in one. The preliminary questionnaire included 84 items. After first psychometric analysis, it encompassed 6 factors and 36 items. In the second study, the 36-item questionnaire was filled out by 509 participants and psychometric analysis was repeated. Finally, a 24-item six-factor measure was produced including problem-solving helplessness, problem-solving control, creative problem-solving styles, problem-solving confidence, avoidance style, and approach style (we used 24 items questionnaire). Each of these factors has four questions.¹⁹ Helplessness, control, avoidance styles comprise non-constructive (ineffective) problem-solving sub-scale. On the other hand, approach, creative, and confidence styles make the constructive (effective) problem-solving sub-scale. Every item of this questionnaire is answered with Yes (1), No (0), and I do not know (0.5).²⁰ Each factor with the highest score indicates that the person uses the corresponding method when faced with problems. The reliability of each subscale using Cronbach's alpha was 0.86 (problem-solving helplessness), 0.6 (problem-solving control), 0.66 (creative styles), 0.66 (problem-solving confidence), 0.51 (avoidance style), and 0.53 (approach style). The utility of problem-solving style, as an explanatory variable, is increased when it is considered as a multidimensional construct.¹⁹

The Persian version of the problem-solving questionnaire has been standardized by Mohammadi and Sahebi (2001). The reliability of the Persian version of this questionnaire, using Cronbach's alpha coefficient for each subscale, was 0.69 for helplessness, 0.66 for control style, 0.63 for creative style, 0.72 for problem-solving confidence, 0.53 for avoidance style, and 0.37 for approach style.²¹ In the present study,

the reliability using Cronbach's alpha was 0.47, 0.16, 0.69, 0.63, 0.56, 0.63 for problem-solving helplessness, problem-solving control, creative problem-solving styles, problem-solving confidence, avoidance style, and approach style, respectively. Also, Cronbach's alpha coefficient was 0.53 and 0.76 for constructive and non-constructive problem-solving subscales. In this study, the findings were reported based on constructive and non-constructive problem-solving sub-scales.

Enrich marital satisfaction questionnaire was developed by Fowers and Olson (1989) and updated in 2010.²² This questionnaire has several forms with different numbers of items. In this study, Four ERICH couple scales (2010) with 35 items was used. The subscales are marital satisfaction (10 items), communication (10 items), conflict resolution (10 items), and idealistic distortion (5 items). The items were scored using a 5-point Likert ranging from strongly agree (5) to strongly disagree (1). Nineteen items have inverse scoring; it means the score for strongly agree is 1 and strongly disagree is 5. Moreover, there are norms and cut-off points for each scale, either based on percentage and a raw score. For clarification, the level of marital satisfaction based on acquired score could be interpreted as very high (score 41-50: 85-100 percent of the attainable score), high (score 36-40: 65-80 percent of the attainable score), moderate (score 29-35: 40-60 percent of the attainable score), low (score 23-28 t: 20-35 percent of the attainable score), and very low (score 10-22: 5-15 percent of the attainable score).²³

The scores of Cronbach's alpha coefficient for each scale of marital satisfaction, communication, conflict resolution, and idealistic distortion in Fowers and Olson's ENRICH questionnaire were 0.86, 0.82, 0.84, 0.83, respectively.²² The Persian version of ENRICH was provided by Asoodeh et al., with the final approval of Professor Olson. The Persian version validation included backward-forward translation and face validity. The reported Cronbach's alpha for marital satisfaction, communication, conflict

resolution, and idealistic distortion scales was 0.78, 0.78, 0.62, and 0.78, respectively.^{23, 24} In the present study, Cronbach's alpha for the marital satisfaction, communication, conflict resolution, and idealistic distortion scales was 0.66, 0.76, 0.70 and 0.84, respectively.

The study was conducted between October 2019 and September 2020. At first, six centers were randomly selected out of 16 centers for comprehensive health services in Gorgan. The initial list of potential participants was extracted through the Golestan University of Medical Sciences electronic health system records.

Then, the characteristics of the potential participants in the initial list were checked, and they were called and invited to participate in the study if they had the rest of the inclusion criteria. After obtaining informed written consent, they completed the coded questionnaires in a self-report manner. Participants were given full authority to continue or withdraw from the study. Then, individuals with a score of 40 or less in the scale of marital satisfaction of the Enrich Questionnaire (it means highly satisfied women were excluded), based on three random blocks, were placed in one of the three groups of intervention 1 (self-awareness training), intervention 2 (problem-solving training), or control.

Since there were three groups in the study, the participants were allocated to each group based on permuted triplex block randomization. Triplex block randomization included six possible statuses for matching mode of A (intervention 1), B (intervention 2), and C (control) as an illustration 1, ABC, 2. ACB, 3. BAC, 4. BCA, 5. CAB, 6. CBA. Then, as each group consisted of 40 samples, 40 randomized numbers from 1 to 6 were produced in R software. After that, the participants who met the inclusion criteria were allocated to one of the groups based on both produced randomized number from R software and the Triplex block randomization.

In life skills education, working in small groups, brainstorming, role play, game, and debates facilitate the active involvement of

participants in a dynamic learning process, so in this study education was group-based. The methods used in the teaching of life skills is described in the social learning theory. In this theory, learning is considered to be an active acquisition, processing and structuring of experiences.²⁵ Each skill training consisted of 4 sessions of 90 minutes per week. The contents of the sessions are shown in Table 1 for the self-awareness skills training group. Also, the contents of the sessions for the problem-solving skills training group are displayed in Table 2.

After three in-person sessions for each group, due to the Corona pandemic and quarantine onset, the last session in both groups was held online by forming a virtual group on WhatsApp. The electronic questionnaire was prepared in the Porsline system (<https://porsline.ir/>) based on the paper version of the tool. Next, it was sent to the participants in two rounds immediately and one month after the intervention. Up to one month after the end of the classes, the same educational materials were sent to the group to maintain the virtual group, and the participants' questions were answered. Due to the Corona pandemic and the impossibility of in-person training, the study was continued

online. Therefore, training sessions were held on the Skyroom platform. The control group completed the questionnaires in the first period, immediately and one month after the intervention. Data were collected online using an electronic questionnaire. A summary of the sampling steps is shown in Figure 1.

The data were analyzed using descriptive and analytical statistical methods. The comparison of demographic characteristics between the groups was done using Chi-square, Fishers exact test and exact test. The normality of quantitative data distribution was evaluated using the Shapiro-Wilk test. If the data were normally distributed, parametric tests (One-way ANOVA, repeated measure ANOVA Bonferroni test for Pairwise Comparisons of time) and otherwise non-parametric tests (Kruskal-Wallis) were used in SPSS version 16. The value of $P < 0.05$ was considered significant in this study.

This study was approved by the Research Ethics Committee of Golestan University of Medical Sciences IR.GOUMS.REC.1398.187.

Also, all participants signed a written consent form; information obtained from the participants was kept confidential and the identification code was used in the questionnaires instead of the name and surname.

Table 1: Content of self-awareness skills training sessions

Session number	Objectives and assignments
First session	Introduce, state the rules and objectives of the meetings, define self-awareness, think about your characteristics, realize and display your personal strengths
Second session	Getting to know the concept of feelings and emotions of yourself and others, Investigating the effect of events and the effect of people's perceptions and interpretations of these events on emotions
Third session	Clarify the difference between the three concepts of feeling, behavior and its effect on each other
Fourth session	Recognize and examine common cognitive errors

Table 2: Content of problem solving skills training sessions

Session number	Objectives and assignments
First session	Introduction, statement of rules and objectives of meetings, familiarity with problem solving and its goals, application of problem solving and choosing the right approach to the problems
Second session	Prioritize solutions, diagnose the problem, define the exact problem, discover the solution
Third session	Predict the consequences of the solution
Fourth session	Choose solutions and review cases of failure

RESULTS

Due to incomplete responses to the ENRICH questionnaire, data of 3, 6, and 4 questionnaires were not analyzed in the control, self-awareness, and problem-solving group, respectively. Finally, data of 35 completed questionnaires were analyzed that is equal to the estimated number of samples in each group.

At the beginning of the study, there was no significant difference among the three groups regarding the sample's demographic characteristics (Table 3).

One-way ANOVA showed no statistically significant difference between the participants' age (Mean±SD) in the self-awareness (27.97±4.24), problem-solving (28.43±2.93), and control groups (29.74±4.11) (P=0.13).

it also showed no statistically significant difference between the participants' spouse age (Mean±SD) in the self-awareness (32±3.65), problem-solving (31.57±3.97), and control groups (31.97±3.36) (P=0.86). Kruskal-Wallis showed no statistically significant difference between the participants' marriage duration and Median (IQR) in the self-awareness 5 (2), problem-solving 5 (2) and control group 5 (2) (P=0.9).

As shown in Table 4, the mean score of four marital satisfaction scales in the three groups before the intervention (T1), immediately (T2) and one month after the intervention (T3) was not significant. However, in the problem-solving group, marital satisfaction increased significantly for T3 as compared with T2 (P=0.008). Moreover, in the self-awareness

Table 3: Comparison of demographic characteristics in the three groups

Variable		Self-awareness group N=35 N (%)	Problem-solving group N=35 N (%)	Control group N=35 N (%)	P value
Education level	High school	12 (34.30)	7 (20)	9 (25.70)	0.57*
	Undergraduate degree	21 (60)	25 (71.40)	21 (60)	
	Postgraduate degree	2 (5.70)	3 (8.60)	5 (14.30)	
Spouse's education level	High school	13 (37.10)	11 (31.40)	10 (28.60)	0.96*
	Undergraduate degree	18 (51.40)	19 (54.30)	20 (57.10)	
	Postgraduate degree	4 (11.40)	5 (14.30)	5 (14.30)	
Occupation status	Employee	6 (17.10)	3 (8.60)	8 (22.90)	0.4**
	Self-employment	4 (11.40)	2 (5.70)	4 (11.40)	
	Unemployed	25 (71.40)	30 (85.70)	23 (65.70)	
Spouse occupation status	Employee	14 (40)	11 (31.40)	16 (45.70)	0.39**
	Self-employment	18 (51.40)	21 (60)	13 (37.10)	
	Unemployed	3 (8.6)	3 (8.60)	6 (17.10)	
Number of children	0	9 (25.70)	11 (31.40)	11 (31.40)	0.07**
	1	25 (71.40)	24 (68.60)	24 (68.60)	
	2	1 (2.90)	0 (0)	0 (0)	
Duration of acquaintance	0-6 month	12 (34.30)	11 (31.40)	15 (42.90)	0.35***
	6 month-1 year	9 (25.70)	4 (11.40)	7 (20)	
	More than 1 year	14 (40)	20 (57.10)	13 (37.10)	
Type of marriage	Family choice and woman Agreement	16 (45.70)	12 (34.30)	10 (28.60)	0.057**
	Woman selection and family Agreement	16 (45.70)	20 (57.10)	23 (65.70)	
	Woman choice and family opposition	2 (5.70)	3 (8.60)	2 (5.70)	
	Family choice and woman opposition	1 (2.90)	0	0	
Number of children	0	9 (25.7%)	11 (31.4%)	11 (31.4%)	0.07**
	1	25 (71.4%)	24 (68.6%)	24 (68.6%)	
	2	1 (2.9%)	0 (0%)	0 (0%)	
Sex of children	Boy	15 (57.7%)	17 (70.8%)	12 (50%)	0.3***
	Girl	11 (42.3%)	7 (29.2%)	12 (50%)	

*Fishers exact test; **Exact test; ***Chi-square

Table 4: Comparison of the mean of the ENRICH 4 scales score in three times in the three groups

Variable	Group	Mean±SD			T3 ^c	P value ^{***}			Group ^{*****}			Time×Group
		T1 ^a	T2 ^b	T3 ^c		(1-2-3)	1,2	1,3	2,3	F	P value	
Marital satisfaction scale	Self-awareness	32.08±5.35	32.85±5.56	33.45±5.88	0.06	0.30	0.11	0.37	0.552	0.58	2.64	0.04 ^{*****}
	Problem-solving	31.80±4.35	31.40±4.55	33±5.21	0.03	1	0.28	0.008				
	Control	31.77±4.62	31.91±4.23	31.28±5.06	0.54	1	1	0.82				
	P value	0.84 [*]	0.27 [*]	0.14 [*]								
Communication scale	Self-awareness	31.68±6.47	32.11±6.63	32.60±6.47	0.27	1	0.40	1	0.81	0.45	0.71	0.58 ^{*****}
	Problem-solving	30.42±5.86	30.51±6.32	30.08±6.12	0.73	1	1	1				
	Control	30.48±7.5	30.77±7.68	30.42±7.03	0.79	1	1	1				
	P value	0.67 ^{**}	0.58 ^{**}	0.22 ^{**}								
Conflict resolution scale	Self-awareness	32.60±6.28	32.97±5.63	33.94±5.74	0.03	1	0.03	0.14	0.50	0.61	1.65	0.17 ^{*****}
	Problem-solving	32.28±5.46	32.14±5.23	31.71±5.32	0.62	1	1	1				
	Control	32.80±6.06	33.37±5.80	33.08±4.59	0.62	0.94	1	1				
	P value	0.9 ^{**}	0.64 ^{**}	0.20 ^{**}								
Idealistic distortion scale	Self-awareness	16.51±4.36	16.85±4.28	16.97±3.97	0.47	1	1	1	0.21	0.81	2.28	0.07 ^{*****}
	Problem-solving	17±4.22	15.80±3.81	16.11±3.99	0.054	0.15	0.12	1				
	Control	16.05±4.05	16.20±4.20	16.40±4.45	0.68	1	1	1				
	P value	0.6 ^{**}	0.35 ^{**}	0.67 ^{**}								

a: Before the intervention; b: Immediately after the intervention; c: One month after the intervention; *Kruskal-Wallis; **ANOVA, ***Repeated Measure ANOVA, ****Bonferroni test; ***** Test of effects Group; ***** Test of interaction effects Time and Group (Greenhouse-Geisser); ***** Test of interaction effects Time and Group (Sphericity Assumed)

Table 5: Comparison of the mean of problem solving sub-scales scores in three times in three groups

Variable	Group	Mean±SD			T3 ^c	P value ^{***}			Group ^{*****}			Time×Group
		T1 ^a	T2 ^b	T3 ^c		(1-2-3)	1,2	1,3	2,3	F	P value	
Constructive problem-solving	Self-awareness	9.02±2.37	9.41±1.82	9.98±1.73	0.008	0.74	0.007	0.02	1.11	0.33	0.74	0.56 ^{*****}
	Problem-solving	9.07±2.21	9.31±2.29	9.91±1.79	0.05	0.99	0.07	0.37				
	Control	8.70±2.32	8.91±2.35	9.02±2.02	0.47	1	0.68	1				
	P value	0.72 [*]	0.69 [*]	0.06 [*]								
Non-constructive problem-solving	Self-awareness	5.02±1.62	4.70±2.05	4.75±1.91	0.41	0.82	1	1	3.36	0.01	2.31	0.11 ^{*****}
	Problem-solving	5.02±2.13	5.07±1.71	5.31±1.79	0.49	1	1	1				
	Control	5.30±2.07	6.01±1.79	6.22±1.98	<0.001	0.002	0.002	1				
	P value	0.91 [*]	0.02 [*]	0.006 ^{**}								

a: Before the intervention; b: Immediately after the intervention; c: One month after the intervention; *Kruskal-Wallis; .ANOVA, ***Repeated Measure ANOVA, ****Bonferroni test; ***** Test of effects Group; ***** Test of interaction effects Time and Group (Sphericity Assumed); ***** Test of interaction effects Time and Group (Greenhouse-Geisser)

group, the mean of conflict resolution increased significantly one month after the intervention compared to the baseline (P=0.03).

Between groups comparison showed that the mean score of the constructive problem-solving was not significantly different in the three groups at T1, T2 and T3 (P>0.05) (Table 5). The mean score of the non-constructive problem-solving was not significantly different in the three groups at the beginning of the study, but it was significantly different at immediate stage (T2) and one month after the intervention (T3) in the three groups, as the score of this dimension in the control group was significantly higher than the self-awareness group (Table 5).

Within groups comparison showed that in the self-awareness group, the mean score of the constructive problem-solving increased significantly one month after the intervention compared to the baseline (P=0.007) and immediately after the intervention (P=0.02). In the problem-solving and control groups, the mean score of the constructive problem-solving did not change significantly (P>0.05) (Table 5). Moreover, the mean score of the non-constructive problem-solving increased significantly immediately and one month after the intervention compared to the baseline in the control group (P=0.002), but there was no significant change in the intervention groups (Table 5).

Between groups comparison also showed that the mean score of the self-awareness and its sub-scales was not significantly different in the three groups at three times (P>0.05). Within groups comparison revealed that the mean score of the private, public, and total self-awareness in the self-awareness group was significantly

Table 6: Comparison of the mean of self-awareness score and its dimensions in three times in the three groups

Variable	Group	Mean±SD			P value***			P value****			
		T1 ^a	T2 ^b	T3 ^c	1-2-3	1,2	1,3	2,3	F	F	P value****
Private self-awareness	Self-awareness	25.74±5.79	27.54±5.41	28.25±6.27	<0.001	0.005	0.003	0.39			
	Problem-solving	25.85±5.23	26.42±4.19	27.05±4.28	0.13	1	0.24	0.37			
	Control	26.25±5.54	25.82±5.99	26.11±6.35	0.74	1	1	1			
	P value	0.92*	0.38**	0.29**							
Public self-awareness	Self-awareness	18.28±4.72	19.97±4.65	20.48±3.78	<0.001	<0.001	<0.001	0.82			
	Problem-solving	19.77±3.27	19.77±3.26	20.97±2.95	<0.001	1	<0.001	<0.001			
	Control	20.51±3.70	20.08±3.23	20.60±3.21	0.26	0.71	1	0.13			
	P value	0.06**	0.94**	0.81**							
Social anxiety	Self-awareness	11.05±5.72	11.20±4.67	11.91±4.64	0.26	1	0.63	0.44			
	Problem-solving	12.17±5.35	12.51±4.62	1.85±4.57	0.32	1	0.63	1			
	Control	13.08±4.97	12.68±5.49	13.14±5.23	0.41	1	1	0.29			
	P value	0.28*	0.39**	0.53*							
Total self-awareness score	Self-awareness	25.74±5.79	27.54±5.41	28.25±6.27	0.003	0.005	0.003	0.39	0.44	0.65	2.62
	Problem-solving	25.85±5.23	26.42±4.19	27.05±4.28	0.15	1	0.24	0.37			
	Control	26.25±5.54	25.82±5.99	26.11±6.35	0.66	1	1	1			
	P value	0.91*	0.38**	0.29**							

a: Before the intervention; b: Immediately after the intervention; c: One month after the intervention; .Kruskal-Wallis; **ANOVA; ***ANOVA; ****ANOVA; ****Bonferroni test; ****Test of effects Group; ****Test of interaction effects Time and Group (Greenhouse-Geisser)

different in three times ($P < 0.001$ and $P = 0.003$). The mean score of public self-awareness in the problem-solving group was significantly different one month after the intervention compared to before and immediately after the intervention ($P < 0.001$) (Table 6).

DISCUSSION

The results of this study showed that the mean scores of ENRICH's marital satisfaction four scales were not significantly different among the three groups of problem-solving skills, self-awareness skills, and the control group immediately and one month after the intervention. However, there were some significantly different within groups in a way that the problem solving skills training gave rise to a significant difference in the level of marital satisfaction one month after the intervention; however, it had no change immediately after the intervention, but the self-awareness skills training did not affect the marital satisfaction.

Although we could not find a study that compared self-awareness and problem-solving skills educations, according to some relatively similar studies, problem-solving skills training was associated with increased marital satisfaction.^{12, 13} Six sessions (once in a week) of problem-solving based group counseling for women with an intellectually disabled child improved the marital satisfaction scores one month (but not one week) after the intervention.¹² Also, results of a study, on the effectiveness of social problem-solving training for couples referring to counseling centers, showed an increase in the adaptability and marital satisfaction levels of incompatible couples immediately after the intervention.¹³ One study on pregnant women with low levels of marital satisfaction reported that the marital satisfaction three months after the training of marital communication skills was more than one month after the intervention.¹⁵

In the present study, education on the problem-solving skill was more effective than self-awareness skills in the improvement

of marital satisfaction. It might be because problem-solving skill is a skill from social or interpersonal skills, whereas self-awareness is a skill of knowing and living with one's skills category, and people in a marital relationship need interpersonal skills more than intrapersonal ones.²⁵

As seen, there is some time-related heterogeneity of intervention effectiveness in different studies. It can be said that for skills training to be effective, it takes time for people to practice the learned skills and apply them in real life to master them.¹² In other words, it takes time to have some behavior change after acquiring new knowledge and attitude.²⁵ Moreover, it is important to draw a distinction between the participants' characteristics in the present research and the mentioned studies. However, in the present study, the participants had high and less marital satisfaction, but there was no previous need for training or counseling for couples who suffered from marital incompatibility, and voluntarily referred to counseling centers to solve their problems or women with low marital satisfaction. These factors may affect the level of interest and effort of learners to apply the training.

In the self-awareness group, the mean score of conflict resolution was different before and one month after the intervention. While conflict resolution is an effective way to achieve marital satisfaction, it seems that applying self-awareness strategies can be helpful in the couples' interpersonal problems.^{5, 13}

Neither of the mean scores of the communication and idealistic distortion scales differed significantly in the three groups. Lack of difference in the situation of the participants in communication and idealistic distortion scales may be due to the lack of communication skills training in the present study. It can be concluded that teaching solely self-awareness or problem-solving skills to women does not improve their communication skills, and it is probably better to teach communication skills to improve and

enhance them.¹⁵ Idealistic distortion measures the tendency of the partners to answer questions in a socially desirable manner.²² In other words, individuals answered a question more socially acceptable than would be their “true” answer. They do this to avoid receiving negative feedbacks. This approach of participants could result in respondent-related sources of error (bias).²⁶ However, the mean score of idealistic distortion decreased in the problem-solving groups immediately after the intervention, but this change was not statistically significant. It might be related to the essence of this socially constructed concept and needs long-term intervention.

Given that changes in the marital satisfaction can be induced by those in the considered skills, the self-awareness and problem-solving skills scores were evaluated in the groups. The results showed that the mean score of total self-awareness and that of private and public self-awareness in the self-awareness training group immediately and one month after the intervention, and the mean score of public self-awareness in the problem-solving group one month after the intervention increased significantly. However, no significant change was observed in the control group. In a study on women in the reproductive age, individual self-awareness skills training improved the private self-awareness and social anxiety but did not change the public self-awareness.²⁷ In the present study, private and public self-awareness in the self-awareness group improved, but social anxiety did not change. Holding classes online may be among the reasons why social anxiety did not change in the present study.

In the present study, the mean score of the constructive problem-solving after the intervention was not significantly different among the groups, but the mean score of the non-constructive problem-solving immediately and one month after the intervention was significantly different in the three groups. The score of this dimension in the control group was significantly higher than that of the self-awareness group. Not

changing the constructive dimension of problem-solving in intervention groups may be due to the fact that problem-solving skills are more complex than self-awareness and require more time, repetition, and practice.

One of the significant differences between the present study and other studies is the unpredictable pandemic of Covid-19 and its effects on the participants' individual, family, and social status, which should be considered in the interpretation of the findings and results. It has been shown that anxiety and sleep disorders caused by a life-threatening health problem such as Covid-19 can negatively affect the ability to solve problems and reduce the quality of life in health care providers.²⁸ Hence, the lack of apparent differences in the results between the intervention and control groups (Between groups) in the present study may be due to the Covid-19 pandemic and its associated complications such as living conditions, increased female sexual dysfunction, and stress and anxiety which could have considerable effects on the marital satisfaction and efficacy of life skill training sessions.²⁹

The strength of this study was comparing the effect of self-awareness and problem-solving skills training on marital satisfaction in distinct groups, so the results show the unique effects of each skill. The limitations of the present study were related to doing the interventions on women, not couples, so if the study included both women and their spouses, it might be more effective. Another limitation of the study was the novelty of online skills training and the existence of the problems such as the slow Internet speed, unfamiliarity of users with virtual learning approaches, and limited interaction of participants in the online class. These factors may have had a role in the effectiveness of these interventions.

CONCLUSION

Based on the present study, teaching problem-solving skills to married women significantly improves their marital satisfaction one month

after the intervention. Therefore, in cases where we intend to teach only one of these two skills, problem-solving training is the priority. Moreover, self-awareness skills training could be provided to improve conflict resolution in married women. Life skills require practice and repetition, as some positive changes were seen in marital satisfaction or some of its aspect after one month, we recommend further studies should be carried out with longer follow-ups and more exercises in moving participants closer to skillful performance. Moreover, a study on both couples, rather than one of them, could be useful.

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