The Effectiveness of Emotionally Focused Therapy on Enhancing Marital Adjustment and Quality of Life among Infertile Couples with Marital Conflicts

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Abstract-

Background: The purpose of this study is to investigate the efficacy of emotionally focused therapy (EFT-C) on promoting marital adjustment of infertile couples with marital conflicts by improving quality of life.

Materials and Methods: This is a semi-experimental study with a pre- and post-test design in which 30 infertile couples (60 individuals) were chosen by purposive sampling. Couples were randomly divided into two groups, sample and control, of 15 couples each. Next, couples in the sample population answered questionnaires for marital adjustment, sexual satisfaction and quality of life after which they received 10 sessions of EFT-C.

Results: Pre- and post-tests showed that EFT-C had a significant effect on marital adjustment and quality of life.

Conclusion: According to the results, EFT-C had a significant, positive effect on enhancement of marital adjustment. Life quality of infertile couples significantly increased via application of EFT-C. This approach improved the physical, psychological and social relationships of infertile couples and enhanced their social environment.

Keywords: Emotion, Therapy, Adjustment, Infertile, Quality of Life

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Introduction

Despite the alteration of standpoints on sexual behavior in recent centuries, fertility remains of crucial importance and children play an important role in cementing a marital relationship. Fertility, as one of the major reasons for marriage, actually results from human nature and introduces the concept of eternal life (1, 2). Another concept, sterility, as the opposite of fertility is defined as the inability to bear offspring after a year of regular sexual activity without contraception (1-3). This inability is considered a failure and leads to the feeling of imperfection in sexual identity. Sterility often causes the person to feel a loss of control over one's life, doubting one's manhood/womanhood and generally damages self-confidence and health (4). Highcosts of treatment, constant anxiety about treatment outcomes, exhaustion from visiting various clinics, societal repercussions, confronting questions about a childless marriage, potential distress during the treatment and fear for missing the spouse or destruction of the family are among the factors which result in multiple psychological complications. These complications include frustration, personal conflict, disappointment, sharp decline in self-esteem, isolation, identity crisis and loss of marital adjustment (5). Marital adjustment is a process commonly composed of: i. Marital satisfaction, ii.

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Royan Institute International Journal of Fertility and Sterility Vol 9, No 2, Jul-Sep 2015, Pages: 238-246 Dyadic cohesion, iii. Consensus on matters of importance to marital functioning, iv. Showing affection and warmth toward the spouse and v. Sharing intimacies (6, 7). Couples who are well-adjusted gain great satisfaction out of the marital relationship and think well of the spouse's habits. They enjoy communicating with family and friends, and ask their help with problems. These couples derive immense sexual pleasure as well (8).

Sterility has physical, financial, emotional and psychological impacts on a person (9). Therefore it seriously undermines self-confidence and results in a sexual identity crisis which results in a decline in life quality (10). Life quality has a wide range of definitions. Some believe that it is the ability of an individual to manage life from his/her standpoint, as such, fertility status and its factors can put social and psychological pressures on the person. It lowers sexual pleasure and life satisfaction, meaning a decline in quality (11). Donald considers quality of life as a descriptive term. Quality of life is a perception that an individual holds of their state of health which has a feeling of contentment within, and is accompanied by happiness and joy (12).

Downey and Mckinney (13) declared that women who sought treatment for fertility problems suffered from greater depression, anxiety and stress, along with decreased dyadic cohesion. Most researchers reported increased marital quarrels among infertile couples, which in some cases led to separation (14). Decreasing familial disputes and striving to gratify the partner's desires could alleviate these problems (15).

In this regard, a host of researches have confirmed efficacy of couples therapy for decreasing marital conflicts (13). As emotions play a central role in infertile couples' relationships, the emotionally focused approach is employed as short-term structured counseling of 9-20 sessions. This technique is used because it is a branch of couples therapy and because it takes advantage of emotions to develop the process. This method addresses communication disorders, marital discord, and persuades people to express their emotions and talk over them. From the standpoint of couples therapy, marital distress is mostly caused by negative emotions and attachment injuries (16). A study on 120 infertile couples in East India suggested that infertile men had problems with their character and social interactions. On the other hand, women displayed symptoms of depression. The study indicated that infertility spoiled gender concept, life quality, marital adjustment, and sexual relationships of the couples (17). Poor quality of marital relationship was followed by a number of social and familial troubles. Sterility along with other differences and problems between couples challenged the mind and social welfare of spouses. In general, a low quality within the marital relationship could be problematic when couples struggled with infertility (18, 19).

As a result, attention to psychological needs of infertile couples is essential for successful infertility treatment. Each partner requires support and empathy while undergoing treatment (20). There are a variety of practices to cope with psychological reactions of infertility, among which is emotionally focused therapy for couples (EFT-C) which merges three approaches of systematic, humanistic (empiricism) and attachment theory. This therapy was founded by Johnson and Greenberg in the early 1980s. Given the major role of emotions in attachment theory, EFT-C emphasizes emotions and employs them to organize interaction patterns (16). Hence, EFT-C concentrates on the emotional relationship of couples as a basis to tackle their problems. EFT-C has a process of 9 steps as follows (21):

Step 1: Evaluation, making contact, and then recognition of tensions between couples from the standpoint of attachment.

Step 2: Identification of the cycle of negative interactions that sustain anxiety and bring about insecure attachment.

Step 3: Discerning the underlying feeling or emotion not yet expressed in couples' interactions that is being concealed.

Step 4: Reframing the problems resulting from the cycle of negative interactions, unmet urges, needs and emotions in order to explore the cycle.

Step 5: Having access to fears and needs of attachment.

Step 6: Promotion of acceptance by the other spouse.

Step 7: Smoothing the way for expression of needs and wants, and restructuring new models of interaction on the basis of perceptions and knowl-edge obtained from the process.

Step 8: Providing new solutions for old challenges.

Step 9: Strengthening new positions and patterns of behavior (16).

Thus, showing emotions and attachment needs along with sincere fulfillment by the partner constitute the process of EFT-C and are necessary for change (22, 23).

In light of the points previously mentioned, the current study intends to meet the necessity for enhancing marital adjustment of infertile couples people who suffer from poor life quality and are locked in marital disputes. In addition, the results can serve as a practical map or a manual for counselors, psychotherapists and family therapists to raise their clients' self-esteem and show mismatch in communication methods between individuals.

Materials and Methods

This semi-experimental method with a pre- and post-test design was conducted on a sample group of 15 couples and a control group of the same number. Initially, demographic characteristics of the subjects were collected. Next, they were tested prior to conducting the independent variable (EFT-C). According to Johnson's plan (24), couples in the sample group underwent 10 EFT-C sessions of 120 minutes duration conducted twice per week. By the end of the term, subjects were again tested. To meet ethical standards, a compact course of 4 weeks was offered to volunteers from the control group.

The sample population comprised couples married for 10 years who attended infertility clinics in pursuit of treatment during 2013. According to purposive sampling, 30 couples (60 individuals) were selected in terms of poor marital adjustment and low sexual satisfaction. Couples were then divided into two groups of 15 couples (15 men and 15 women); one as control group and another as sample population.

Infertile couples attended fertility clinics. The data-gathering tools were demographic charac-

teristics and World Health Organization (WHO) quality of life questionnaires.

Data were analyzed using SPSS software (version 18) by application of the methods of mean calculation plus minimum and maximum standard deviation from descriptive statistics and analysis of covariance from inferential statistics (alpha 0.81). In order to use analysis of covariance, first the equality of variances was noted. Hence, the hypothesis was examined by the Levin test. Table 1 points out the treatment protocol used in this study, this protocol is emotionally-focused therapeutic approach, which have been provided to the couple during 10 sessions.

Ethical consideration

In order to observe ethical considerations, a few tutorial sessions were held over four weeks for the control group that did not receive EFT-C.

Research tools

Questionnaire of Demographic Characteristics: This questionnaire comprised parameters of age, gender, education level, occupation, income level, cause of infertility, duration of infertility, duration of marriage, number of surgeries, date of last surgery, history of attending psychological or counseling sessions, history of any chronic physical or psychological disorders.

Spanier's Dayadic Adjustment Scale: This scale (25) consists of 32 questions based on a Likert approach of responding which measures the total score of marital adjustment within a range of 0 to 15. People who score 101 or less, according to Spanier, are supposed to be maladjusted and those with higher scores are considered well-adjusted. In a study by Hassan shahi (26), well-adjusted couples had an average score of 114.7 ± 17.8 whereas the average score of maladjusted couples was 70.7 \pm 23.8. Spanier grouped the data into four subscales of marital satisfaction, dyadic consensus, dyadic cohesion, and affectional expression with evaluated validity of 0.94, 0.90, 0.81 and 0.73. The entire scale had a validity of 0.96. Reliability was 0.86 according to Pearson's correlation coefficients between Spanier's scale and the Locke-Wallace Marital Adjustment Scale. Hassan shahi (26) evaluated the validity of Spanier's scale in Iran by calculating the cohesion between the Locke-Wallace Marital Adjustment Scale and Spanier's scale (25).

The Effectiveness of EFT-C on Infertile Couples

Step	Purpose	Session	To do
1	Identification	1	Collect general information about the couple; introduce the therapist to the partners, inves- tigate grounds and expectations of participation, define the method of EFT-C in addition to concepts of infertility, conflict, marital adjustment, sexual satisfaction, and life quality, ask the couple for their opinion on the method and concepts; identify negative cycles, assess couple's way of dealing with issues, discover attachment blocks as well as personal and interpersonal tensions, evaluate status of marital relationship, sexual satisfaction and quality of life.
			Task: Pay attention to positive and negative emotions, i.e., joy, happiness, anger, hate, sad- ness, jealousy, anxiety, etc.
		2	Appoint a separate session for each partner to discover significant events and information that is not feasible to discuss in the presence of the other, such as commitment to marriage, extramarital relationship, exporter attachment trauma, assess the fear of revelation.
			Task: Pay attention to your partner's cycle of interaction.
2	Change	3	Ascertain interaction patterns and ease acceptance of the experienced emotion, discern every partner's fears of insecure attachment, help each partner with openness and self-disclosure, continue the therapy.
			Task: Discern pure emotions, thoughts, and sentiment.
		4	Restructure the bond through clarification of key emotional reactions, widen the emotional experience of each spouse to create new ways of interaction, partners should accept new patterns of behavior.
			Task: Express pure emotions and sentiments.
		5	Task: Deepen the relationship by recognizing recently developed needs of attachment; improve personal health and relationship status, express pure emotions and sentiments.
		6	Establish a safe therapeutic alliance, develop new ways of interaction, promote acceptance of the other, discover deep-seated fears and express needs and wants.
		7	Restructure the emotional experiences of the couple, clear the needs and wants of each partner.
			Task: Underline strengths and weakness.
3	Stabilization	8	Support couple in finding new solutions to past problems, change problematic manners of behavior, facilitate steps the couple can take to invest in their responsive and accessible positions, sync the inner feelings and concepts to the relationship, encourage in positive reaction.
			Task: Find new solutions to past problems.
		9	Take advantage of therapeutic achievements within daily life to consolidate intimacy, continue with the therapy and its direction, create secure attachment, discern and support constructive patterns of interaction, help the couple shape a story about their future together.
			Task: Practice the techniques in daily life.
		10	Ease the end of the treatment, Maintain therapeutic changes, draw a comparison between the past and present cycles of interaction, keep an emotional involvement to the deepest status of relationship.

Table 1: Johnson's Protocol of emotionally focused therapy (EFT-C) for infertile couples

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World Health Organization (WHO) Quality of Life-BREF (WHOQOL-BREF): This scale is comprised of 26 questions in areas of physical health (7), psychological health (6), social relationships (3), and environment (8) along with 2 additional questions about quality of life. WHO developed this widely used questionnaire to assess general domains of health. Every question is rated on a Likert scale from 1 to 5. A higher the score assumes better quality of life. The psychometric quality of the questionnaire has received approval in a large number of countries, including Iran (26-28).

According to reports prepared by the scale-makers of WHO from 15 international centers, Cronbach's alpha for the quad subscale and the entire questionnaire ranged between 0.73 and 0.89. Rahimi (29) evaluated reliability of the WHOQOL-BREF and determined it to be 0.88 for the entire scale. Cronbach's alpha of physical health, psychological health, social communication, and quality of life environment were calculated to be 0.88, 0.70, 0.77 and 0.65.

Results

There were 30 participants (15 couples). Of these, there were 30 (31.7%) individuals with diplomas which was the maximum education level and 10 (11.7%) who had secondary school certificates, as the minimum education level. Duration of marriage in subjects was 10 years. The average age of participants was 33.8 ± 5.03 years. Table 2 shows the pre- and post-test scores on marital adjustment and aspects of quality of life in the control and sample groups and table 3 points out the Kolmogorov-Smirnov Test which has used to determine normality of the data.

As the table indicates there was no significant difference between groups in the subscales of marital adjustment (P>0.05). Therefore both groups were the same at the pre-test. According to table 4, it could be inferred that no significant difference existed between groups in the WHOQOL-BREF at the pre-test stage (P>0.05).

	Study groups									
Subscales		Control		Sample		Total				
		Mean	SD	Mean	SD	Mean	SD			
Pre-test	Dyadic satisfaction	22.17	4.32	21.27	4.27	21.72	4.29			
	Dyadic cohesion	7.97	2.08	7.37	2.19	7.67	2.14			
	Dyadic consensus	24.20	5.93	21.80	6.52	23.00	6.30			
	Affectional expression	4.67	1.30	4.40	1.33	4.53	1.31			
	Physical health of the couple	18.87	3.10	19.73	2.03	19.30	2.64			
	Psychological health of the couple	15.40	2.40	15.27	1.55	15.33	2.01			
	Social Relationships	7.10	1.16	6.87	1.36	6.98	1.26			
	Social surrounding	21.97	3.34	22.43	2.10	22.20	2.77			
Post-test	Dyadic satisfaction	22.57	4.42	41.03	3.59	31.80	10.13			
	Dyadic cohesion	7.63	2.06	20.63	2.20	14.13	6.89			
	Dyadic consensus	21.33	7.08	54.10	5.13	37.72	17.62			
	Affectional expression	4.30	1.34	11.10	0.99	7.70	3.62			
	Physical health of the couple	16.90	3.35	31.67	2.26	24.28	7.97			
	Psychological health of the couple	14.23	2.18	28.80	1.92	21.52	7.62			
	Social relationships of the couple	7.53	2.73	15.13	3.30	11.33	4.87			
	Social surroundings of the couple	20.60	3.91	33.57	4.74	27.08	7.83			

 Table 2: Average pre-test and post-test scores in control and sample groups

SD; Standard deviation.

Table 5 shows a significant difference between the control and sample groups (P < 0.001). According to the results, equality of the variances of the control and sample groups was approved (P>0.05). The result of the covariance analysis for comparison of average scores is shown in table 5. The degree of change as a result of EFT-C was as follows: marital satisfaction (86%), dyadic cohesion (92%), dyadic consensus (90%), affectional expression (87%), physical and psychological health (93%), social relationships (62%) and social surroundings (80%), which represented a significant improvement attributed to EFT-C.

Scales	Subscales	Statistic	Sample size	P value
Marital adjustment	Dyadic satisfaction	1.298	60	0.069
	Dyadic cohesion	0.909	60	0.380
	Dyadic consensus	0.813	60	0.523
	Affectional expression	1.550	60	0.97
Quality of life	Physical health	1.051	60	0.219
	Psychological health	1.091	60	0.185
	Social relationships	1.097	60	0.186
	Environment	1.016	60	0.253

Table 3: Kolmogorov-Smirnov test to investigate normality of the data

The data was approved as normal for all variables according to the Kolmogorov-Smirnov test (P>0.05).

Subscales	Group	Mean	SD	t *	df **	P value ***
Dyadic satisfaction	Control	22.17	4.32	0.811	58	0.421
	Sample	21.27	4.27			
Dyadic cohesion	Control	7.97	2.08	1.089	58	0.281
	Sample	7.37	2.19			
Dyadic consensus	Control	24.20	5.93	1.491	58	0.141
	Sample	21.80	6.52			
Affectional expression	Control	4.67	1.30	0.787	58	0.434
	Sample	4.40	1.33			
Physical	Control	18.86	3.10	-1.279	58	0.206
	Sample	19.73	2.03			
Psychological	Control	15.40	2.40	0.255	58	0.799
	Sample	15.26	1.55			
Social	Control	7.10	1.15	0.717	58	0.476
	Sample	6.86	1.35			
Environment	Control	21.96	33.3	-0.649	58	0.519
	Sample	22.43	2.09			

Table 4: Comparison of the groups in the subscales of marital adjustment and WHOQOL-BREF through the pre-test	t stage
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WHOQOL-BREF; World Health Organization Quality of Life-BREF, SD; Standard deviation, *; Paired t test, **; Degrees of freedom and ***; Probability of rejecting the null hypothesis.

Aspects	Freedom	Mean square		F Value		P value		Effect size		Statistical power	
	Pretest	Pretest	Group member ship	Pretest	Group member ship	Pretest	Group member ship	Pretest	Group member ship	Pretest	Group member ship
Dyadic satisfaction	1	141.80	5238.84	10.12	373.95	0.002	0.001	0.15	0.86	0.87	1
Dyadic cohesion	1	56.08	61.47	15.38	16.86	0.001	0.001	0.21	0.92	0.97	1
Dyadic consensus	1	417.16	16503.136	13.20	522.54	0.001	0.001	0.188	0.902	0.947	1
Affectional expression	1	42.28	3060.73	5.59	404.70	0.021	0.001	0.089	0.88	0.64	1
Psychological health	1	33.26	3201.08	8.990	865.14	0.004	0.001	0.14	0.94	0.84	1
Social relationships	1	9.083	875.42	0.99	95.62	0.32	0.001	0.017	0.62	0.16	1
Social surroundings	1	116.70	2602.69	10.52	234.60	0.002	0.001	0.16	0.807	0.89	1

Table 5: ANCOVA of marital adjustment and WHOQOL-BREF in couples

ANCOVA; Analysis of convariance and WHOQOL-BREF; World Health Organization Quality of Life-BREF.

Discussion

According to the results, EFT-C had a significant positive effect on marital adjustment. There was improvement in the dyadic satisfaction, dyadic cohesion, dyadic consensus, affectional expression, dimensions of life quality, physical and psychological health, social relationships, and social surroundings subscales. The difference was observed between the control and sample groups as well as between the pre- and post-test results. Findings of this study were consistent with previous studies. Aarts et al. (30) through their research indicated that scores of anxiety, depression, and poor life quality in fertility clinics were related to each other. Consideration of these factors could create positive experiences. They concluded that EFT-C could improve an infertile couple's quality of life and decrease the level of anxiety and depression. This influence has been attributed to the power of emotions over marital relationships. Emotions play a key role in an infertile couple's relationship which deserves attention. It is recommended to apply this approach for 9 to 20 structured sessions, as it is both a branch of couples therapy and focuses on emotions. EFT-C addresses communicative disorders and maladjustment and encourages people to speak about their emotions. From the standpoint of EFT-C, marital distress originates from negative emotions and attachment injuries.

The findings of present study were consistent

with results of studies by Soltani et al. (31), Zuccarini et al. (32) and Vizheh et al. (33). According to research by Soltani et al. (31) on the influence of EFT-C on couple intimacy in Shiraz, it was suggested that EFT-C could improve emotional, psychological, sexual, physical, communicative, ethical and mental dimensions of couples. However it had no effect on their spiritual and social dimensions.

The results of present study corresponded with findings of Michelle (34) and Tie and Poulson (35) with respect to dyadic consensus. The results of present study also matched findings of Pinto-Gouveia et al. (36) in terms of mutual affection.

Of note, infertile couples tend to express negative and damaging feelings, remarks, sarcasm and criticism rather than empathy while their spouse is trying to deal with an issue (infertility). According to Morin-Papunen and Koivunen (37), marital satisfaction of infertile couples is significantly lower than fertile couples with regards to mutual affection. Onat and Beji (38), in an investigation into the marital life and relationship of infertile couples, have declared that the stress coming from the inability to conceive negatively influenced the couple's relationship. EFT-C could significantly improve the sexual relationship of the partners.

With regards to physical health of the couples, our findings were consistent with the results of research by Peterson et al. (39) who stated that counseling could improve physical and psychological health of infertile couples. They asserted that psychological counseling through persuasion of the clients to continue with medical treatments significantly improved both their psychological status and physical health.

Our findings were also compatible with the results of Naamen et al. (40) which revealed that social support and understanding played an important role in psychological health of infertile couples, which motivated the couples to continue with infertility treatment and reduced the call for divorce. Javidi et al. (41) indicated that EFT-C had influential effects on family functioning, inasmuch as this protocol took advantage of a systematic approach which refined the inflexible interaction patterns of couples in distress and strengthened their bonds. Soltani et al. (42) concluded that EFT-C was capable of promoting marital adjustment of infertile couples.

Najafi et al. (43) evaluated studies about questionnaires of life quality among infertile couples. Through screening all studies, they found 10 general and 2 specialized inventories. Although no meta-analysis was found, infertility negatively influenced couples' quality of life. This research indicated that general questionnaires (SF-36, WHO-QoL, and FERTI-QoL) were mostly used for evaluation of infertile couples quality of life.

Ramezanzadeh et al. (44) investigated the emotional adjustment of infertile couples. They concluded that people unable to conceive suffered from psychiatric disorders (particularly stress and depression) which led to emotional maladjustment.

Conclusion

EFT trains couples to give stronger support to each other, corrects their patterns of behavior and raises their accessibility accompanied by responsiveness to the partner's needs in order to achieve an optimal sexual relationship.

The present study showed that EFT-C significantly increased satisfaction, cohesion, consensus and affection expression of the partners. The life quality of infertile couples remarkably grew which was attributed to EFT-C. This method improved the social relationships of infertile couples and improved their physical and psychological health. The findings have opened a window for family therapists to conduct more practical and clear counseling in order to improve their client's selfworth and assist with self-disclosure, as well as revision of wrong communicative patterns which can lead to a decline in marital disputes and increase in adjustment. In addition, the results have shown that EFT-C has a significant effect on enhancement of sexual satisfaction in infertile couples by increasing physical sexual satisfaction as well as emotional sexual satisfaction.

We recommend that similar research be conducted with different populations (in addition to infertile couples) that have diverse levels of education. In addition, follow-ups should be conducted at later months in order to compare the results.

Constraints of the study included the enrollment of couples that had a minimum educational level of a diploma. Hence, to generalize the results of the present study to illiterate individuals, measures of prudence should be taken. The study was performed in one province. Generalization of the findings to other statistical areas should be made with caution.

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Discovery of a Partner Affair and Major Depressive Episode In a Probability Sample of Married or Cohabiting Adults

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Abstract

Prior research has found that humiliating marital events are associated with depression. Building on this research, the current study investigated the association between one specific humiliating marital event – discovering that one's partner had an affair – and past-year major depressive episode (MDE) in a probability sample of married or cohabiting men and women who were at high-risk for depression based on the criterion that they scored below the mid-point on a measure of marital satisfaction (N= 227). Results indicate that (a) women were more likely than men to report discovering their partner had an affair in the prior 12 months; (b) discovering a partner affair was associated with past-year MDE and lower levels of marital adjustment; and (c) the association between discovering a partner affair and MDE remained statistically significant when holding constant demographic variables and marital adjustment. These results support continued investigation into the impact that finding out about an affair has on the mental health of the person discovering a partner affair.

Keywords

affair; infidelity; cheating; depression; major depressive episode; marital adjustment

There is a large body of literature linking stressful life events with the onset, severity, and course of depression (for a review, see Hammen, 2005). In evaluating the association between stressful life events and depression, researchers have developed various ways of classifying stressful events. Brown, Harris, and Hepworth (1995) developed a descriptive typology of life events, in which severely threatening life events were categorized in terms of their probability of eliciting certain kinds of feelings. Specifically, events were categorized into the three broad themes of humiliation, loss, or danger. The term humiliation was used to convey that events in this category result in the person being devalued with respect to self or others. Examples of humiliating events include discovery of infidelity and direct verbal or physical attack. Relative to events characterized by loss or danger, life events characterized by humiliation were associated with a greater risk of depression in both patient and nonpatient samples of women.

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Brown et al. (1995) reported that humiliation events most often involved spouses or lovers. Since then, researchers have examined the association between depression and humiliating events specifically occurring in intimate relationships. One study focused on married women who had experienced a severe negative marital event (the most frequent of which were marital separation, infidelity, and physical aggression) in the month prior to the study, and found that the rate of a major depressive episode (MDE) was higher than rates based on community samples (Christian-Herman, O'Leary, & Avery-Leaf, 2001). Another study found that compared to women who did not report finding out that their partner had engaged in infidelity or threatened marital separation, those who had experienced one of these humiliating marital events were at elevated risk of MDE (Cano & O'Leary, 2000). Results from these studies suggest that life events involving humiliation in intimate relationships may be important correlates of depression in women.

The present study was designed to replicate and expand upon prior studies evaluating the association between humiliating marital events and depression. The focus of the present study was on one specific humiliating marital event – infidelity. The decision to focus on only one specific event is consistent with research that has examined the association between depression and other specific humiliating marital events such as separation or divorce (e.g., Cohen, Klein, & O'Leary, 2007). Approximately 22% to 25% of men and 11% to 15% of women report that they have engaged in extramarital sex sometime in their lifetime, with an estimated 1.5% to 4.0% of married individuals reporting that they engaged in extramarital sex in the past year (for a review, see Allen et al., 2005). Infidelity is the most common cause for relationship dissolution across societies (Betzig, 1989) and most people in the United States disapprove of extramarital sex (e.g., Treas & Giesen, 2000; Wiederman, 1997). For example, a 2013 Gallup Poll found that 91% of Americans reported that having an affair is morally wrong (Newport & Himelfarb, 2013).

To date, there is relatively little research specifically evaluating the association between discovery of infidelity and depression. One study found that discovery of a spouse or partner in a close relationship being unfaithful sometime during one's life was associated with lifetime prevalence of any assessed mental disorder (i.e., mood, anxiety, and substance use disorders) (Turner & Lloyd, 1995). However, this study examined lifetime prevalence of both infidelity and psychiatric disorder and did not evaluate the association between discovery of partner affair and specific disorders. Two studies evaluated the association between infidelity and depressive symptoms for couples in treatment, and both studies found that relative to non-infidelity couples, higher levels of depressive symptoms were reported at intake by couples who reported that previous or ongoing extramarital sexual activity was an active issue (Beach, Jouriles, & O'Leary, 1989) or couples in which at least one partner endorsed infidelity from a list of relationship problems (Atkins, Marin, Lo, Klann, & Hahlweg, 2010). When examined separately by partner, however, Beach et al. (1989) reported that it was the person who engaged in extramarital sex who displayed higher levels of depression but not the partner of the person. Because these two studies examined couples who were seeking couple therapy, it is possible that they were more remorseful than most perpetrators and/or were experiencing less humiliation and powerlessness than most partners, suggesting that these results may not parallel results based on community samples. Furthermore, both of these studies evaluated depressive symptoms rather than depressive

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disorder and neither study specified the timing of discovery of partner affair. Psychiatric diagnoses provide more information than symptoms as, by definition, they represent clinically significant level of distress, impairment in psychosocial functioning, or both. Furthermore, symptom inventories perform only adequately in predicting psychiatric cases from controls, which is likely due to symptom measures not measuring impairment (e.g., Fechner-Bates, Coyne, & Schwenk, 1994).

The present study was conducted to evaluate the association between discovery of a partner affair during the past year and 12-month prevalence of MDE in a probability sample of married or cohabiting individuals who scored below the midpoint on a measure of marital satisfaction. Because prior research involving probability samples have found that lower marital satisfaction is associated with the prevalence (e.g., Whisman, 1999, 2007) and incidence of depressive disorders (e.g., Overbeek et al., 2006; Whisman & Bruce, 1999) and the prevalence (e.g., Atkins, Baucom, & Jacobson, 2001; Whisman, Gordon, & Chatav, 2007) and incidence (e.g., Previti & Amato, 2004) of infidelity, the study can be considered as evaluating the association between discovering of partner affair and MDE in a high-risk sample. It was hypothesized that compared to individuals who did not find out their partner was having an affair, those who did discover an affair would be more likely to meet criteria for MDE. A second aim of the study was to evaluate whether discovery of partner affair was uniquely associated with MDE after statistically controlling for marital adjustment.¹ Because marital adjustment is associated with both infidelity and depression, it is important to evaluate whether any observed association between discovery of a partner affair and depression is incremental to their potential shared association with marital adjustment. A final aim of the study was to examine the specificity of the association between discovering a partner affair and depression through testing whether discovery of a partner affair was associated with other psychiatric disorders. Based on prior findings that lower marital adjustment is concurrently (e.g., Whisman, 1999, 2007) and prospectively associated with incidence of social phobia (Overbeek et al., 2006) and alcohol use disorders (Overbeek et al., 2006; Whisman, Uebelacker, & Bruce, 2006), the association between discovery of a partner affair and 12-month prevalence of these disorders was evaluated.²

Methods

Participants

Data were taken from respondents who participated in the 2001–2003 follow-up re-interview (i.e., the NCS-2) of the National Comorbidity Survey (NCS), because the question about discovery of partner affair was included only in the NCS-2. The NCS (Kessler et al., 1994) is a nationally representative United States survey of 8,098 respondents aged 15–54 years carried out between 1990 and 1992. Interviews were conducted by professional survey

¹A distinction is being made between marital satisfaction and marital adjustment, which is in keeping with definitions made by other researchers (for a review, see Fincham & Rogge, 2010). Measures of *adjustment* combine objective characteristics of the relationship (e.g., processes believed to be necessary to achieve a functional relationship) and subjective evaluations of the partner and the relationship, whereas measures of *satisfaction* assess only subjective evaluations. ²Although discovery of a partner affair may result in emotional and behavioral symptoms that characterize post-traumatic stress

²Although discovery of a partner affair may result in emotional and behavioral symptoms that characterize post-traumatic stress reactions (e.g., Englehard, Arntz, & van den Hout, 2007; Gordon, Baucom, & Snyder, 2004), the association between discovery of a partner affair and PTSD was not examined because PTSD symptoms were assessed only for people who reported a DSM-IV trauma (e.g., events involving actual or threatened death or serious injury or other threat to physical integrity).

interviewers and administered in two parts. Part I, which included the core diagnostic interview, was administered to all respondents. Part II, which included additional disorders and risk factors, was administered to a probability subsample of 5,877 respondents including (a) all respondents aged 15–24 years, (b) all others with any lifetime DSM-III-R disorder assessed in Part I, and (c) a random subsample of remaining Part I respondents. The NCS-2 involved a re-interview of NCS Part II respondents between 2001–2002. Of the original 5,877 respondents, 5,463 were tracked down and a total of 5,001 were re-interviewed, yielding a conditional response rate of 87.6%. NCS-2 respondents were assessed using an expanded version of the baseline NCS interview. Relative to other baseline NCS respondents, NCS-2 respondents were significantly more likely to be female, well educated, and residents of rural areas. A propensity score adjustment weight (Rosenbaum & Rubin, 1983) corrected for these discrepancies; weighted data were used in all analyses.

The NCS-2 included 2,958 married and 419 cohabiting individuals (hereafter referred to as married individuals for ease of discussion), and 3,356 of these people (99.4% of the eligible sample) completed the marital satisfaction item described below. Of these people, 228 (6.8%; 6.4% after weighting) scored below the midpoint on the measure of marital satisfaction. The developers of the NCS-2 decided that only those people who scored below the midpoint were asked the question about discovery of a partner affair, and the present analyses included only those people. One person who did not complete the item asking about partner affair was excluded from the analyses, leaving a final sample of 227 people.

The final sample used in this study consisted of 129 women (56.8% of the sample) and 98 men; after weighting, women made up 54.5% of the sample. The weighted sample was 69% White, 15% Black, 13% Latino, and 3% other. After weighting, on average participants were 44.3 years old (SD = 9.4; range 26–66) and had 2.4 children (SD = 1.6).

Measures

Discovery of a partner affair—Participants who scored below the midpoint (i.e., 5) on the measure of marital satisfaction (described below) were asked several questions about events that may have occurred in their relationship, including the question "Did you find out about your spouse/partner having an affair in the past 12 months?"

Marital satisfaction—Marital satisfaction was measured with a single item, on which participants rated their marriage on an 11-point scale, anchored at 0 (*the worse possible marriage*) and 10 (*the best*). Single-item measures of marital satisfaction are commonly used in epidemiological survey research (e.g., Glenn & Weaver, 1981), are stable over time (e.g., Atkinson, 1982), and correlate highly with multi-item measures of marital satisfaction and other relationship constructs (e.g., Hunsley, Pinsent, Lefebvre, James-Tenner, & Vito, 1995; Huston & Chorost, 1994).

Marital adjustment—Marital adjustment was measured with 14 items from the widely used Dyadic Adjustment Scale (DAS; Spanier, 1976). The scaling and response options, however, were modified from the original DAS: 9 items rated on a 6-point scale in the original DAS were rated on a 5-point scale, 4 items rated on a 6-point scale in the original DAS were rated on a 4-point scale, and 1 item rated on a 5-point scale in the original DAS

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was rated on a 4-point scale. Items were recoded as necessary so that higher scores indicated greater marital adjustment. Items were standardized based on all married participants in the NCS-2 and averaged to create a composite scale ($\alpha = .87$); a constant was added so that the minimum score was 0.

Major Depressive Episode—Psychiatric diagnoses were based on the World Health Organization's Composite International Diagnostic Interview (CIDI; Kessler & Ustun, 2004), a fully structured lay interview that generates diagnoses according to the DSM–IV. The current analyses were based on 12-month MDE diagnosis. Blinded clinical reinterviews assessed concordance of CIDI diagnoses with clinical diagnoses using the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 2002). Good concordance was found for MDE, with an area under the curve of 0.75 (Haro et al., 2006).

Results

There were 8 women and 5 men who reported discovering a partner affair, yielding a weighted 12-month prevalence of 7.3%. When examined by gender, the weighted percentage of women who reported that they discovered that their partner was having an affair during the prior 12 months was significantly greater than the weighed percentage of men who discovered a partner affair, b = 2.07, p = .01. The weighted 12-month prevalence for DSM-IV disorders was 17.1% for MDE, 13.6% for social phobia, and 7.4% for alcohol use disorder; the mean level of marital satisfaction was 4.0 (SD = 1.6, range: 0 - 5), and the mean level of marital adjustment was 2.4 (SD = 0.7; range: 0.0 - 4.1).

Multivariate logistic regression analysis was used to evaluate the association between discovery of a partner affair and MDE in this high-risk sample. Standard errors and significance tests were estimated using the Taylor series method implemented in SPSS Complex Samples to adjust for the weighting and clustering of the data. Past-year MDE status (0 = no, 1 = yes) was regressed on past-year discovery of a partner affair (0 = no, 1 = yes), statistically controlling for gender, age (26–35, 36–45, 46–55, 56–66), and race/ ethnicity (White, Black, Latino, other). The exponent of the logistic regression was computed and reported as an odds ratio (OR), and the 95% confidence interval (95% CI) was computed for each OR.

Results suggest that holding demographics constant, discovery of a partner affair was associated with a higher prevalence of past-year MDE, b = 2.30, OR = 10.00, 95% CI = 2.76, 36.16, $p = .001.^3$ In addition, holding demographics constant, marital adjustment was significantly and negatively associated with past-year MDE, b = -1.08, OR = 0.34, 95% CI = 0.18, 0.63, p = .001. To examine the association between discovery of a partner affair and marital adjustment, a linear regression analysis was conducted, in which marital adjustment was regressed on past-year discovery of a partner affair, holding demographics constant. Results indicated that discovery of a partner affair was significantly and negatively

³The bivariate association between discovery of a partner affair and MDE was also significant, b = 1.63, OR = 5.08, 95% CI = 1.12, 23.16, p = .036.

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associated with marital adjustment, b = -1.06, SE = .17, $\beta = -.39$, p < .001. After statistically controlling for demographics, people who found out their partner was having an affair reported a lower level of marital adjustment than people who did not discover a partner affair, d = -1.38.

To evaluate the second aim of the study – whether the association between discovery of a partner affair and MDE remained statistically significant when holding constant level of marital adjustment – MDE status was simultaneously regressed on discovery of a partner affair and marital adjustment, as well as demographics. After statistically controlling for demographics, past-year MDE was uniquely associated with both discovery of a partner affair, b = 1.58, OR = 4.85, 95% CI = 1.09, 21.66, p = .039, and marital adjustment, b = -0.85, OR = 0.43, 95% CI = 0.22, 0.84, p = .015.

The third aim of the study was to examine the specificity of the association between discovery of a partner affair and depression, which was evaluated through testing whether discovery of a partner affair was associated with other psychiatric disorders assessed in the NCS-2 that have demonstrated cross-sectional and longitudinal associations with marital adjustment in prior research. Holding demographics constant, discovery of a partner affair was not significantly associated with either social phobia, b = 0.79, OR = 2.21, 95% CI = 0.50, 9.85, p = .288, or alcohol use disorder (i.e., alcohol abuse or alcohol dependence), b = 0.84, OR = 2.31, 95% CI = 0.19, 27.94, p = .500.

Discussion

The present study was conducted to examine the association between past-year discovery that one's partner was having an affair and 12-month prevalence of MDE in a probability sample of married or cohabiting adults who were at high-risk because they scored below the midpoint on a measure of marital satisfaction. Results suggest compared to people who did not discover a partner affair, those who did report that during the prior 12 months they found out that their partner was having an affair had a higher prevalence of past-year MDE and a lower level of marital adjustment. The association between discovery of a partner affair and MDE was large in magnitude (e.g., the odds of meeting criteria for MDE for people who discovered their partner was having an affair were more than 9 times the odds for people who did not find out about a partner affair) and remained significant after statistically controlling for demographics and level of marital adjustment. In addition, there was no significant association between discovery of a partner affair and either social phobia or alcohol use disorders, which supports the specificity of the association between discovery of a partner affair and depression. Brown et al. (1995) hypothesized that humiliation events such as infidelity may result in helplessness, powerlessness, defeat, and hopelessness, and these factors may be more strongly associated with depression than either social phobia or alcohol use disorder. Discovery of a partner affair may, however, be associated with mental health outcomes other than those examined in the current study (e.g., generalized anxiety disorder, trauma- and stressor-related disorders), and examining these potential associations would be an important topic for future research.

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