On the Effect of Cognitive Behavioural Counseling on Sexual Satisfaction of Mothers with Autistic Children: A Randomized Clinical Trial

Leila Arbil (1)
Mitra Kolivand (2)
Farzaneh Golboni (2)
Effat MerghatiKhoei (3)
Mansour Rezaei (4)

(1)Nursing and Midwifery Faculty, Kermanshah University of Medical Sciences, Kermanshah, Iran
(2) Department of Midwifery, Nursing and Midwifery Faculty,
Kermanshah University of Medical Sciences, Kermanshah, Iran
(3) Iranian National Center for Addiction Studies (INCAS),
Tehran University of Medical Sciences, Tehran Iran
(4) Fertility and Infertility Research Center, Kermanshah University of Medical Sciences,
Kermanshah, Iran

Correspondence:
Farzaneh Golboni, Msc,
Department of Midwifery, Nursing and Midwifery Faculty,
Kermanshah University of Medical Sciences, Kermanshah Iran
Email: Farzanehgolboni@kums.ac.ir

Abstract

Introduction: Sexual satisfaction is one of the important factors affecting the quality of marital life which seems to be significantly decreasing among parents with autistic children.

Goal: the present study aimed to determine the effect of cognitive-behavioral counseling on sexual satisfaction of mothers with children with autism in Qom province in 2016-2017.

Methods: It was a randomized, single-blinded clinical trial. Samples of the study included all mothers with autistic children who were referred to the autism center of Qom province, Iran. According to the criteria of entry and exit, 30 mothers were selected and the research was explained to them and they signed written consents. Samples were randomly divided to intervention and control groups (n=15). The samples in both groups completed the Linda Berg and Karst sexual satisfaction questionnaire before the intervention, and answered demographic questionnaire. The intervention took place at the Autistic center in Qom, Iran for 8 sessions of 90 minutes. At the end of the third step of evaluation, the control group received a training program. At the end of counseling sessions, both groups received post tests immediately after finishing the program and four weeks later. Gathered data were analyzed using SPSS 19. Wilcox on test, paired t-test and Mann-Whitney test were also used for further analysis of data.

Results: Results from the analysis showed meaningful changes in sexual satisfaction mean scores of mothers with autistic children in the intervention group after receiving cognitive-behavioral counseling sessions compared to the control group. It was suggested that cognitive-behavioral counseling improved samples sexual satisfaction ($P<0.001$).

Conclusion: Results showed that cognitive behavioral counseling increased the sexual satisfaction of women with autistic children. Consequently, paying special attention to these women, especially in the area of sexual satisfaction, could increase their satisfaction of marital relationships, their longevity and their attempts to care for such children.

Key words: cognitive-behavioral counseling, sexual satisfaction, autism, mothers

Introduction

Sexual satisfaction is the emotional response that results from a person's subjective assessment of positive and negative dimensions of intercourse [1]. Sexual satisfaction is one of the important factors in satisfying marital life, and usually those who have more sexual satisfaction report a better quality of life than those who report no sexual satisfaction[2]. One of the factors influencing women's sexual satisfaction is chronic diseases and conditions of children, including autism, causing major confusion in marital life. Autism is one of the most common psychiatric disorders in children affecting one in every 50 live births; it is defined as a disorder characterized by a variety of developmental disorders, usually associated with delays or problems in cognitive, social, emotional, verbal, sensory and motor skills [4]. Due to many physical and psychological problems of autistic children, including communication disorders, restlessness, behavioral stereotypes, etc., having these children in the family is a very big and stressful experience for parents that can lead to anxiety, distress, and persecution between the couple. Although the autistic child's parents experience these crises, since in most societies mother has the responsibility of the child's physical and mental care, mothers with autistic children face more complex challenges and problems after giving birth to a child with autism; they may even be partially socially excluded [5-7]. Several reasons could justify such stress and dissatisfaction among mothers with autistic children, such as reducing the stimulus and pleasure of interpersonal interactions, the emergence of interpersonal problems especially between mother and father, reducing the total pleasure and satisfaction of women from life or shifting the pleasure to child care, which may lead to mothers' self-neglect [6-8]. Singan et al. (2010) reported divorce rates of 13.8 % and 23.5% among parents without and with autistic children, respectively [9]. Therefore, it seems that mothers with autistic children require counseling in a variety of contexts as well as sexual satisfaction in order to survive and improve their quality of life.

Shorfen Gaue et al. (2010) showed that parents with children with autism suffer from a higher mental burden than normal children's parents [10]. Mothers of these children showed less marital satisfaction, love, coherence and family cohesion than their fathers. Tavakolizadeh et al. (2013), Hesam Khageh et al. (2013), Nemati et al. (2012) and Hoyer et al (2009) investigated the effect of cognitive-behavior counseling on satisfaction, marital quality and sexual dysfunction and reported that a significant number of clients had improved after counseling, indicating a significant difference and effect on subjects' disorder [11-14].

Different approaches and methods have been used while counseling on sexual satisfaction. Cognitive-behavioral counseling is known as an effective approach in treatment of sexual dysfunction [15]. As a result, cognitive-behavioral counseling can be helpful to increase sexual satisfaction and improve the quality of life of mothers with autistic children.

A significant increase in the prevalence of autism disorder in the last three decades has motivated many studies in the field to acquire a better understanding of biological and genetic symptoms associated with the causality and incidence of autism. However, limited research has been conducted on the relationship between the symptoms of this disease and family functioning. Regarding the role of sexual satisfaction in couples' pleasure and increasing their physical and mental potentials to deal with the problems of autistic children on one hand and considering the human rights of women for having a pleasant sexual relationship, the researcher conducted a study on the effectiveness of cognitive-behavior counseling on sexual satisfaction of mothers with autistic children in 2016 and 2017.

Methodology

It was a randomized, single-blinded clinical trial. Being approved by the Ethics Committee number IR.KUMS.REC.1395.538 in Kermanshah University of Medical Sciences research center, and submitted in clinical trial center number IRCT2016111130830N1, the present study investigated mothers with autistic children referring to autism centers in Qom, Iran. 30 mothers were randomly selected and divided into intervention and control groups (n=15). Using the formula for estimating sample size for comparing two ratios in two groups and considering parameters such as confidence interval %95 (1-α), test power of 90% (1-β) and other parameters of this formula, sample size was defined based on the results from a similar study by Nemati et al. [13]. Participants in the control and intervention groups were selected using random assignment method in different autism centers since mothers with autistic children attending a same center showed a strong relationship for their common problems. It was hypothesized that if the participants in the two groups attended the same center, there would be a possibility to transfer information. Easy and random sampling was used to choose participants as mothers attending the centers on even days were set in the counseling group and those referring on odd days were set in the control group. Randomized placement with cards A and B was used to select intervention and control groups. In order to hide the randomization process, a research collaborator (a staff member at the Autism Centers) was requested to run sampling and do group assignments without knowing the nature of the cards A and B to select participants in intervention or control groups. In this study, the research fellow was in charge of the randomization and concealment of allocation and implementation was carried out by the researcher. Blinding the study was performed by data analyzer so that the subjects of intervention and control groups were identified by the codes (for example, 1 and 2) while the analyzer was not aware of the subject matter of the codes. Recalling in the autism centers of Qom, 30 qualified mothers interested in participating in this research were selected, and were informed about the goals of the plan. They signed consent to their participation in the study. The criteria for entering the study included: age range of 25-45, non-pregnancy, non-use of psychotropic drugs, non-use of psychosocial drugs, non-addiction, education

Table 1: Cognitive-behavioral consulting sessions

Sessions	Subjects	Content	Techniques
First	Meet the participant and explain the program	-Touch and talk -Support for meeting schedule - Emphasize the confidentiality of the issues raised in the consultation sessions - Describe the counseling structure (such as the number of counseling sessions, the length of the consultation, and the venue for meetings) - Evaluation of marital relations disorders seen after the birth of a child with autism. - Familiarity with organs and sexual function of women and men	
Second	Participatory education on cognitive-behavioral approach with emphasis on sexual behaviors	- Review the contents of the previous session - A discussion on the effect of thoughts on sexual feelings - Discuss the impact of sexual practices on mood -Theoretical and practical teaching of relaxed tone, gradual relaxation of the muscles of the body, especially in the pelvic region and breasts -To provide homework (write feelings when feeling depressed, anxious or tense and encouraging to discover what is behind these feelings and writing these thoughts in front of each feeling in the table, practicing relaxation 10 minutes a day) - Conclusion	How thoughts lead to feelings.
Third	Knowing negative thoughts and beliefs in the domain of sexual behavior and belief in these thoughts	-Review previous session assignments - Understanding your negative thoughts and their ability to differentiate them from reality - Learning how to assess the degree of excitement and the strength of belief in negative thoughts on sexual behavior - Proposals for emancipation from negative emotions by the mother - 10 minutes of relaxation - Providing homework at home (writing negative thoughts during the week and writing the possible facts for any negative thoughts in the table introduced, and ranking the strength of these excitements and belief in these thoughts from zero to 100, practicing relaxation 10 minutes a day) - Conclusion	- The technique of distinguishing thought from reality and communicating it using the A-B-C technique - Emotion grading technique and the amount of belief in thought
Fourth	Getting to know self-awareness about sexual behaviors	- Review previous session assignments - Getting to know self-awareness thoughts - Proposals for emancipation from negative emotions by the mother - Learning about respiratory relaxation - Assign homework (writing negative thoughts and writing the source of these thoughts acquainting and learning cognitive distortions that are sources of thoughts presented in the table, and practicing relaxation 10 minutes a day) - Conclusion	The technique of categorizing cognitive distortions
Fifth	- Investigating evidence confirming and rejecting negative beliefs on sexual behavior - First-degree sensory concentration training	-Review the previous session assignments -Knowing the evidence supporting and rejecting negative beliefs about sexual behaviors - Using questions and answers, the participants' information is indicated on the sensory focus of the first type and their incorrect information is reformed. - Practicing relaxation for 10 minutes using respiratory techniques -Assign homework (writing negative thoughts or beliefs, then writing evidence supporting that thought and its evidentiary in the table, practicing relaxation 10 minutes a day) -Conclusion	- The technique to review the evidence - Technique of how the thoughts create emotions.

Table1 continued

Sixth	Sensory Concentration Training Type One	-Review the previous session assignments -Sensitive focus assessment of the first type -Conclusion	How thoughts create feelings.
Seventh	Sensory Concentration Training type two	-Review the previous session assignments. -Using questions and answers, the participants' information is indicated on the sensory focus of the first type and their incorrect information is reformed. -Conclusion	How thoughts create feelings.
Eighth	Sensory Concentration Training type three	- Review the previous session assignments. - Evaluation of second-grade sensory concentration -Solve participant's problems regarding the exercises mentioned above - Conclusion - Complete the questionnaire	How thoughts create feelings.

at least at guidance school, fluent in Persian, living with a spouse, no history of psychiatry and depression requiring treatment, no history of psychosis or suicide, having no suicidal thoughts or severe neuropsychiatric disorders, not attending relaxation courses, yoga, etc., having a 5-year-old child with severe autism (certified by a psychiatrist or certified therapist of autism center or accredited university centers), lack of sexual dissatisfaction before giving birth to an autistic child. Exit criteria included: mothers who had complete sexual satisfaction according to the results from Linda Leaf sexual satisfaction questionnaire, being absent in two or more sessions of counseling sessions, lack of consent of the individual to continue participating in the study. Participants of both groups completed the Linda Berg and Krast Sexual Satisfaction Questionnaire and the demographics form before and after the intervention. The intervention group received 8 sessions of personal cognitive-behavioral consulting each lasting for 90 minutes in Qom autism centers in Winter and Spring 2016 (Table 1).

The major goals of consulting sessions included cognitive restructuring, reforming distorted cognitive thoughts and training exercises and techniques. After the end of the third step of the assessment, the control group also received an educational program. The post test was offered to both groups immediately at the end of program and four weeks after the intervention. LindaBerg and Karst questionnaire included 17 items and responses were in form of a Likert scale (totally agree=5 to totally disagree=1). Maximum and minimum scores in the test were 17 and 85, respectively. The questionnaire was developed by Linda Berg and Karst in 1997, and its validity and reliability was confirmed by Salehifadri in Iran [16]. Hosseini (2002) confirmed the reliability of sexual satisfaction questionnaire using Cronbach's alpha coefficients (r=0.83); also, Noorani et al. (2008) made use of test-retest process to confirm its reliability (r=0.89) [17, 18]. SPSS 19 was used to analyze the data. Descriptive statistics (mean and standard deviation) and inferential statistics were used to test the hypotheses. Wilcoxon test, paired t-test and Mann-Whitney test were used to compare the mean scores of groups before and after the intervention.

Results

There were 15 participants in intervention and control groups and the total number of participants equaled 30. The mean and standard deviation of mothers' age in the intervention group and in the control group were 31.33 ± 0.6 and 31.07 ± 0.62, respectively. The mean and standard deviation of the age of the child with autism in the intervention and control groups were 1.85 ± 8.2 and 0.33 ± 5.8 years, respectively. The mean and standard deviation of the children in the intervention group were 0.131 ± 1.6 and in the control group 0.131 ± 1.6. There were no significant differences between the intervention and control groups which suggested similar demographic data among both groups (Tables 2 and 3 - next page).

There was no significant difference between the mean of sexual satisfaction before the cognitive behavioral counseling in intervention and control groups. However, there was a significant difference reported between the mean score of sexual satisfaction after one month of cognitive-behavioral counseling in both interventional and control groups (Table 4).

Discussion

The results of the present study showed a significant difference in the level of sexual satisfaction of mothers with autistic children in the intervention group before, immediately after and one month after counseling, which could indicate the influence of cognitive-behavioral counseling on increasing sexual satisfaction; however, sexual satisfaction was not significantly different in the control group before, immediately after counseling and follow up one month later.

While reviewing the related literature, no specific study was conducted on the sexual satisfaction of women with autistic children and advice to improve their condition. Several studies made use of cognitive-behavioral counseling to investigate sexual satisfaction of women without autistic child, including Nemati et al. (2012) and

Table 2: Absolute and relative frequency of demographic variables of research units

Various variables	Relative Frequency of intervention group	Absolute Frequency of intervention group	Relative Frequency of intervention group	Absolute Frequency of intervention group	Control level*
Mother's education	0	0	0	0	
	6	40	8	53.3	0.463p=
	9	60	7	46.7	
Father's education	0	0	0	0	
	6	40	8	53.3	0.463p=
	9	60	7	46.7	
Mother's occupation	2	13.3	1	6.7	1p=
	13	86.7	14	93.3	
Father's occupation	4	26.7	3	20	
	5	33.33	5	33.33	1p=
	6	40	7	46.7	
Birth order of the autistic child	6	40	7	46.7	
	8	53.3	7	467	0.727p=
	0	0	1	6.7	
	1	6.7	0	0	
Gender of the autistic child	8	53.3	8	53.3	p=1
	7	46.7	7	46.7	
Income	0	0	0	0	
	10	66.7	9	60	0.705
	5	33.3	6	40	

*K2 test

Table 3. Qualitative comparison of intervention and control groups

Variables		Mean	SD	Test	P-value
Mother's age					
	Intervention	31.33	0.6	Independent T test	df=28 t= -0.309 P=0.76
	Control	31.7	0.62		
Child's age					
	Intervention	8.2	1.82	Mann-Whitney	Z= -1.86 P=0.063
	Control	5.8	0.33		
Number of children					
	Intervention	1.6	0.131	Mann-Whitney	Z=0 P=1
	Control	1.6	0.131		

Table 4. Comparison of sexual satisfaction before, after and one month after intervention in intervention and control groups

Sexual satisfaction		SD	Standard mean error	Z	sig
Before the invention		10.02			
Intervention	34.93		2.59	-0.897	0.369
Control	31.67	0.82	0.22		
After the intervention		16.59			
Intervention	73.07	3.27	4.28	-4.052	<0.001
Control	31.47		0.84		
A month later		3.88			
Intervention	74		1.04	-4.68	<0.001
Control	30.8	2.81	0.73		

* Mann-Whitney test

Mofid and colleagues (2014) that suggested increased sexual satisfaction in the intervention group using cognitive-behavioral counseling (P<0.05, p<0.05) [15, 19]. Also, Hoyer et al. (2009) showed that sexual dysfunction in most patients decreased by 63.2% after attending cognitive-behavioral counseling. Tavakolizadeh et al. (2012) reported that cognitive behavioral education was effective in increasing the marital satisfaction scores from intervention group compared to control group (p = 0.038) (p = 0.038) [11], and Hesam Khageh et al. (2013) suggested that the counseling was influential on quality of marital life and subscales of sexual satisfaction, sexual excitement, marital satisfaction and love (p <0.05) [12]; the results of these studies indicated that cognitive-behavioral counseling techniques, including participatory education on cognitive-behavioral approach with emphasis on sexual behaviors, knowing about the negative thoughts and beliefs on sexual behaviors and belief in these thoughts, getting to know about self-help thoughts on sexual behaviors, study the verifiable evidence and rejecting negative beliefs on sexual behaviors, training first-type sensory concentration, second-type sensory concentration training, relaxation techniques and muscle relaxation, may have improved women's sexual satisfaction and had positive effects on spouses, especially in relation to sexual relations, and marital satisfaction.

Considering the results of previous studies and this study, it can be concluded that cognitive-behavioral approach was effective on knowledge, attitude, self-confidence, sexual self-expression, etc. In this approach, behavioral exercises for individuals are not merely physical and mechanical factors, but they can influence the emotions and thoughts of individuals. For example, sensory concentration exercises in sessions enhances responsive responses, prevents unwanted tensions and anxiety, affects the relationship with the spouse, and couples improve their emotional relationships. This approach helps people express their sexual excitement freely about the wishes, interests, sexual needs and preferences of physical contact. In the cognitive-behavioral approach, attention is paid to the negative, maladaptive and irrational beliefs, thoughts, and cognitive understandings of the individuals, and it is favorable to replace these maladaptive notions, guilt feelings, or unconscious fears with proper cognitions [11-14, 19]. Most mothers with autistic children lack the ability to focus on pleasures and sexually pleasing thoughts due to their child's problems. Having thoughts, beliefs, attitudes, and, in general, disturbing sexual incompatibility and irrational knowledge, having thoughts that are not related to sexual issues (such as worry about the child) could prevent sexual satisfaction [6, 8]. Therefore, it is clear that parents with autistic children need to pay attention to cognitive factors to treat their sexual problems, and the lack of attention to it reduces therapeutic goals.

Conclusion

Results suggested that cognitive-behavioral counseling increased sexual satisfaction of women with autistic children. Careful attention to these women, especially in terms of sexual satisfaction, could lead to increased satisfaction with marital relationships, life expectancy and better care for such children. The limitation of this study included studying women with autistic children since it was not possible to conduct the study on men by female researcher due to the religious nature of Qom and the importance of gender homogeneity and the specific nature of the topic. We hope that the present study provides the basis for full interventions on couples. A strength to the present study was that it was one of the few studies that addressed one of the basic needs of families and couples, namely, sexual satisfaction.

Acknowledgment
The present study was driven from master's thesis in midwifery counseling. Hereby, the researcher appreciates all who collaborated in the research.

References

1. Castañeda D. The Essential Handbook of Women's Sexuality: ABC-CLIO; 2013. P: 26-30
2. Mohammadi A. An approach to solving the problem in the treatment of sexual problems. Tehran: Arjmand; 2015. PP: 7-8, 49-98
3. ChingShu B. Quality of life of family caregivers of children with autism; the mother's perspective. Autism. 2009;13(4):82-90.
4. Kliegman RM, Behrman RE, Jenson HB, Stanton BM. Nelson textbook of pediatrics: Elsevier Health Sciences; 2015.
5. Giallo R, Wood CE, Jellett R, Porter R. Fatigue, wellbeing and parental self-efficacy in mothers of children with an autism spectrum disorder. Autism. 2013;17(4):465-80.
6. Shtayermman O. Stress and marital satisfaction of parents of children diagnosed with autism. Journal of family social work. 2013;16(3):243-59.
7. Ahamdi Halamsoloti A., Pahang B., Saliminia N. The Effectiveness of Problem-Solving Education on the Quality of Life of Mothers of Pediatric Patients. Journal of Applied Psychology.2013; 4 (28):77-90.
8. Karst JS, Van Hecke AV. Parent and family impact of autism spectrum disorders: A review and proposed model for intervention evaluation. Clinical child and family psychology review. 2012;15(3):247-77.
9. Singan,L The Relative Risk and Timing of Divorce in Families of Children with an Autism Spectrum Disorder J Fam Psychol 2010 August;24(4):449-57.
10. Gau SS-F, Chou M-C, Chiang H-L, Lee J-C, Wong C-C, Chou W-J, et al. Parental adjustment, marital relationship, and family function in families of children with autism. Research in Autism Spectrum Disorders. 2012;6(1):263-70.
11. Tavakolizadeh J, HajiVosogh NS. The effect of Cognitive behavioral Teaching on marital satisfaction of women having hypoactive of sexual disorder. www. sjimu. medilam. ac. ir. 2013 Oct 15;21(5):44-50.
12. Khajeh A, BAHRAMI F, FATEHIZADEH M, ABEDI M, SAJJADIAN P. The Effect of Happiness Training Based on Cognitive Behavioral Approach on Quality of Marital life in Married Males and females. 2013; 3 (53): 11-21
13. Nemati,P. Karapetyan,V. Haghi,S. The effect of cognitive-behavioral couneseling on the level of anxiety in woman with sexual dysfunction. Life Science Journal. 2012;9(2):95-100.
14. Hoyer J, Uhmann S, Rambow J, Jacobi F. Reduction of sexual dysfunction: by-product of cognitive-behavioural therapy for psychological disorders? Sexual and Relationship Therapy. 2009;24(1):64-73.
15. Mccabe M. Evaluation of a cognitive behavioral therapy program for people with sexual dysfunction. Journal of Sexual and Marital Therapy. 2010; 27(3): 71-90.
16. Salehy Fadardy, J. The development and validation of marital satisfaction questionnaire on a sample of students of Ferdowsi university. Psychother Novelties. 1999;4(13,14):84-108.
17. Noorani S., Jonaidi Sh., Shakeri E., Mokhber M. Comparison of Sexual Satisfaction in Fertile and Infertile women referring to Mashhad State Centers. Fertility and Infertility.2009, 10 (4):77-269.
18. Hosseini, M. Effect of sex education on couple sexual and marital satisfaction [dissertation] Mashhad University of Medical Sciences. 2003; 9(5):114-117.
19. Mofid V., Ahmadi A., Etemadi O. Comparison of the effect of cognitive-behavioral counseling and solving counseling on women's sexual satisfaction in Isfahan. Journal of Sociology of Women (Women and Society),2014, 5 (3): 67-83.