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ORIGINAL

Effectiveness of acceptance and commitment therapy on depression, anxiety and quality of life in women after childbirth in Ardabil

Efectividad de la terapia de aceptación y compromisosobre depresión, ansiedad y calidad de vida en mujeres después del parto en Ardabil

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Abstract

Introduction: Pregnancy is an important event in every woman's life that is associated with conflicting feelings. Acceptance and Commitment Therapy (ACT) is one of the new therapies that has a positive effect on decreasing psychological complications during and after pregnancy. Therefore, the present research aims to investigate the effectiveness of acceptance and commitment therapy on depression, anxiety, and quality of life in women after childbirth.
Methodology: In this quasi-experimental study with a pretest-posttest design with a control group, 40 mothers with delivery of 0 to 6 months admitted to Ardabil health centers in 2018 were investigated. The convenience sampling method was performed and the subjects were randomly divided into two experimental and control groups of 20. Edinburgh Postnatal Depression Scale, Spielberger Anxiety Inventory and Quality of Life Questionnaire (sf-36) were used to collect data. The experimental group underwent acceptance and commitment therapy in a group format for 8 sessions of 2 hours and the control group did not receive any therapy.
Findings: Our results showed that there was a statistically significant difference between the experimental and control groups in scores of depression, anxiety, and quality of life after ACT (P <0.001).
Conclusion: Acceptance and commitment therapy is effective on depression, anxiety, and quality of life in women after childbirth and the results emphasize the importance of using these interventions in depression and anxiety and improving quality of life and providing new horizons in clinical interventions of these women.

Keywords: Depression, anxiety, acceptance and commitment therapy.

Resumen

Introducción: El embarazo es un acontecimiento importante en la vida de toda mujer que está asociado a sentimientos conflictivos. La terapia de aceptación y compromiso (ACT) es una de las nuevas terapias que tiene un efecto positivo en la disminución de las complicaciones psicológicas durante y después del embarazo. Por lo tanto, la presente investigación tiene como objetivo investigar la eficacia de la terapia de aceptación y compromiso sobre la depresión, la ansiedad y la calidad de vida en las mujeres después del parto.
Metodología: En este estudio cuasi-experimental con un diseño pretest-postest con un grupo control, se investigaron 40 madres con parto de 0 a 6 meses ingresadas en los centros de salud de Ardabil en 2018. Se realizó el método de muestreo de conveniencia y los sujetos se dividieron aleatoriamente en dos grupos experimental y de control de 20 sujetos. Se utilizaron la Escala de Depresión Postnatal de Edimburgo, el Inventario de Ansiedad de Spielberger y el Cuestionario de Calidad de Vida (sf-36) para recoger los datos. El grupo experimental se sometió a una terapia de aceptación y compromiso en formato grupal durante 8 sesiones de 2 horas y el grupo de control no recibió ninguna terapia.
Resultados: Nuestros resultados mostraron que había una diferencia estadísticamente significativa entre los grupos experimental y control en las puntuaciones de depresión, ansiedad y calidad de vida después de la TCA (P <0,001).
Conclusión: La terapia de aceptación y compromiso es eficaz en la depresión, la ansiedad y la calidad de vida de las mujeres después del parto y los resultados enfatizan la importancia de utilizar estas intervenciones en la depresión y la ansiedad y en la mejora de la calidad de vida y proporcionan nuevos horizontes en las intervenciones clínicas de estas mujeres.

Palabras clave: Depression, ansiedad, terapia de aceptación y compromiso.

Introduction

Pregnancy is an important event in a woman's life that is associated with two opposite feelings of happiness and anxiety[1]. These dual natural feelings arise as a result of biological, social and psychological changes in women during pregnancy[2]. It has been shown that the birth of a child can have a significant effect on a woman's personal mood. Hence, many women face physiological and hormonal changes as well as the need for psychological adjustment during the pregnancy process and the postpartum period[3]. Postpartum mental health has been identified by the World Health Organization as an important public health issue and it has been reported that at least 1 in 10 women develops serious mental health problems during pregnancy or one year after delivery[4].

Pregnancy-related anxiety is a negative emotion that is associated with a variety of concerns, including concerns about when and where to give birth, maternal health during pregnancy and childbirth, postpartum health, infant health, and birth of an abnormal infant, loss of attractiveness to the spouse and dual feelings about caring for the newborn and the role of[5,6] . According to the WHO reports, approximately 10% of pregnant women and 13% of women who have just given birth struggle with mental health, and in developing countries numbers rise up to 15.6% and 19.8%, respectively[7]. It has also been shown that the prevalence of anxiety in women in the first month after delivery is over 30%, which increases the risk of postpartum depression if it continue[8,9]. Postpartum depression includes a major depression and the simultaneous presence of five symptoms, including physical disorder, insomnia, negative feelings about the infant, lack of enjoyment of life, depressed mood and inability to care for the infant, with at least one of these symptoms being in activities. These symptoms must last for at least two weeks and begin within four weeks after delivery[10,11]. Therefore, any mental disorder of mothers has a negative effect on the quality of life and health of family, primarily children, and the daily needs of children and the level of care required such as breastfeeding and attachment of mother and baby may be affected by mental disorder[8,12].

Therapists have used various psychotherapies to reduce mental disorders, including depression, anxiety, and consequently quality of life, along with pharmacotherapy. However, in the last decade, according to numerous reports on the remarkable effectiveness of mindfulness-based therapies, attention has turned to these therapies. One of these mindfulness-based therapies is the Acceptance and Commitment Therapy (ACT) approach. This therapy helps the individual to cope with stressful situations by increasing mindfulness, cognitive distancing (observation of thoughts) and creating a commitment to active involvement in the outside world and striving for a meaningful and authentic life with the aim of increasing psychological flexibility[13,14].

In ACT, the patient is helped to accept the pain caused by unpleasant thoughts and feelings and promises that pain is an inevitable aspect of life and tries to prevent suffering from pain as a more unpleasant feeling. What sets ACT apart from other therapies is the use of simile and metaphor, which make therapy sessions more interactive and dynamic for patients[15].

Therefore, according to reports that this approach is effective on many disorders such as depression and anxiety and improving the quality of life, the present research aims to investigate the effectiveness of acceptance and commitment therapy on depression, anxiety, and quality of life in women after childbirth.

Materials and methods

Selection of patients

In this quasi-experimental study, which was in the form of two groups (one experimental group and one control group) with pre-test and post-test, all women in Ardabil province (0-6 months after delivery) admitted to Ardabil health centers in 2018 were investigated. The independent variable in this study was acceptance and commitment therapy (ACT) and the dependent variables were depression, anxiety, and quality of life. Convenience sampling method was used to obtain research samples. The statistical sample size included 40 people, 20 of whom were randomly investigated in the experimental group and 20 in the control group. To conduct research, first, the necessary permits were obtained from Ardabil University of Medical Sciences, then we randomly referred to several health centers in Ardabil.

The study groups were provided with questionnaires. Then, the experimental group underwent acceptance and commitment therapy (ACT) as a group during 8 weekly sessions and one 2-hour session (**Table I**). The control group also waited for therapy after the end of the two-month therapy period for the intervention group and did not undergo any intervention in this two-month period. After the end of the therapy period, the intervention group answered research questionnaires and at the end of each therapy session, a summary of that session was again given to the subjects.

Measuring tools

Edinburgh Postnatal Depression Scale

Edinburgh Depression consists of 10 questions on a 4-point scale that assesses a person's mental state over the past 7 days. The questionnaire was developed by Cox in 1987 in 10 items to diagnose postnatal depression. With a score of 10 or higher for the assessment of postnatal depression, the Edinburgh Scale has a sensitivity of 84% -100% and a specificity of 82% -84%. The reliability of the Postnatal Depression Scale was 93% by retest method.

Table I: Acceptance and commitment therapy sessions in the intervention group.

Session 1
Getting familiar with group members and establishing a therapeutic relationship, introducing members to the research topic, discussing the limits of secrecy, examining depression, anxiety and quality of life of each subject after childbirth, including the duration of illness and the therapies used, general assessment and examination of disturbing thoughts and feelings in group members, measuring ways to control these thoughts and feelings, introduction to hopelessness, giving assignments, answering questionnaires.
Session 2
Feedback from the first session, reviewing the previous session assignment and discussing it, continuing creative hopelessness, evaluating the modern and outside world in ACT, creating the tendency to abandon the dysfunctional program of change, understanding that control is the problem, not the solution, and expressing the introduction of an alternative to control, i.e. tendency.
Session 3
Feedback from the second session and reviewing the reaction to the previous session, continuing the topic of tendency using metaphors and allegories of ACT, introducing values and identifying values of individuals and relating and understanding the concept of tendency along with the concept of values, giving assignment
Session 4
Feedback from the third session and reviewing the reaction to the previous session, evaluating the values of each individual, specifying values, goals, actions and internal and external obstacles and deepening these concepts, introduction to the concept of defusion, giving assignment.
Session 5
Feedback from the fourth session and reviewing the reaction to the previous session, understanding fusion and defusion using ACT metaphors and allegories, and performing experimental exercises to understand the concept of defusion, introducing mindfulness, and performing one of the mindfulness exercises, giving assignment.
Session 6
Feedback from the fifth session and reviewing the reaction to the previous session, introducing the types of fusion, self-conceptualized concept and teaching how to defuse from it, pointing to values and examining the compliance score, performing one of the mindfulness exercises.
Session 7
Feedback from the sixth session and reviewing the reaction to the previous session, introduction to the fusion with the life story, mindfulness and emphasis on being in the present, pointing to values and the concept of commitment to values.
Session 8
Feedback from the seventh session and reviewing the reaction to the previous session, examining the concept of self-observer and summarizing the previous sessions and emphasizing the main processes of acceptance and commitment therapy, i.e. acceptance, defusion, self as context, being in the present, values and committed action.

Spielberger State-Trait Anxiety Inventory

The Spielberger State-Trait Anxiety Inventory, known as the STAI, includes separate self-assessment scales to measure both state and trait anxiety. The state anxiety scale (STAI Form Y-1) consists of twenty statements that evaluate the person's feelings feels at this moment and the response language. The trait anxiety scale (STAI Form Y-2) consists of twenty statements that evaluate the person's general and regular feelings. Regarding the validity of this questionnaire on 150 patients undergoing surgery, the reliability of 97% was reported that the validity and reliability of these studies are the basis of the present research.

Quality of Life Questionnaire (sf-36)

This scale has 36 questions that consist of eight subscales and each subscale consists of 2 to 10 items. The eight subscales of this questionnaire are: physical functioning (PF), role disorder due to emotional health (RE), energy/fatigue (EF), emotional well-being (EW), social functioning (SF), pain (P) and general health (GH). It is also obtained from the integration of subscales into the general scale called physical health and mental health. In this questionnaire, a low score indicates a lower quality of life and vice versa. The validity and reliability of this questionnaire were evaluated in the study of determining the reliability and validity of the Persian version of the standard instrument (SF-36). Reliability test was carried out using the statistical method of internal consistency on the questionnaire scale by determining the Cronbach's alpha coefficient. The coefficient value of 0.7 and higher was considered appropriate. The validity test was carried out using the statistical method of known groups comparison. Convergence validity test was carried out to evaluate the measurement hypotheses using the correlation of each question with its hypothesized scale. The Pearson correlation coefficient value of 0.4 or higher was considered desirable.

Data analysis

Data were analyzed by SPSS software version 25 (version 25, SPSS Inc., Chicago, IL). Frequency, relative frequency and central mean index were used for descriptive statistics, and analysis of covariance (ANCOVA) was used to compare quantitative and qualitative variables in the two groups. Finally, P less than 0.05 was considered statistically significant.

Results

The demographic results of our study showed that in the experimental group most patients (14 patients, 70%) had associate and bachelor's degrees, and in the control group 80% (18 patients) had diploma and lower education. Also, the frequency distribution based on the month of delivery showed that in the experimental group 60% of patients were in the fourth month and more of delivery, and in the control group 50% of patients were in the first month of delivery (**Table II**).

According to the results of **table III**, the mean and (standard deviation) scores before the intervention and after the intervention were evaluated for the experimental group and the control group related to quality of life, depression and anxiety scores.

One of the assumptions of the analysis of covariance is the normal distribution of data. Kolmogorov-Smirnov test was used to test this hypothesis.

The results of this test in **table III** to evaluate the assumption of normality of data distribution indicate that the scores of quality of life, postnatal depression, and anxiety follow the assumption of normality (P> 0.05).

Also, according to **table IV**, mental health and social adjustment were not significant in any of the research scales in Levin test; therefore, it can be said that both groups were homogeneous in terms of variance before the intervention (P> 0.05).

Based on the results of univariate analysis of covariance in **table V**, there was a statistically significant difference between the experimental and control groups in scores of postnatal depression (P <0.000, F=7.057), trait anxiety (P <0.000, F=58.55), state anxiety (P <0.000, F=19.40), and quality of life of women (P <0.000, F=16.13) after ACT.

The results of **table VI** also showed that there was a statistically significant difference between the experimental and control groups in the scores of depression, anxiety and quality of life after ACT (P <0.000, F=22.97).

Table II: Frequency distribution of studied samples in terms of education and month of delivery.

Variables		Experimental group		Control group	
		N	%	N	%
Education	Diploma and lower	2	10	18	80
	Associate and Bachelor	14	70	2	10
	Master and above	4	20	70	0
	Total	20	100	20	100
Month of delivery	1	0	0	10	50
	2	5	25	4	20
	3	3	15	1	5
	4 and above	12	60	5	25
	Total	20	100	20	100

Table III: Mean and standard deviation for scores of quality of life, and postnatal depression and anxiety.

Type of training Scale/subscales	Before intervention		After intervention	
	Experimental group Mean Standard deviation	Control group Mean Standard deviation	Experimental group Mean Standard deviation	Control group Mean Standard deviation
Quality of life	75/76 (24/3)	55/84 (24/1)	4/ 93(88/4)	25/ 80(37/1)
Postnatal depression	4/ 20(01/3)	65/17 (42/6)	55/ 13(36/3)	2/16 (93/2)
State anxiety	75/ 70 (94/9)	6/ 41(25/11)	6/ 65(17/13)	95/ 59(82/8)
Trait anxiety	6/ 64(25/11)	2/ 16(56/8)	25/ 60(31/8)	1/ 57(12/5)

Table IV: Evaluating the normality distribution and evaluating the homogeneity of variances of the studied variables.

Subscales		Variable			
		Quality of life	Postnatal depression	State anxiety	Trait anxiety
Kolmogorov-Smirnov test	Statistic	46/1	886/0	669/0	922/0
	Df	40	40	40	40
	P-value	028/0	416/0	763/0	363/0
Subscales	LLevene's Statistic	08/22	6594/0	27/2	93/3
	df1	1	1	1	1
	df2	38	38	38	38
	P-value	451/0	1644/0	522/0	0/054

Table V: Evaluating the effect of ACT on depression, trait and state anxiety, and quality of life in women.

Variables	Source of changes	Sum of squares	Degrees of freedom	Mean square	F	Sig. level	Effect size
Postnatal depression of women	Pre-test Group effect Error effect	22/70 625/8850 15/378	1 1 38	22/70 625/8850 95/9	7/057 889/39 -	0/000 0/000 -	0/15 0/95 -
Trait anxiety	Pre-test Group effect Error effect	3080/020 93412/2 1998/750	1 1 38	3080/020 934122/2 52/59	58/55 1/77 -	0/000 0/000 -	0/606 0/97 -
State anxiety	Pre-test Group effect Error effect	2356/22 97131/025 4614/75	1 1 38	2356/22 97131/025 121/414	19/40 799/13 -	0/000 0/000 -	0/328 0/95 -
Quality of life of women	Pre-test Group effect Error effect	22/301543 22/1729 55/4026	1 1 38	22/301543 22/1729 1496/105	2/86 16/13 -	0/000 0/000 -	0/98 0/30 -

Table VI: Evaluating ACT on depression, anxiety and quality of life.

Source of changes	Value	Degree of freedom	Error degree of freedom	F	Sig. level	Effect size
Pillai's trace	0/657	3	36	22/97	0/000	0/657
Lambda trace	0/343	3	36	22/97	0/000	0/657
Hoteling's trace	1/914	3	36	22/97	0/000	0/657
Largest root	1/914	3	36	22/97	0/000	0/657

Discussion

Pregnant women experience various types of fear, the most important of which is harm to the infant[16,17]. This perception is very stressful for pregnant women and it seems that ACT can be a good solution for this group of women with anxiety-provoking thoughts. Cognitive science can explain the failure of women to overcome these fears because people's thoughts and behaviors are so intertwined that the issue eventually distances from the present moment and its values[18]. Therefore, the present study was conducted to evaluate the therapeutic effects of ACT on depression, anxiety and quality of life in women after childbirth.

The results of our study showed that there was a statistically significant difference between the experimental and control groups in the scores obtained from quality of life, depression and anxiety in ACT.

According to research on improving the quality of life after ACT, Eilenberg et al[19], Vakilian et al.[15] and Stenhoff et al.[20] had a similar result to the present study. It has been shown that many changes occur during pregnancy and postpartum period in the physical, mental, social health dimensions and in general in the quality of life of women. Women face many physical and mental disorders in the postpartum period. Approximately 40% of pregnant women (50) million people each year experience health problems during pregnancy or after childbirth, and 11% suffer from long-term or serious complications that sometimes accompany them for the rest of their lives. Significant changes in the physical and mental health of women in the postpartum period are associated with a decrease in their quality of life in this critical period[21]. According to studies, ACT training improves the quality of life in terms of physical functioning, physical role, bodily pain, general health, vitality, social functioning, emotional role playing, and emotional well-being. Regarding the justification of these changes, it can be said that mindfulness means paying attention to the present in specific, purposeful and judgment-free ways, in the sense that without judging and without commenting on what is happening, one experiences being in the moment and everything that exists now, pure reality without explanation. The basis of mindfulness is derived from Buddhist meditation practices that increase the capacity for continuous and intelligent attention and awareness that goes beyond thought. Therefore, this attention to the present and its acceptance increases the quality of life[22,23]. On the other hand, most women experience mood swings after childbirth due to physical and chemical changes in the body, which in turn leads to a lack of enjoyment of life in these women, which reduces the feeling of pleasure and quality of life. As a result of ACT training, people become aware of experiencing the present and understand that this condition is due to physical and chemical changes in the body and physical balance will be established over time, this awareness in turn increases the quality of life[24,25].

Furthermore, the results of a study by Hosseini et al.[25], Dindo et al.[26] and Strosahl et al.[27] on the effects of ACT on postpartum depression were similar to those of our study. Similar studies such as Bonacquisti et al.[28] and Vakilian et al.[15], like our study, showed the improving effects of ACT on anxiety.

In order to explain the findings, it can be stated that ACT increases the psychological flexibility of mothers with postpartum depression. Therefore, with the increase of flexibility in mothers after childbirth, mood swings, etc. are easily accepted. In fact, the goal of this therapy is to increase one's behavioral capacity, not to decrease the symptoms of the disorder, which is called psychological flexibility[29,30]. ACT interventions, on the other hand, target changes in avoidance patterns, and during the interventions, the reduction of experimental avoidances mediates changes in depression symptoms. Avoidance is defined as the attempt to escape from depressing thoughts and memories that are brought to the awareness of a depressed person through this therapy. In this therapy, acceptance exercises and discussions about the values and goals of the individual all reduce postpartum depression. This therapy taught people how to let go of their avoidance beliefs and accept them instead of trying to control them. Although experiential avoidance has a reducing effect on unpleasant experiences in the short term, it has many destructive effects in the long term and can lead to lack of flexibility and functional impairment.[31-33.]

Regarding the effects of ACT on anxiety, it can be said that considering that anxious people have a lot of rumination and also thoughts about the future make them anxious, ACT is what makes an individual ability to leave the stage of struggling with anxiety. ACT also increases moment-by-moment awareness of the five senses, thoughts, emotions, and events created in the mind, and gradually facilitates the ability to develop this "disconnection" with thoughts, emotions, and bodily feelings. One learns that s/he can regard them as aspects of experience rather than as acquired reality. one can also see that thoughts are not reality and are only thoughts[19,34].

In general, despite the effective results of the present study on improving the mental state of mothers after childbirth, our study also had some limitations. One of the limitations was that the present study was cross-sectional, which raises limitations in interpretation and etiology of the studied variables. Also, in the present study, following the persistence of the ACT effect, checking the honesty of respondents' answers to the questionnaires and not generalizing the results to other people were other limitations. Finally, given the high rate of depression and anxiety among women after childbirth,

it is suggested to consider the results of this research in order to treat depression and anxiety and increase their quality of life and use it in counseling and psychotherapy sessions. It is also suggested that future studies investigate the role of other variables such as gender and genetic differences and the rate of hormonal changes in women after and before childbirth. Put together, it is important to observe health care management in Iran[35-40].

Conclusion

ACT can be a good option to improve depression, anxiety and quality of life in women after childbirth and can be an effective treatment for depression and anxiety and improve quality of life and provide new horizons in the clinical interventions of these women.

Interests conflict

The researchers declare that they have no conflict of interest.

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