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The Effect of Fordyce Happiness Cognitive-Behavioral Counseling on the Anxiety and Depression of Women with Spontaneous Abortion

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Abstract:

Miscarriage represents a complex biological and psychological event, which is regarded as a difficult and distressing life event for a woman. Spontaneous abortion is the most common adverse pregnancy outcome. Psychological problems such as depression and anxiety begin immediately after miscarriage and persist long after the loss. The aim of the present study is the survey of effect of Fordyce happiness cognitive-behavioral counseling on the anxiety and depression of women with spontaneous abortion. This quasi-experimental study carried out on women with spontaneous abortion referred to Fatemiyeh hospital in Hamadan. A total of 72 individuals were randomly recruited into the study group (n=36) and the control group (n=36). The Information collecting tools was a demographic questionnaire and Hospital Anxiety and Depression scale (HADS). Anxiety and depression of women 3 times before, immediately and 1months after intervention in both groups was evaluated. Counseling sessions based on the Fordyce happiness program were conducted for intervention group for 8 sessions (1 hour for each session). The control group only received routine care after abortion. Data was analyzed using SPSS16 software, and at the significance level of 0.05. The findings showed that before the intervention, no significant difference was observed in the mean score of anxiety and depression between intervention and control groups ($P>0.05$). Immediately after the intervention and one months later, the results showed a significant difference between the two groups on anxiety and depression ($P<0.001$). The obtained results showed that Fordyce Happiness counseling Program can reduce the anxiety and depression of women with spontaneous abortion. Therefore, this program is recommended as an effective and non-invasive intervention in controlling the psychological problems of women following spontaneous abortion

Keywords: Anxiety, depression, Spontaneous Abortion, Fordyce Happiness**.**

INTRODUCTION

In most cultures, fertility is highly valued, and having children is one of the basic human motives. Failure in getting pregnant may turn into a destructive emotion and a tense incidence and may damage an individual's mental health [1]. Giving birth to a child helps to stabilize women's identity, since women consider their biological, psychological, and social success to be a function of their ability to give birth to children, and lack of the ability creates feelings of inadequacy [2]. The National Center for Health Statistics, The Center for Disease Control and Prevention, and WHO all define spontaneous abortion or miscarriage as the termination of pregnancy within the first 20 weeks of gestation or giving birth to a baby weighing less than 500 gr [3]. It is estimated that miscarriage occurs in 20% of all clinically recognized pregnancies [4]. Spontaneous abortion is both physically and psychologically a traumatic Experience [5]. Miscarriage often result in high levels of emotional distress [6]. The symptoms of distress response after spontaneous abortion include psychological, physical, cognitive and behavioral effects [7]. It is estimated that 48-51 percent of women who experience spontaneous miscarriage suffer from psychological complications [8]. Depression and anxiety [9-11], attempting to commit suicide [10], misusing drugs [12], obsessive compulsive disorder and post-traumatic stress disorder [9, 10], acute stress disorder (7), sorrow and sadness, anger, feelings of guilt, self-blame, feelings of absurdity, and reduced self-esteem [13], marital conflicts [10], and sleep disorders [14] tend to increase in women who experience miscarriage. Women who lose their pregnancy at early stages have lower levels of quality of life and higher levels of depression and stress as compared with women of the same age range in the general population [15]. Miscarriage can indicate the probability of losing a child in the future, a woman's maternal role, or part of herself, or it can create feelings of doubt and uncertainty as to her ability to get pregnant again [7]. Also, the PAS syndrome occurs with non-specific symptoms, such as repetitive and constant nightmares and dreams related to miscarriage and strong feelings of guilt [16]. More Than half the women who suffer from a miscarriage would suffer from various psychological morbidities in the weeks and months following the event. Depression and

anxiety are common symptoms after miscarriage [17]. Major depressive disorder has been reported in 10-50% after miscarriage. Psychological symptoms could persist for 6 months to 1 year after miscarriage. A return to normal scores of depression and anxiety is frequently found in one year. Miscarriage is an 'invisible' loss with a subsequent absence of rituals and rites and community support [13]. Anxiety has a negative effect on the recovery and repair of tissues and, if not controlled or if prolonged, it can cause an increase in proteolysis, a decrease in would healing, a higher risk of infection, a change in immunity responses, a lack of electrolyte and liquid balance, and changes in sleep patterns [18]. Depression is one of the most common psychiatric diagnoses, and its growing trend and incidence has made a fundamental problem for mental health. The incidence of depression among women is twice as much its incidence in men almost everywhere around the words and in all cultures [19]. Experiencing a miscarriage can be a traumatic life event for men whose partner has miscarried [20]. In a new survey of 40 men, 59% reported a deepened awareness of the fragility of life, 45% mourned the loss of their family's hopes and dreams, 50% claimed they did not share feelings with their partner, and 40% experienced a strong sense of vulnerability and powerlessness to help their wife. Men's greatest concern after miscarriage tends to be the well-being of their partner yet, fearing they might say the wrong thing, many resort to saying nothing. It was also found that men, oftentimes, resort to drugs, alcohol, food, keeping busy, or other forms of acting out such as aggressive or even violent behavior while dealing with the grief of miscarriage [21]. It has also been found that society tends to ignore men's feelings after miscarriage .It is important that men's feelings are recognized and they are given appropriate ways to cope as they deal with the loss of a baby and help to support their partner [22]. The symptoms of anxiety and depression, which occur after spontaneous abortion, may also extend into a subsequent pregnancy as the majority of women will become pregnant again within 18 months, the effect of spontaneous abortion on subsequent pregnancy is a great concern [11, 23].Contrary to popular belief, becoming pregnant again is not a protective factor against depression or anxiety. Mood symptoms following a prenatal loss do not always resolve with the birth of a subsequent healthy child [24]. Pregnant women with a history of spontaneous abortion in the past 1 year are more exposed to more psychological and distress symptoms of pregnancy, and anxiety, depression, somatization disorder, mental obsession, obsessive compulsory disorder, interpersonal sensitivity, psychoticism, suspicion, and hostility is more common among them [11]. If the first pregnancy ends in abortion, anxiety and depression occurs more frequently after the birth of the second child, which is the result of an unresolved unfortunate experience. The mother's disordered may interfere with the process of attachment to the child. This disorder may be briefly witnessed in the raising of the child and in child abuse [8]. Happiness is people's evaluation of themselves and their lives and includes items like life satisfaction, positive excitement and mood, and lack of depression and anxiety [25]. The concept of happiness have three basic emotional, social, and cognitive components. The emotional component causes the happy person to be in a good and happy mood all the time; the social component causes wide and positive social relations with others; and the cognitive component causes the happy person to have an attitude which interprets daily happenings in an optimistic way. Happiness is associated with positive consequences like physical and mental health and desirable and optimal performance [26]. Happiness is inversely related to stress and directly related to the immune performance of the body [27]. Lack of happiness can be stressful and stress can cause serious illness. Some experts believe that the first condition for the establishment of health, is happiness. Those who are happy, feel more security, easier to decide, have more collaborative spirit and are more satisfied with their lives [28]. Happy people have high self-esteem, self-respect and self-love. Maeland has identified three different meanings for Health: Absence of disease, personal characteristics and mode of relaxation, well-being and happiness [29]. One way rejoicing education model, is Fordyce happiness. Fordyce, who is a world-famous scholar on the psychology of happiness and is considered as one of the pioneers of happiness research and theorizing, has offered a plan known as the education of happiness after having conducted several studies. This plan includes 14 principles and is believed to increase people's happiness. Of the 14 principles, 8 principles are cognitive and 6 are behavioral, with the 8 cognitive components being: lowering the level of expectations and desires, creating a positive and optimistic attitude, having a plan for your affairs, concentration on the present time, reducing negative feelings, stopping sadness, developing a healthy personality, and valuing happiness, and the 6 behavioral components being: increasing activity, increasing social relations, developing intimate relations, developing the social personality, creativity and involvement in meaningful actions, and being yourself [30]. The foundation of Fordyce's happiness plan is the belief that a person can be as happy as happy people if he wants [31]. Gould et al. (2012) consider education and counseling to be very effective in decreasing the psychological complications that occur after abortion [32]. CBT is one of the psychotherapies that is generally confirmed as being effective in reducing depression and/or anxiety [33]. A CBT method which has received much attention from therapists is Fordyce's Happiness Training Program [34]. Nakano reported that some types of psychological supports including gognitive-behavioral therapy have been beneficial to patients suffering from psychological problems [35]. Haghparast et al. (2016) recommend psychological supports after spontaneous abortion, especially during the first year after the abortion [11]. Given the fact that abortion is a shocking and stressful incident for women and their families and that managing the symptoms of depression and anxiety after abortion can be very effective in creating feelings of happiness and health, and given the importance of happiness in their lives, the present study was conducted to investigate the effects of happiness counseling on the basis of Fordyce's cognitive-behavioral approach on the anxiety and

depression of women suffering from spontaneous abortion in the city of Hamadan so that suitable solutions are offered and implemented to provide psychological support and prevent the psychological complications following spontaneous abortion.

METHODS

The present study is a semi-experimental study of the randomized clinical trial type which was conducted in two groups of intervention and control to investigate the effects of happiness education using Fordyce's cognitive-behavioral approach on the anxiety and depression of women suffering from spontaneous abortion. The criteria for entering the study included: literacy, wanted pregnancy, residing in Hamadan, being the first pregnancy, having mild to higher levels of anxiety and depression (a score of 8 and higher), not having experienced stressful incidents in the previous 6 months, and the criteria for being excluded from the study included: not attending more than one session of the counseling, the occurrence of unfortunate incidents throughout the study, getting pregnant again throughout the study, using tranquilizer ad psychotic drugs, and addiction to drugs, psychoactive drugs, and alcohol. 72 eligible women who visited Fatemiyeh Hospital in Hamadan were selected using an available sampling procedure and were randomly divided into the two groups of treatment and control. The assignment of people to one of the two groups of intervention and control was done as follows: for a period of one week, those people who entered the study during the first three days of the week were assigned to the control groups, and those who entered the study in the second four days of the week were assigned to the intervention group, and the reveres was done for the following week. Sampling among women who were eligible to enter the study was done after obtaining written informed consent. The intervention was conducted in 8 sessions, each lasting 60 minutes, with the first session starting during the first 72 hours after the abortion, and the following sessions were conducted twice a week. The questionnaires were then completed immediately and one month after the intervention. One person in the control group dropped out of the study (due to unwillingness and suffering from breast cancer) in the two-month-after-the-intervention stage, and two persons in the intervention groups dropped out of the study (due to unwillingness to attend the counseling sessions) in the immediately-after-the-intervention stage. The data-gathering instruments in the present study were two questionnaires which were completed in in-person and on-the-phone interviews. The first interview included: demographic information and midwifery history, and the second questionnaire included: the anxiety and HADS questionnaire. The anxiety and HADS questionnaire was first developed by Zigmond and Snaith in 1983. This instrument includes 14 statements with 4 choices for each item. The odd items measure anxiety levels, and the even items measure depressions levels. The responses are one of the four choices: never (0), mild (1), moderate (2), and severe (3). In the statements number 2, 4, 7, 9, 12, and 14, the choices number 1, 2, 3, and 4 get a score of 0 to 3, respectively, and in the statements number 1, 3, 5, 6, 8, 10, 11, and 13, the choices number 1, 2, 3, and 4 get a score of 0 to 3, respectively. A score of 0-7 is normal, 8-10 indicates a mild level of depression and anxiety, 11-14 a moderate level of depression and anxiety, and a score of 15-21 indicates a sever level of depression and anxiety [36]. The validity and reliability of the questionnaire in Iran was confirmed by Montazeri et al., and the alpha Cronbach was used on 167 patients suffering from cancer to evaluate its reliability, with the obtained reliability coefficient of 0.78 for anxiety and 0.86 for depression [37]. To evaluate descriptive information, statistical indicators such as mean, standard deviation and cross tables were used. Chi-square, Fisher's exact, independent t-test and repeated data analysis were used to evaluate inferential information. Data analysis was performed using SPSS software version 16 and the significance level was less than 0.05 [38, 39].

Description of sessions of the Fordyce happiness counseling program

Sessions	Contents
First session	Introducing participants to each other, reviewing the structure of the sessions, reviewing relevant regulations, giving medical information about the definition, prevalence, causes and ways of diagnosing and treating of miscarriage, reducing the anxiety caused by lack of awareness, Techniques to increase physical activity , Techniques for enhancing creativity, being productive and performing useful and meaningful works
Second session	principles of hearty relationships
Third session	principles of positive and optimistic thinking
Fourth session	technique of planning and better organization
Fifth session	and expectations and being one's real self and healthy character Technique lowering of wishes
Sixth session	upbringing a living in the present time
Seventh session	Techniques for discontinuing worries and Techniques for expressing emotions
Eighth session	Techniques for giving value to happiness and performing post-tests (immediately) and determination time of post-test (1 months later).

Table 1. Comparing qualitative variables in the two groups

Characteristic	Groups	Control Group		Intervention Group		P-value
		Number	Percent	Number	Percent	
Age (year)	<20	7	19.4	6	16.7	0.68
	21- 25	12	33.3	15	41.7	
	26- 30	14	38.9	10	27.8	
	>30	3	8.3	5	13.9	
Education	Elementary	5	13.9	2	5.6	0.24
	Guidance school	9	25	5	13.9	
	High school	3	8.3	8	22.2	
	Diploma	8	22.2	12	33.3	
	College	11	30.6	9	25	
Occupation	Housewife	34	94.4	31	86.1	0.42
	employed	2	5.6	5	13.9	
Financial status	Good	11	30.6	7	19.4	0.53
	Average	22	61.1	27	75	
	weak	3	8.3	2	5.6	
Husband's age	<20	0	0	2	5.6	0.21
	21- 25	7	19.4	3	8.3	
	26- 30	17	47.2	22	61.1	
	>30	12	33.3	9	25	
Husband's Education	Elementary	4	11.1	3	8.3	0.15
	Guidance school	8	22.2	2	5.6	
	High school	1	2.8	5	13.9	
	Diploma	14	38.9	15	41.7	
	College	9	25	11	30.6	
Husband's occupation	Employee	6	16.7	8	22.2	0.34
	Worker	11	30.6	6	16.7	
	Employment-Self	18	50	22	61.1	
	Workless	1	2.8	0	0	

Table 2. Comparing quantitative variables between two groups

Characteristic	Control Group N= 36		Intervention Group N= 36		P-value T df
	Mean	SD	Mean	SD	
Duration of marriage(Month)	31.42	15.45	28.58	10.94	P =0.37 T =0.898 df= 70
Gestational Age (Week)	12.40	3.48	11.21	3.18	P= 0.13 T= 1.518 df= 70

Table 3. Comparison of mean scores of, anxiety and depression over time (before, as well as immediately and one months after the intervention) in two groups of control and intervention

Variable	Group	Before the intervention (mean± SD)	Immediately after the intervention (mean± SD)	One months after the intervention	Repeated measures	Repeated measures
Anxiety	Control Group	11.48± 2.94	9.25± 3.60	8.31± 2.56	F=22.410 P<0.001	F=20.006 P<0.001
	Intervention group	10.88± 2.67	5.58± 2.52	5.00± 2.37	F= 117.213 P<0.001	
	Independent t-test	T= 1.095 df= 70 P= 0.277	T= 4.906 df= 68 P<0.001	T= 5.567 df= 67 P<0.001	-	-
Depression	Control Group	10.97± 2.56	9.05± 3.47	7.94± 3.52	F= 15.786 P<0.001	F= 16.181 P<0.001
	Intervention Group	10.55± 2.57	5.73± 2.78	4.82± 2.24	F= 94.831 P<0.001	
	Independent t-test	T= 0.696 df= 70 P= 0.489	T= 4.236 df= 68 P<0.001	T= 4.370 df= 67 P<0.001	-	-

Table 4. Distribution of absolute and relative frequency of anxiety level in women with spontaneous abortion over time (before, as well as immediately and one months after the intervention) in two groups of control and intervention

Anxiety	Before the intervention				Immediately after the intervention				One months after the intervention			
	Control Group		Intervention Group		Control group		Intervention Control		Control Group		Intervention Group	
	No.	percent	No.	percent	No.	percent	No.	percent	No.	percent	No.	percent
No anxiety	0	0	0	0	9	25	24	70.6	13	37.1	26	76.5
Mild anxiety	19	52.8	18	50	16	44.4	8	23.5	15	42.9	6	17.6
Moderate anxiety	11	30.6	15	41.7	6	16.7	2	5.9	7	20	2	5.9
anxiety Severe	6	16.7	3	8.3	5	13.9	0	0	0	0	0	0
P-value	0.45				<0.001				0.005			

Table 5. Distribution of absolute and relative frequency of depression level in women with spontaneous abortion over time (before, as well as immediately and one months after the intervention) in two groups of control and intervention

Depression	Before the intervention				Immediately after the intervention				One months after the intervention			
	Control Group		Intervention Group		Control Group		Intervention Group		Control Group		Intervention Group	
	No.	percent	No.	percent	No.	percent	No.	percent	No.	percent	No.	percent
No depression	0	0	0	0	10	27.8	25	73.5	16	45.7	27	79.4
Mild depression	21	58.3	18	50	13	36.1	5	14.7	10	28.6	7	20.6
Moderate depression	13	36.1	14	38.9	10	27.8	4	11.8	7	20	0	0
severe depression	2	5.6	4	11.1	3	8.3	0	0	2	5.7	0	0
P-value	0.68				0.001				0.003			

FINDINGS

The results showed that the investigated units in the two groups of intervention and control were homogenous in terms of demographic information including age, education level, employment status, economic status, and also midwifery information including the length of marriage and pregnancy age (Table 1-2). The mean and standard deviation for anxiety scores in the control group were 11.48±2.94 before the intervention, 9.25±3.60 immediately after the intervention, and 8.31±2.56 one month after the intervention, while in the intervention group the corresponding scores were 10.88±2.94, 5.58±2.52, and 5.00±2.27, respectively (Table 3). The results showed that there was not a significant difference between the two groups before the counseling in terms their anxiety scores (P=0.277). However, the mean anxiety score in the intervention group was significantly lower than the control groups (P<0.001). The results of the study also showed that before the intervention the two groups did not differ significantly in terms of their depressions scores (p=0.489), while the mean depression score in the intervention group was significantly lower than the control group after the intervention (P<0.001). The highest anxiety level before the intervention in the control group (52.8%) and in the intervention group (50%) was within the mild range of anxiety (P=0.45), but immediately after the intervention the highest percentage of anxiety level in the control group (44.4%) was within the mild range of anxiety, and in the intervention group (70.6%) was within the without-anxiety range. One month after the intervention, the highest percentage of anxiety level in the control group (42.9%) was within the mild range of anxiety, and in the intervention group (76.5%) it was within the without-anxiety range (Table 4). Also, the highest level of depression before intervention in the control group (58.3%) and the intervention group (50%) was in the range of mild depression (P=0.68). however, immediately after the intervention, the highest percentage of depression level in the control group (36.1%) was in the range of mild depression and in the intervention group (73.5%) was in the range of without-depression. One month after the intervention, the highest levels of depression in control groups and (45.7%) and the intervention group (79.4%) were in the range of without-depression (Table 5).

DISCUSSION

The results of the present study showed that the mean scores for anxiety and depression in the intervention group was significantly different from the control group immediately and one month after the intervention. Therefore, it can be argued that counseling based on Fordyce's happiness model reduces anxiety and depression in women suffering from spontaneous abortion. Many studies have emphasized the relationship between abortion and psychological problems such as anxiety and depression and the positive effect of counseling on reducing them. In a

study by Rahbar et al. (2008), one month after the abortion, 11.1% of women developed sleep disorder and anxiety symptoms, and 14.1% developed depression. In the present study, one month after abortion, anxiety and depression was still present in both the control and the intervention groups [1]. In Moradi et al. (2014), it was postulated that counseling reduces anxiety in women with spontaneous abortion during the three months after the intervention [8]. Also, in Hajnasiri et al. (2013), it was shown that counseling by a midwife reduces anxiety and depression during the first two months after legal abortions, and two months after the intervention 100% of the women in the intervention group were in the without-anxiety range and 96% were in the without-depression range, while the percentages for the women in the control group were 32% and 46.8%, respectively [40]. The results of their study, in line the findings of the present study, emphasize the persistence of anxiety and depression following abortion and also the positive effects of counseling by a midwife for a short period of time after the abortion in reducing these symptoms and improving the emotional conditions of women. Nikcevic et al. (1999) showed that women who had a specific reason for abortion experience less self-blame and disorder in comparison with those without a specific reason, and determining the reason for abortion reduces self-blame [41]. Knowing that the abortion was due to the fetus or other medical reasons reduces depression and anxiety in women, because it assures them that the abortion was not caused by their mistakes or other people's mistakes [42]. One of the differences between their study and the present study is the difference in the type of abortion. Lok et al. (2010) investigated the psychological consequences of abortion in first year following the abortion. The level of depression immediately after the abortion was reported to be 26.8%, decreasing to 18.4% after 3 months, 16.4% after 6 months, and 9.3% after 12 months [43]. Comparing their study with the present study reveals that, like anxiety, the level of depression after the abortion naturally decreases with the passage of time like; however, the descending pattern is faster in people who receive consoling and follow-up, because they can get back the mental health they had prior to the abortion faster. Also, given the effect of abortion on the psychological conditions of women in their next pregnancy, appropriate counseling should be provided for this group of people. Alison et al. (2007) showed that teaching happiness reduces depressed mood and increases happiness among students of Canterbury University [44]. Mansouri et al. (2006) showed that Fordyce's happiness plan is effective in reducing PMS symptoms, anxiety, irritability symptoms, and physical symptoms related to PMS and in increasing happiness [45]. Also, in Rabiei et al. (2014), Fordyce's happiness plan caused a considerable reduction in depression scores after delivery in the intervention group two months after the intervention [28]. In Mehrabi et al. (2017), teaching Fordyce's happiness plan caused a considerable reduction in the mean scores for stress, depression, and anxiety in people under hemodialysis immediately and one month after the invention [46].

CONCLUSION

Generally, the findings of the present study point to the effects of interventions based on counseling and support in improving mental health in women suffering spontaneous abortion. The results of this study emphasize the important role of the midwife in providing emotional care after abortion. This could be a guideline for all midwives working in healthcare centers to pay more attention to women's psychological problems and help women improve their mental health. The results of the present study can also be used as a basis for further studies and for developing methods for improving the quality of care after abortion. Given the importance of happiness in life, constant attempts to increase happiness should be given more attention so that it can help people in dealing with and better adapting to problems as a personality trait. Therefore, given the fact that the happiness plan for women suffering from abortion in effective and without any expenses, it is suggested that happiness plans receive more attention in order to help women improve their mental health.

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