



Research Article

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Investigating the effect of anger management counseling and stress controlling on mental health of pregnant women

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ABSTRACT

Introduction: Stress, anxiety, and depression are psychiatric pathological conditions that can leave short-term and long-term effects on pregnancy (mother and child) without clinical symptoms. The current study was conducted to investigate the effect of anger management counselling and stress controlling on mental health of pregnant women admitted to health centers in Bandar Abbas city in 2014. **Methods:** This study is a quasi-experimental study conducted on 125 pregnant women. Educational centers were selected using cluster sampling method (2 centers for intervention and 2 centers for control). The educational intervention consisted of four face-to-face sessions with booklet and reminder SMS for 60 minutes once a week. Four weeks after completion of education, post-test was performed. Research tools consisted of demographic questionnaire and standard mental health assessment questionnaire completed before and one month after the counselling by pregnant women. Finally, data was extracted and analyzed using SPSS16 software. **Results:** The mean score of mental health at the physical dimensions, anxiety, social function and depression in the intervention and control group ($P=0.001$) showed statistically significant differences between the two groups. **Conclusion:** by counselling mothers in prenatal cares and anger management education and stress management, we improve the mental health of pregnant women in order to improve the health of the family significantly.

Keywords: pregnant women's mental health, stress management, anger management

INTRODUCTION

Women are exposed to physical and mental physiological changes in their pregnancy that can affect the health of both mother and fetus. As maintaining the physical health of women during pregnancy is very important, facilitating her psychological adjustment is also an important objective of obstetric cares (1). If the physical and mental changes during pregnancy increase compared to physiological level, the way for depression, stress, and mood changes would be provided. Research has shown that most women are prone to anxiety during pregnancy due to physical and hormonal changes in pregnancy, childbirth, and postpartum period. Stress, anxiety, and depression are psychiatric pathological conditions that can leave short-term and long-term effects on pregnancy even without clinical symptoms. Research shows that mental health problems during pregnancy could be associated with increased pregnancy complications such as preterm delivery, fetal growth retardation, depression, and postpartum psychosis.

In order to improve health services for women and newborns during the perinatal, mental health services are required (2). Research shows that restful sleep of child after birth is also affected by mother's mental state. Children who hardly go to sleep and wake up frequently or refrain from going to bed are those children that their mothers

have usually experienced and symptoms of stress, anxiety and depression during pregnancy (3). High levels of prenatal depression and anxiety symptoms are significantly associated with domestic violence. Research has shown that violence against pregnant mothers could be associated with adverse consequences of prenatal period, particularly preterm delivery, low birth weight, and low Apgar score of child. Serious conflicts with husband including domestic violence were the most important factor in stress of pregnant mothers (1). Increased maternal stress and hormone cortisol in amniotic fluid can affect fetal brain development and it can have impact on social skills, speaking ability, and memory of child. Fifteen percent of the problems of delayed cognition and anxiety in children are caused by maternal stress experienced during the pregnancy (3).

Anxiety during pregnancy is considered as a risk factor for the development of the infant that is effective also in adults (4). Anxiety during pregnancy is associated with maternal stress, physical defects in infants, low birth weight, sexual activity and its development and behavioral and emotional problems of infant in future (5). Anxiety of mother during pregnancy has a high risk for behavioral and emotional problems in children (4). Studies have indicated that anxiety leads to increased symptoms of anxiety after pregnancy, while most studies have emphasized on anxiety and depression after. However, in recent years, experts have concluded that in many women, depression during the pregnancy might be the main cause of depression after pregnancy (6).

Mental health not only includes the lack of mental illness, but also it is reaction against various kinds of life experiences flexibly and significantly (7), so we help pregnant women by empowering them in order to control stress in line with educating anger management skills and stress control skills. One of the midwife tasks during pregnancy, in addition to the physical care, is to pay attention to the psychological changes in pregnant women for correct and applied education and counselling to adapt with changes during the pregnancy, childbirth, and after childbirth. Therefore, this study was conducted to examine the impact of anger management consulting and stress controlling on mental health of pregnant women.

METHODOLOGY

This quasi-experimental study was conducted in two groups (intervention and control) in 2014 on 125 pregnant women admitted to health centers in Bandar Abbas. The sample size in this study was calculated based on comparing the mean of two groups and previous studies with confidence of 95% and test power of 80%. Sampling was conducted from health centers using cluster sampling in which a list of urban health centers was prepared firstly. Finally, 4 centers were selected randomly that 2 centers were randomly selected as intervention and two centers were randomly selected as control. Then, 63 people were selected from each center that was a cluster. Samples selected using convenient method among the pregnant women admitted to centers for routine pregnancy cares and met the inclusion criteria after obtaining the written consent. Inclusion criteria included pregnant women at 20 to 36 weeks of their pregnancy, fetal health, lack of death of one of the close relatives in one last year, lack of known physical and emotional problems, lack of taking anti-depressant drugs. In case of refusing to participate in the counselling sessions, taking depression drugs, and fetal death were excluded from the study. The instrument used in this study included demographic questionnaire containing 30 questions on age, age of spouse, marriage age, education, job, spouse education, spouse job, the number of pregnancy and childbirth, abortion, number of children living and dead, type of previous childbirth, relative with spouse, history of infertility, and intentional or unintentional pregnancy. General Health Questionnaire (GHQ) is a valid means of measuring mental disorders developed by Goldberg (1972) for screening non-psychotic mental disorders. This questionnaire contains 28 questions, that includes four sub-scales and each scale has seven questions. These scales include physical disorder, anxiety, social dysfunction, and depression. Out of 28 questions, items 1 to 7 related to physical symptoms. Items 8 to 14 related to anxiety symptoms, items 15 to 21 related to social functioning, and items 22 to 28 related to depressive symptoms. To sum up the scores, score zero belongs to option "never", score 1 belongs to option "at the usual level", score 2 belongs to "more than usual", score 3 belongs to "much more than usual". At each scale sub-score, score greater than 6, and in total four subscales, score higher than 22 score are reached, it will indicate the symptoms of disease (numbering from the right side in all questionnaire is from zero to 3). Validity indices of the questionnaire have been evaluated in different studies and its sensitivity has been estimated 88-84 % and its specificity has been specified 82-79%. This questionnaire was completed in the first session by pregnant women, and it was recompleted 4 weeks later after completion of the intervention.

The educational intervention consisted of four face-to-face sessions for 60 minutes that two sessions of anger management practical practices included changing or leaving the environment, dealing with negative thoughts, relaxation techniques, and problem solving, and expressing anger in adaptive manner. Next two sessions included adaptive coping techniques to deal with stress, time management, financial management, coping with irrational beliefs, the importance of the principles of nutrition and exercise during pregnancy. At the end of these sessions, educational manual of the skills of Ministry of Health was distributed. To remind educational materials, SMS with educational content was sending daily to a mobile phone. To cope with exclusion of samples in the estimation of the sample size, it was predicted that in the case of each sample removal, another sample to be replaced, while no sample was excluded in this study.

To observe moral considerations, in addition to obtaining permission from the Ethics Committee of the University of Medical Sciences, objectives, importance, and necessity of the project was described to mothers and their written consent was obtained. Finally, data were extracted using the SPSS (version 16) software and descriptive and analytical tests.

FINDINGS

In this study, according to the inclusion, 125 pregnant women were examined in the control group and 125 pregnant were examined in the intervention group. Table 1 shows the demographic characteristics of pregnant women.

Table 1- Demographic characteristics of pregnant women

Variable	Range	Intervention		Control		Test result
		f	%	f	%	
Age	16-22	28	22.4	25	20	chi-square=0.3 Pvalue=0.86
	22-30	67	53.6	71	56.8	
	31	30	24	29	23.3	
	Total	125	100	125	100	
Education	Elementary	7	5.6	7	5.6	chi-square=1.8 Pvalue=0.6
	Secondary	24	19.2	26	20.8	
	High school	49	39.2	39	31.2	
	Academic	45	36	53	42.2	
	Total	125	100	125	100	
Employment	housewife	89	71.2	88	70.4	chi-square=0.01 Pvalue=0.88
	Employed	36	28.8	37	29.6	
	Total	125	100	125	100	
Economic status	Weak	29	23.2	29	23.2	chi-square=1 Pvalue=0.57
	moderate	72	57.6	78	62.4	
	Good	24	19.2	18	14.4	
	Total	125	100	125	100	

Spouse job status	worker	52	41.6	52	41.6	chi-square=0.1 Pvalue=0.93
	Employer	49	39.2	51	40.8	
	Self-employed	24	19.2	22	17.6	
	Total	125	100	125	100	
Relative marriage	Yes	61	48.8	57	45.6	chi-square=0.2 Pvalue=0.61
	No	64	51.2	68	54.4	
	Total	125	100	125	100	

In investigating obstetric history of pregnant women, the majority of women in the intervention group (50.4%) and control group (60%) were spending pregnancy age 23-29 weeks. In terms of number of pregnancy, 35% of women in intervention group 39% of women in control group had experienced the first pregnancy. Considering the intentionality of pregnancy, majority of women intervention group (70.4%) and control group (68%) had intentional pregnancy. The results of the chi-square and independent t-tests showed that both intervention and control groups were matched in terms of demographic variables and there was no statistically significant difference between two groups.

Mean scores of different mental health dimension in the two groups of intervention and control before counselling are shown in Table 2. It shows that mental health status of the patients was not significant before intervention and two groups are matched in this regard (P=0.47).

Tbale 2- Comparing the mental health scores of women in two intervention and control groups before intervention

	Intervention Mean, SD	Control Mean, SD	Test result
Scores of mental health dimensions	29.96 16.68	28.56 14.13	P=0.47

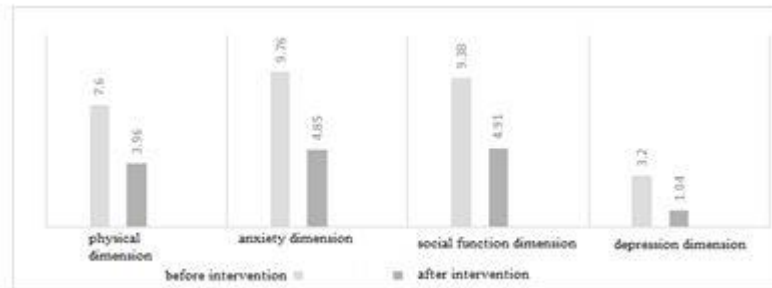
In this study, independent t-test was used to compare the mental health scores of pregnant women before and after intervention. Mental health scores of two groups before and after intervention have been represented in Tbale 3. It shows that mean scores of mental health in the counselling group reduced significantly after the intervention, while mental health mean score in the control group increased after 4 weeks and this increase is statistically significant (P<0.001).

Table 3- Comparing mental health scores of women before and after intervention in control and intervention groups

Scores of mental health dimensions		Before intervention Mean, SD	after intervention Mean, SD	Test result
		Intervention	29.96 16.68	
	Control	28.56 14.13	29.80 14.46	P<0.001

Paired t-test results showed that the mean scores of different dimensions of mental health in the physical, anxiety, social function, depression dimensions were significantly different ($P=0.001$) before and after the intervention in the control group. Its results are shown in Diagram 1.

Diagram 1- comparing the mental health dimensions before and after intervention in the intervention and control groups



DISCUSSION

The present study was conducted to examine the effect of anger management counseling and stress controlling on the mental health of pregnant women. The results of the study showed significant differences between the intervention and control groups in terms of improving mental health in pregnant women after consultation. Since there is a significant relationship between mental disorders in pregnancy and some individual characteristics and social economic factors, different results have been obtained in different studies making it necessary to examine dimensions of the mental health of pregnant women in every region of the country separately. In the present study, mean scores of mental health scores before intervention reveal that women are exposed to changes in different dimensions of mental health during pregnancy and most of them are affected with anxiety and social dysfunction. In this regard, examined mental health and related factors in pregnant women of Kuhdasht city(8). Results showed that most pregnant women suffer from depression and anxiety. This result was not consistent with result of current study in the depression dimension. These results confirm individual circumstances and socio-economic factors confirmed in previous studies. As most subjects had academic education in this study, education levels and lower depression could be indicated. Significant correlation between level of education and mental disorders has been confirmed in the study conducted (9). Study conducted on examining the mental health of pregnant women showed the highest mean scores (GHQ) related to depression (15.12) and dysfunction (10.01) dimensions (10). Also examined the mental health of pregnant women's in multi ethnic societies on 12453 pregnant women. Their results indicated ethnic, racial, and socio-economic factors in this regard (11).

The present study revealed that anger management education and stress management improve all dimensions of mental health (physical health, depression, anxiety, and social health). The study regarding the effectiveness of stress management education on anxiety and mental health of pregnant women showed that stress management education with cognitive behavioral approach led to reduced anxiety related to mental health, while it had no impact on anxiety related to physical health (12). However, in the present study, anger management education and stress management improved the symptoms at physical dimension of mental health. It seems that the way of using skills and educational techniques have been effective in this regard. On the other hand, the results of the study were in line with results of study conducted on holding educational courses on supportive behaviors of education in pregnant women and its effect on depression (13). One another study that its result was in line with the current study is an experimental study conducted in Canada and United States of America on the mental health of the pregnant women. It showed that mental educational intervention could reduce anxiety of women and improve mental health of pregnant women (14).

Also study showed that personality characteristics and coping styles with stress have impact on stress levels of pregnant women (15). Therefore, stress management education and holding educational psychological sessions have great impact on mental health of pregnant mothers. In line with study, also emphasized on effectiveness of

behavioral educational program on mental health of pregnant women in which it was that by implementing educational behavioral interventions during the pregnancy, depression, anxiety and physical symptoms of pregnant women decrease (16).

As pregnant women are exposed to special physical and mental changes during the pregnancy that could affect their and fetus health, the results of the current study revealed that in the control group in which women received routine cares of pregnancy period, by continuation of pregnancy and going up the age of pregnancy, they suffer from anxiety, depression, and social dysfunction. It indicates the necessity of paying attention to mental health of pregnant women. Due to facing with concerns on pregnancy and the fetus status, fear of childbirth and changes in the appearance, pregnant women experience anxiety (12). Increased mental disorders among pregnant women makes it necessary to pay attention to mental health of them and studying the factors affecting it. Therefore, it is required to prevent these disorders in this vulnerable group of people by appropriate planning (8).

One limitation of this research was that implementation of the anger management and stress-controlling program focused on four dimensions of the mental health in general. Therefore, it is recommended that future study to examine impact of this program on each of dimensions separately. It is also recommended that future studies to use couple education rather than individual education so that mental health of pregnant women to be improved greatly by participation of their husbands. Since this study was conducted on all pregnant women who met the inclusion criteria, it is recommended that further studies to be carried out on women who have a history of disorders in four dimensions of mental health so that its results to be more specialized.

CONCLUSION

Therefore, it is recommended that mental health of pregnant women, as their physical health, to be included in the priority of providing health services in line with improving the health of family and mothers to enjoy mental health services in this period since physical health depends on mental health. Considering the importance of mental health of pregnant women and its impact on fetus, family, and ultimately society health, and with regard to incidence of mental diseases during the pregnancy, it is recommended that examination and screening the pregnant women mental health to be implemented in the integrated programs of maternal health in health centers.

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