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Special Issue 9S: Medical Science and Healthcare: Current Scenario and Future Development

ISSN No: 2319-5886

International Journal of Medical Research & Health Sciences, 2016, 5, 9S:55-59

Effect of the pregnancy period preparation classes on the nutritional behavior of the postpartum period

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ABSTRACT

Postpartum period is an important step because the mother's body needs to heal and recover, after pregnancy period and childbirth. So taking good care and a balanced diet in the postpartum period, plays an important role in the women's health. Thus, training of nutrition is so necessary at this period. The aim of this study was an evaluation the effect of the pregnancy period preparation classes on the nutritional behavior of the postpartum period. This research is a semi-experimental study. 230 numbers of the nulliparas admitted to the health centers selected by stratified-cluster sampling method and were placed in the intervention and control groups. Classes for the intervention group were held once every one week in the eight sessions and the duration of each session, was one hour. Collection of data was conducted through questionnaires and in order to its analysis, SPSS software was used. The results for this experiment showed that, the groups of intervention and control groups, were similar in terms of the demographic characteristics but there was a significant difference in nutritional behavior of these groups and the amount of food groups and duration of iron tablet's consumption for the intervention group, were more than the control group (P=0.000). Therefore, the final results from this investigation showed that, classes of the pregnancy period preparation had positive effects on the nutritional behavior and consumption amounts for the food groups in the postpartum period which indicates the importance of pregnancy period classes and role of midwives in the field of the pregnancy period training.

Keywords: Pregnancy, Pregnancy period preparation classes, Nutrition, Postpartum.

INTRODUCTION

The postpartum period is a very special phase in the life of a woman. Her body needs to heal and recover from the pregnancy and childbirth. A good postpartum care and well-balanced diet during the postpartum period, is very important for the health of a woman [1]. Health education influences one's nutrition and health care knowledge, behavior and attitude toward postpartum practices. Thus, when promoting contemporary postpartum practices, health education courses should be encouraged [2]. Anemia in the postpartum period may be associated with an increased prevalence of breathlessness, tiredness, palpitate ons and maternal infections, particularly of the urinary tract [3]. Such symptoms may cause women to experience difficulty caring for their baby and may influence the emotional bond the maternal has with her baby [4]. Therefore, one of the major causes of the mortality of mother is postpartum anemia [5] and may have a negative effect on physical and mental health status of mothers. Several studies have shown that problem of the postpartum period is high, and these problems may be due to routine and inadequate diet and poor eating habits at this time [6]. Available Chinese data also suggested that the incidences of

constipation and hemorrhoids were associated with lack of exercises and a decreased intake of fruit and vegetables [6,7]. Study of Beard et al. [8] demonstrated that there is a strong relation between iron status and depression, stress, and cognitive functioning in poor mothers during the postpartum period. There are likely ramifications of this poorer "functioning" on mother-child interactions and infant development. Anemia is one of the factors affecting breastfeeding and is associated with the low milk production, mastitis and nipple delay in wound healing [9]. The use of oral iron supplementation for a few months is a standard treatment for anemia in the postpartum period [10]. Therefore, iron-deficiency anemia during pregnancy and postpartum can lead to serious consequences for both mother and child [11]. It is therefore, essential that iron deficiency is identified early and adequately treated before resulting in iron-deficiency anemia. For instance, Dean et al. [12] discussed that preconception nutrition-specific interventions, in particular, increased folic acid and multivitamins supplements among pregnant women resulted in positive pregnancy outcomes. Effort to the nutritional awareness increasing and trying to convince it to people in the logical form is the first step in training of nutrition. Because, the nutritional awareness increasing leads to changes in behavior, It's mean that inappropriate or wrong nutritional behaviors replace with the appropriate nutritional behaviors [13]. Although much educational intervention has focused on the pregnancy related nutrition and health problems [14]. Such education programs are often not maintained during the postpartum period. The postpartum period received less attention as compared with pregnancy and childbirth [15]. One investigation reported that training classes during the pregnancy period had a positive effect on the nutritional behaviors of pregnant women [16]. Liu et al. [1] studied the effect of health and nutrition education intervention on the women's postpartum beliefs and practices. Their results showed that women in the intervention group exhibited significantly greater improvement in overall dietary behaviors such as consumption of fruits, vegetables, soybean and soybean products as well as nutrition and health knowledge than those in the control groups. Also they reported that the incidence of constipation, leg cramp or joint pain and prolonged lochia rubra was significantly lower in the intervention group as compared to the control group. Therefore, their results showed that nutritional training had affected on the awareness and nutritional performance in the postpartum period as well as improved the nutritional behaviors during in this period. In another study in America, results of Walden et al.[17] revealed that the health and nutritional habits of pregnant women were improved after training in the experimental group. Also results of Totten et al. [18] showed that consumption of fruits and vegetables, significantly increased in pregnant women, after attending in the classes of pregnancy period preparation, but the effects of these classes were not significant on the dairy products and meat consumption.

In research of Widga and Lewis [19], about the effects of nutritional education on the comparison of dietary intakes before and after the intervention, revealed significant increases in total energy (2.269 to 2.431 kcal), folate (345 to 412 micrograms), vitamin B-6 (2.1 to 2.5 mg), iron (17.5 to 21.2 mg), zinc (13.6 to 14.7 mg), and calcium (1.175 mg to 1.299 mg) and significant increases in daily servings from the vegetable group (1.5 ± 1.0 to 2.2 ± 1.1 serving per day) and breads/grains groups (3.4 ± 1.4 to 4.1 ± 1.5 servings per day). Also they reported that pregnancy represents an ideal time for health promotion activities. Many women, including adolescents, are interested and willing to change health behaviors to improve the chance that they will deliver a healthy infant. Therefore, most adolescents who decide to maintain their pregnancy desire to have a healthy baby. In general, adolescents know that nutrition during pregnancy is important to achieve this goal. However, adolescents often lack adequate knowledge of exactly what is needed nutritionally or precisely how to find out [20]. According to this fact, a few study has been conducted on the effect of prenatal training on the performance of nutrition after childbirth, therefore, this study was conducted to determine the effect of the classes of the pregnancy period preparation on the nutritional behavior of the postpartum period.

MATERIALS AND METHODS

This study was a quasi-experimental intervention. Samples were 50 pregnant women who admitted to the health care centers in Semnan for prenatal care receiving and had the criteria for participation in this study. Stratified cluster sampling method was used in this study. Characteristics of this study were: nulliparous, gestational age of 18-24 weeks, the ability to reading and writing, being Iranian and dominate for the speaking in Persian, do not have history or known disease, lacking of a bleeding history and threatened for abortion of placenta previa, multifetal pregnancy, cervical incompetence, ectopic pregnancy and history of infertility in the current pregnancy. Data collection method and data collection instrument were a questionnaire. The questionnaire included two parts: the first part was the demographic information and the second part was questions related to the nutritional behavior. Content validity was used to check the validity of the questionnaire and the reliability of it, was approved using the test-retest and with the coefficient of 0.8. In this study, measurement criterion of the nutritional behavior was scored that has been achieved by answering to the multiple-choice questions in the questionnaire. Pregnant women of training group were participated at the training classes (eight weekly training sessions included topics necessary for oral training of prenatal and intrapartum and postpartum for discussion in the form of small groups, past content navigation and along with question and answer) in addition to receiving of the pregnancy period routine care. While the mothers who were in the control group, received only the routine care. Women of training group should be participated in all

meetings of class, otherwise they were excluded from the study. Training classes were held for the two groups by the researcher and midwife (investigation assistant) and audio-visual equipment (TV, video, training videos and pamphlets) at the same time and location. Methods of training were, lecture, discussion in small groups, question and answer, film screening and educational booklet or pamphlet.

At the end of each session, the booklet or educational pamphlet about the material presented of the same session, were placed in the disposal of the samples for their study and their husband at home. Classes were held in the form of the group at eight sessions at the premarital counseling center.

Each session was held in the per week, and time at each session was 1-1.5 hours. Content of the training courses (intervention) in the first session included: anatomy and function of the reproductive organs, physical changes in pregnancy, sexual activity in pregnancy and the most common problems of pregnancy. The second session included: a regular balanced nutrition, nutrition in pregnancy and postpartum, the nutritional problems during the pregnancy period. Third session included: exercise during the pregnancy period.

The fourth meeting included: symptoms at the childbirth beginning, scheduling for childbirth, cesarean and vaginal childbirth. The fifth meeting included: pain relieving methods (film screening about childbirth), infant, characteristics of infant and infant care. Sixth session included: normal infant and infant feeding: breastfeeding, benefits and contents of breastfeeding, duration of breastfeeding, breastfeeding difficulties, milking and storing milk and film screening. Seventh session included: health and care of the postpartum period, breast care, bleeding, vaginal discharge and danger signs in the mother and infant nutrition and the postpartum sexual activity and eighth session included: the contraceptive methods, the family planning and exercises of the postpartum period. Samples of the training group and control group completed questionnaire at the end of the fourth month of the postpartum period then, SPSS statistical software was used in order to analysis of the data.

RESULTS

The studied women were similar in the characteristics of age, education, occupation, spouse's education, spouse's occupation and income in the groups of training and control. Mean and standard deviation of age for the subjects within the training group, were 23.41± 3.22 and for the subjects within the control group, were 23.39 ± 3.54 years. Furthermore, the mean and standard deviation for the spouse's age of subjects within the training group, were 27.17 ± 3.047 years and for the subjects within the control group, were 27.30 ± 3.36. The average of income within the training group, were 267.26 ± 74.89 thousand Tomans and for the control group, were 383.84 ± 143.23 thousand Tomans that there was no a significant difference between these groups. Some of the important features are shown in the Table 1.

Table 1: Absolute and relative frequency distribution for characteristics of research subjects for the training and control groups

Characteristics		Training group		Control group		Result of the test
		The number of woman	Percentage	The number of woman	Percentage	
Job	Housekeeper	101	87.8	96	83.5	$\chi2$=0.884 df=1 P= 0.347
	Employed	14	12.2	19	16.5	
Education	Elementary	6	5.2	4	3.5	$\chi2$=2.023 df=3 P= 0.568
	Guidance	22	19.1	16	13.9	
	Diploma	57	49.6	66	57.4	
	Academic	30	26.1	29	25.2	
Occupation of husband	Unemployed	1	9	1	9	$\chi2$=1.452 df=3 P= 0.693
	Worker	57	49.6	48	41.7	
	Self-employment	31	27	35	30.4	
	Employee	26	22.6	31	27.0	
Education of husband	Uneducated	0	0	1	0.9	$\chi2$=4.368 df=4 P= 0.356
	Elementary	8	7.0	7	6.1	
	Guidance	28	24.3	27	23.5	
	Diploma	65	24.3	56	48.7	
	Academic	14	12.2	24	20.9	

According to the results of this study, the mean score of nutritional behavior was 17.22 ± 25.991, for the training group and was 13.77 ± 2.575 for the control group (Table 2).

Results of t-test showed that there was a significant difference between the training and control groups, from the aspect of the nutritional behavior (P=0.000). The findings also showed that there was a significant difference about

traits of the consumption of food groups, the number of meals and duration of iron tablet's consumption in these groups (the intervention and control groups) after the postpartum period, that have been shown in the Table 3.

Table 2: Absolute and relative frequency distribution for the postnatal nutritional behavior for the training and control groups

Characteristics / Group		The number of woman	Mean	Standard deviation	Standard error	Result of the test
Nutritional behavior	Training	115	17.22	2.991	0.2789	t=9.379
	Control	115	13.77	2.575	0.24016	df=228 P=0.000

Table3: Absolute and relative frequency distribution for the food group's consumption in the postnatal period

Group / Food groups		Training group		Control group		Statistical test
		The number of woman	Percentage	The number of woman	Percentage	
Meat group	1	54	47	107	93	$\chi2$= 64.596
	2-3	61	53	6	5.2	df=2
	3	0	0	2	1.7	p= 0.000
Dairy group	0-2	31	27	82	71.3	$\chi2$=45.553
	3-4	70	69.9	29	25.2	df=2
	≥5	14	12.2	4	3.5	p= 0.000
Fruit group	0-2	32	27.8	60	52.2	$\chi2$=16.823
	3-4	68	59.1	50	43.5	df= 3
	5-9	13	11.3	5	4.3	p=0.001
	10	2	1.7	0	0	
Vegetable group	0-2	57	49.6	105	91.3	$\chi2$= 48.540
	3-4	56	48.7	9	7.8	df=2
	5-9	2	1.7	1	9	p=0.000
Bread and cereals	0-2	48	41.7	92	80	$\chi2$= 35.782
	3-4	64	55.7	21	18.3	df=2
	5-11	3	2.6	2	0.7	p=0.000
The number of daily servings	Irregularly	1	0	9	0	$\chi2$= 25.009
	3 daily servings	8	7	21	18.3	df=3
	3 daily servings	33	28.7	57	49.6	p=0.000
	3 daily servings + snack	73	63.5	37	32.2	
Use of iron supplement	Not consumed	2	1.7	32	27.8	$\chi2$= 46.162
	<1 month	10	8.7	10	8.7	df=5
	1 month	12	10.4	16	13.9	P=0.000
	2 month	36	31.3	39	33.9	
	3 month	54	47	18	15.7	
	5 month	1	9	0	0	

DISCUSSION

Findings of this research showed that mean score of the nutritional behavior at the postpartum period in the training and control groups was very different, after intervention in women referred to the health care centers in Semnan city. Moreover, the consumption of meat, fruit, vegetables, dairy products and cereals, the number of daily servings and use duration of the iron supplementation after childbirth, significantly increased for the intervention group. In support of this conclusion, Mirmolaei et al. [16] in one study, investigated the effect of the nutritional training during the pregnancy period on the nutritional behavior of the pregnant, mother and they reported that, there was a significant difference in the nutritional behavior of the pregnant mother for the intervention and control groups. Moreover, results of Liu et al. [1] showed that consumption of fruits, vegetables and cereals in women of the intervention group were more than those in the control group, and the nutritional behavior in the intervention groups was more desirable than the control group. Therefore these findings as well confirmed our results. So that in study of Totten et al. [18], consumption of fruits and vegetables, significantly increased in the pregnant women, after participating in the classes of pregnancy period preparation, but the effects of these classes, were not significant on the dairy products and meat consumption. In research of Widga and Lewis [19], on the comparison of dietary intakes before and after the intervention, revealed a significant increase in the total energy, folate, iron, zinc, and calcium and showed a significant increase in the daily servings from the vegetable group and breads/grains groups after. Results of Walden et al, [17] revealed that the health and nutritional habits of pregnant women, were improved after training in the intervention group. In the study of Thassari et al. [21], nutritional training classes, had no effect on the nutritional status of the pregnant women. Considering this fact that training and encouraging of women in order to changing of the inappropriate behaviors, is very important, especially during the pregnancy period and the postpartum period [22]. Therefore, class of the pregnancy period preparation is a good opportunity to providing the fundamental training to the mother and her family in relation to the health behaviors [23]. The results from this research showed that, classes of the pregnancy period preparation can have a positive effect, on the nutritional

behaviors and also improve these behaviors. So that the effect of this behavior changing is still viable up to the four months after childbirth. It seems that, increasing of the nutritional awareness in the behavior of these classes, will lead to changing of behavior. This means that the nutritional correct behaviors were replaced with the nutritional inappropriate or wrong behaviors. It is suggested that, in order to the quality improvement of the postpartum period care and the promotion of the mothers' health, based on the culture of each region of the country, more research and appropriate planning can be performed for the training of pregnancy and postpartum.

REFERENCES

[1] N. Liu, L, Mao, X. Sun, L. Liu, P. Yao, B. Chen, BMC Public Health, 2009, 9,45.
[2] Understanding the health culture of recent immigrants to the United States: A cross- cultural maternal health Information Catalog. [http://www.apha.org/ppp/red/index.htm].
[3] R. Gibbs, 1980, 55(5 Suppl), 178S-184S.
[4] L. Gilbert, W. Porter, V. Brown, 1987, 94, 67-71.
[5] J. Dodd, M. Dare, P. Middleton, Cochrane Database Syst Rev, 2004, 18(4), CD004222.
[6] Y.J. Cui, L.M. Mao, X.F. Sun, L. Liu, Chinese J Nurs, 2006, 1(41), 43-44.
[7] L.M. Mao, X.F. Sun, L.G. Liu, Y.J. Cui, C.L. Liu, B.H. Chen, Chinese Journal of Chronic Diseases, 2004, 3(4), 89-93.
[8] J.L. Beard, M.K. Hendricks, E.M. Perez, L.E. Murray-Kolb, A. Berg, L. Vernon-Feagans, J. Irlam, W. Isaacs, A. Sive, M. Tomlinson, J Nutr, 2005, 135, 267-272.
[9] R.N. Cheryl Renfree Scott, Anemia and the Breastfeeding Woman. IBCLC, 2004.
[10] C. Breymann, ITO Textbook 2005.
[11] E.J. Corwin, L.E. Murray-kolb, J.L. Beard, J Nutr, 2003, 133, 4139-4142.
[12] S.V. Dean, Z.S. Lassi, A.M. Imam, Z.A. Bhutta, Rep Health, 2014, 11 (Suppl 3), S3.
[13] J. Groll, S.D. Neamark, J Nutr Edu, 2003, 33(4), 193-198.
[14] E. Althuizen, M.M.N. van Poppel, J.C. Seidell, C van der Wijden, W van Mechelen: BMC Public Health, 2006, 26(6),168.
[15] L.L. Albers, J MidwiferyWomHealth, 2000, 45, 55-57.
[16] S.T. Mirmolaei, M. Moshrefi, A. Kazemnejad, F. Farivar, J Hayat, 2009, 15(4), 35-42. (In persian)
[17] C.M. Walden, A.T. Still, B. Zinn, P.G. Larsen, Am J Matern Child Nurs, 1998, 11(2), 288-293.
[18] S. Totten, K. O'Connor, P. Choremiotis, J. Jeswiet, K. Macrae, Evaluation of the KFL&A Health Unit Prenatal Education Program. PHRED, 2003, 1-40.
[19] A. Widga, N.M. Lewis, J Am Diet Assoc, 1999, 99(9), 1058-1062.
[20] K.S. Montgomery, J Perinat Med, 2003, 12(2), 22-30.
[21] J. Thassari, N. Kala, L. Chushington, J. Phongthanasarn, S. Boonsirat, S. Jirojwong, J AdvNurs, 2000, 32(6), 1450-1458.
[22] M.D. Kogan, M Kotelchuck, G.R. Alexander, W.E. Johnson, Am J Public Health, 1994, 84(4), 82-88.
[23] S.S. Ricci, Lippicotwillimas and wilkins, 2007,928.