Journal of Novel Applied Sciences
Available online at www.jnasci.org
©2014 JNAS Journal-2014-3-7/789-792
ISSN 2322-5149 ©2014 JNAS

Assessing the Educational Needs of Nutrition during Pregnancy

Masoomeh Shakeri*

Department of Midwifery, Zanjan Branch, Islamic Azad University, Zanjan, Iran

***Corresponding author*:** Masoomeh Shakeri

ABSTRACT: Providing nutritional needs of mothers is necessary for improving maternal and fetal health. Training nutritional behavior based on mothers' needs is of paramount importance. Therefore, the present study aimed at determining training needs of nutrition of gestation period for the mothers referred to Zanjan health centers in 2013. **Materials and Methods:** In this cross-sectional study, 697 primiparae who referred to Zanjan health centers in 2013 were selected using stratified cluster sampling. The data-collection tool included a researcher-made questionnaire made up of two main parts. The first part was concerning the personal information and the pregnant mothers and the second part evaluated training needs of mothers in 3 scopes. The scopes included appropriate nutritional behavior of gestation period, appropriate nutritional pyramid of gestation period, and appropriate nutrition while having underlying problems and common diseases of gestation period. Validity of the questionnaire was confirmed using its content validity and reliability through test-retest with Cronbach's alpha of 0.89. The data were analyzed using descriptive statistics, the Mann–Whitney test, Chi-square and ANOVA statistical tests using SPSS 15.**Findings:** According to the research results, the mean age of the mothers and the mean of gestational age were 27+3 years and 32+4 weeks, respectively. Here, 81% of the mothers needed mid- and high level of training needs and training needs on nutrition of gestational period decreased significantly with the increase of mothers' level of education ($p<0.001$). **Discussion and Conclusion:** The research results indicate pressing need of mothers to training in different scopes of nutrition. Therefore, it is proposed to consider special programs during gestation period training to improve awareness of nutritional behavior of pregnant women and meet their training needs.

***Keywords*:** pregnant mothers, training needs, nutrition of gestation period.

INTRODUCTION

Getting appropriate and enough physical activity during pregnancy has a significant impact on maternal health and fetal growth (Stuebe,2009). By increasing natural muscular stretch, strength, and endurance, physical activity during pregnancy could help mothers tolerate gestational weight gain and prepare them for labor pain (Evenson,2010). Physical activity during pregnancy prepares mothers for the stages of labor. Moreover, some researchers have shown that fetuses of the mothers who did exercise during pregnancy could tolerate the difficult stages of labor better than other women (Zong,1996). Due to its antioxidant effects in preventing hypertension during pregnancy, maternal physical activity has attracted the attention of researchers (Woolson,2004). Regular physical activity enhances antioxidant defense systems in the human body such as superoxide dismutase and glutathione peroxidase enzymes (Sorensen,2003). Woolson et al. studied the effect of regular work and physical activity during early pregnancy and pregnancy induced hypertension in 2638 women who had received prenatal care. The results showed that physical activity during pregnancy reduces the incidence of hypertension in pregnancy by 79% (Yeo,2000). The American College of Obstetricians and Gynecologists and the Center for Disease Control and Prevention recommend healthy pregnant women to follow standard sports programs. Doing these exercises can have beneficial effects on both mothers and fetuses (Zong,1996). Reduced incidence of hypertension, eclampsia, and pre-eclampsia is among these beneficial effects. Regular exercise during the first 20 weeks of pregnancy could reduce the risk of pre-eclampsia by 34% (Sorensen,2003). It could also prevent deep vein thrombosis by helping

blood flow velocity in the lower extremities and preventing it from stopping (Yeo,2000). Regular physical activity during the first 6 weeks of pregnancy could reduce the prevalence of cesarean in pregnant women. Other beneficial effects of doing exercise during pregnancy include shortened second stage of labor, fast and easy labor, less need to painkillers to reduce the perception of pain, and reduced maternal and fetal complications due to easy labor (Dungury,2003). In 36% of the middle-aged women suffering from urinary incontinence, Kegel exercise, which aims at strengthening pelvic floor before, during and after pregnancy, could reduce the incidence of urinary tract disorders and control them (Melzer,2004). Other effects of doing exercise during pregnancy include creating a sense of well-being, increased self-esteem, improved body image, reduced anxiety and depression, and fast and easy adaptation to pregnancy-induced changes (Domingues,2008). If doing aerobic exercises during pregnancy based on the existing standards is followed by proper nutrition, it will not cause infant development problems; on the contrary, the infants born to athlete mothers will have fewer fat cells compared to a control group (Percival,2000). Recent studies indicate that following an appropriate and moderate-intensity exercise program in mothers with healthy pregnancy could promote maternal health, and will cause no harm to the growing fetus. Unfortunately, however, pregnant women usually choose a sedentary lifestyle(Evenson,2010). Training health behaviors can lead to behavioral changes. In other words, lack of exercise and sedentary lifestyle could be replaced with appropriate physical activities during pregnancy (Dungury,2003). Various studies on the effect of education on pregnant women's physical activity have been conducted (Melzer,2004). The value of health education programs depends on how these programs are adapted to the educational needs of the target group ((Domingues,2008). Various studies have been conducted on determining the educational needs of pregnant women in different areas affecting maternal health(Percival,2000). However, the existing studies on the educational needs of physical activities in pregnant women are very limited (11). In most countries, according to the health goals of the World Health Organization (WHO), pregnant women's health is considered as a significant health indicator (Evenson,2010). Today, provision of the required training during pregnancy is not satisfactory(Yeo,2000). Given the importance of appropriate education proportional to women's need on physical activity during pregnancy, this study aims to determine the educational needs of physical activity during pregnancy in the mothers referring to the health care centers in Zanjan in 2013.

MATERIALS AND METHODS

The data were collected using a questionnaire consisting of two sections. The first section, including 12 questions on the demographic information of the mothers, and the second section, including the questions on mothers' educational needs in 2 areas (permitted physical activity during pregnancy and appropriate physical activity pyramid during pregnancy) were assessed. Content validity and reliability method was used to determine the scientific validity of the questionnaire. The questionnaire was then completed within 10 days by 20 of the mothers participating in the study. Finally, their reliability was confirmed with a correlation coefficient of 0.81. To determine the score of mothers' educational need on appropriate physical activities, the questionnaire included 12 questions. There were 7 questions that were measured based on the quintuple Likert scale from 0 to 4 (28 scores), and there were 5 yes-no questions, which were scored 1 and 2 (10 scores). The total score for each individual was measured as 50. Mothers' educational need on the recommended levels of physical activity during pregnancy was divided into four levels (high, moderate, lack of exercise, and sedentary lifestyle). The mothers who declared the level of required activity in each group of activity proportional to the recommended level were given 2 scores. Those who declared it as less than the daily requirement level were given 0 score, and those who declared it as more than the daily requirement level were given 1 score. For each individual, the total score on appropriate physical activity during pregnancy was calculated ranging from 0 to 62 scores.

RESULTS AND DISCUSSION

RESULTS

The subjects included 697 pregnant women with an average age of 27 and a standard deviation of 5.29. The mean gestational age and standard deviation were 28 weeks and 0.38 weeks, respectively. Most of the mothers (95.6%) were housewives, and most of the families had an average economic status (53.2%). Most of the mothers (52.2%) had high school and diploma education. There were 49.3% with a normal BMI (19.8-26) and 94.1% with a wanted pregnancy (table 1). Most of the subjects (67%) had a moderate educational need on appropriate physical activities during pregnancy. The findings related to the educational needs of mothers on the recommended level of physical activity during gestational age showed that in terms of moderate physical activity, 94% of the pregnant mothers had a high educational need on the recommended level of physical activity during pregnancy for the above-mentioned group. 68% of these mothers had a high educational need in terms of lack of exercise. In terms of the

level of sedentary lifestyle and its complications and vigorous exercise during pregnancy, 78% and 49% of the subjects showed a high educational need, respectively. About the relationship between individuals' educational needs and demographic information and some underlying variables, the results showed that there was a significant relationship between mothers' educational needs and their education level (p = 0.01).

Table 1- Frequency of Distribution and Percentage of Educational Needs of Physical Activity in Mothers Referring to Health Care Centers in Zanjan in 2013

Range of Educational Need	Low		Moderate		High	
Scope of the Study	Number	(%)	Number	(%)	Number	(%)
Appropriate Physical Activity during Pregnancy	*63*	9%	*293*	42%	*341*	49%
Recommended Levels of Physical Activity (physical activity pyramid during pregnancy)	*35*	5%	*104*	15%	*558*	80%

DISCUSSION

Various studies on the level of physical activity in different periods of life and the factors influencing it have been conducted (Bolandhemmat,2009). However, few studies on the educational needs of different groups in terms of appropriate physical activities have been conducted (Penny,2004). The findings of the present study showed that 81% of the mothers in all areas of the study had a moderate and high educational need. In a study, Shakeri et al. emphasized the positive effects of education on appropriate physical activities during pregnancy (Shakeri,2011). Changing health behavior through appropriate trainings based on mothers' educational needs is one of the pillars of risk factor modification and control during pregnancy (Chasen,2004). The results of the present study are consistent with the results of the studies by Pashaee et al. and Widga et al. According to their studies, most of the mothers showed a high educational need in different fields of appropriate physical activities during pregnancy (Mirmolaei,2007). Moderate physical activity plays a significant role in maternal health and adequate blood flow to the placenta (Penny,2004). Studies show that most of the pregnant women choose a sedentary lifestyle during pregnancy(Shakeri,2011). It seems that cultural differences and various trainings are responsible for the difference in the level and type of educational need in different groups of women.In the present study, the mothers had a high educational need in terms of the necessity of an appropriate physical activity. however, in a study by Thassri et al., the mothers did not show a high educational need (Bolandhemmat,2009). Due to low awareness or physiological issues during pregnancy and fatigue, some pregnant women might have less physical activity. After determining mothers' educational needs, it seems necessary to support and train them on the necessity and required level of physical activity in order to control and treat gestational disorders such as hypertension (Chasen,2004). According to the results, the educational need on the level and necessity of moderate physical activity was high in 94% of the subjects. Kirkham et al. believe that holding educational interventions with appropriate frameworks and content based on mothers' educational needs could modify the required physical activity for mothers during pregnancy (Kirkham,2005). According to Gagnon, women's increased awareness of appropriate physical activities during pregnancy is an influential factor towards changing their attitude and behavior (Shakeri,2011).The results showed that there was a significant relationship with mothers' level of education and their educational needs in terms of appropriate physical activities during pregnancy and demographic characteristics and some underlying features.

CONCLUSION

Overall, the results of this study indicate that mothers greatly need education in various areas of physical activities. Therefore, specific programs during pregnancy are recommended to be considered in order to raise pregnant women's awareness and meet their educational needs. Given the importance of modification and promotion of physical activities in pregnant women, and emphasizing the fact that paying attention to individual differences in mothers plays an important role in training mothers, the existing differences should be considered in implementing educational programs.

ACKNOWLEDGEMENT

The present paper is the outcome of a research plan approved by Islamic Azad University of Zanjan Hereby.I appreciate Research Department of Islamic Azad University of Zanjan.That provided us with the opportunity to conduct the present study.We also thank all those who helped us to conduct this research for their efforts.

REFERENCES

Addo VN. 2010. Body Mass Index, Weight Gain During Pregnancy And Obstetric Outcomes. Ghana Med J; 44(2): 64-69..

Bolandhemmat M, Jajvandian R, Saadati Z and Tafazzoli M. 2009. The Association of Maternal Position and Physical Activity with Birth Weight. J Mashhad School Nurs Midw; 9(2): 127-34.

Chasan-Taber L, Schmidt MD, Roberts DE, Hosmer D, Markenson G and Freedson PS. 2004.Development and validation of a Pregnancy Physical Activity Questionnaire. Med Sci Sports Exerc; 36(10): 1750-60.

Domingues R, Marlos S, Barros J, Aluisio M and Matijasevich A. 2008. Leisure time physical activity during pregnancy and preterm birth in Brazil.Int J Gynecol Obstet;103(1):9-15.

Dungury TS,Peaslea DL,Jackson AW and Perez MA. 2000. Exercise Durin pregnancy and Type of Delivery in Nullipara;29(3):258-264.

Evenson R.Towards. 2010. an understanding of change in Physical Activity from pregnancy through postpartum .Psychol sport Eercise ,In press,corrected proof,Available online 29 April 2010.

Kirkham C, Harris S and Grzybowski S. 2005. Evidence-based prenatal care and counseling issues.Am Fam Physician. Aprl;71(7):1307-16

Melzer K,Schutz Y and Soehnchers N. 2004. Othenin-Girard Hypertention.Ame J Epidemol oct.;160(8):758-65

Mirmolaei ST, Moshrefi M, Kazemnejad and Farivar F. 2007.The Effect of Education on Health Behavior in pregnant women]. M.sh Dissertation, Tehran university of medical sciences: (Persian)

Noohi E,Nazemzadeh M and Nakhei N. 2010. The study of knowlege ,attitude and practice of puerperal women about exercise during pregnancy.J Iran university of medical sciences ;23(66):10-17.

Penny E.Clark G and Gross H. 2004. Women`s behavior belief`s and information sovrces about physical exercise In pregnancy.Midwif;20(2):133-141.

Percival P ,Page A and Kitzinger S. 2000. The new midwifery Science and sensitivity in practice .Edinburgh:Harcourt;319-320-329.

Shakeri M, Mazlomzade S and Mohammadian F. 2011. Factors Affecting the Rate of Cesarean Section in Zanjan Maternity Hospitals in 2008. Zanjan University of Medical Sciences Journal. 20(80): p. 98-104.

Sorensen TK,Williams MA,Lee IM ,Dashow EE,Thompson ML and Luthy DA. 2003. Recreational physical Activity during pregnancy and risk of preeclampsia ,Hypertension Jun;41(6):1273-80.

Stuebe M,Oken E and Gillman W. 2009.Associations of diet and physical activity during pregnancy with risk for excessive gestational weight gain.Ame J Obstet Gynecol;201(1):58

Woolson R, Bracken MB. 2004. Work, leisure time physical activity, and risk of preeclampsia and gestational hypertension. Am J Epidemiol .Oct; 160(8): 758-65.

Yeo S,Steele NM,Chany MC ,Leclair S,Ronis DL and Hoyashi R . 2000. Effect of exercise on blood pressure in pregnant women with a high risk of gestational hypertensive disorders.J Reproduct Med .45(4):293-298.

Zong J and Savitz OA.1996.Exercise during pregnant among USA women.Ann Epidemiol;6(1):53-59.