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Investigation of Knowledge, Attitude and Practice of Pregnant Women Regarding Nutrition during Pregnancy in Yazd City

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ABSTRACT

Introduction: Pregnancy is one of the most important stages in maternal and fetal life, in which mother's need for energy and food during this period increases due to physiological changes. As a result, mother's nutritional status has a significant impact on her health, her fetus, pregnancy outcomes and ultimately the community. Studies have shown that nutritional knowledge and attitudes affect nutrition effectively. Therefore, this study was conducted with the aim of determining the knowledge, attitude and practice (KAP) of pregnant women regarding nutrition during pregnancy in Yazd.

Methods: This cross-sectional descriptive study was performed on 120 pregnant women in Yazd health centers during summer 2017. The questionnaires in this study were researcher-made including demographic variables, knowledge, attitude and practice of pregnant women. Finally, data were analyzed using descriptive statistics and coloration in SPSS version 18.

Results: The results showed that knowledge in 33.3% of pregnant women was poor, 64.2% moderate and 2.5% good. The attitude of most people (98.2%) was positive towards proper nutrition during pregnancy. The practice of 70% of people was moderate about nutrition during pregnancy.

Conclusion: According to the results of this study, the knowledge and practice of most people in the field of nutrition during pregnancy was in the medium range. Furthermore, the attitude of most people was positive towards nutrition. Therefore, educational programs to improve the knowledge and practice of pregnant women should be implemented by pregnant care providers.

Keywords: Health Knowledge, Attitudes, Practice, Pregnancy, Nutritional Status

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Introduction

Pregnancy is one of the most important and most risky stages of life for both mother and fetus due to physiological changes that affects the individual, family, and the entire community. The physiological changes are hormonal, metabolic and physical which increase nutritional needs [1, 2]. Nutrition in pre-pregnancy and pregnancy plays a key role in fertility, prevention and elimination of some problems during pregnancy such as constipation, heartburn, anemia, urinary infection, childbirth, fetal development, next-generation health, quality of life and lactation [1, 3]. Nutrition attitudes and beliefs are important factors in predicting behavior and nutritional behavior. Also, knowledge, beliefs and cognitive factors in the field of nutrition are significantly related to nutritional behaviors and nutrition knowledge is one of the factors that affects the individuals and also the family's nutritional habits [4].

The average weight and height at birth and survival of the infant depend on the nutrition during pregnancy [3]. Inappropriate nutrition during pregnancy causes complications such as intrauterine growth retardation, abortions, early delivery, low birth weight, diseases such as insulin dependent diabetes, kidney disease, hypertension and other cardiovascular diseases in adulthood [5]. Low maternal weight gain causes impairment in the development of the fetus' nervous system; excess maternal weight gain causes an increase in cesarean section, long delivery [3], decrease insulin resistance [6] and maternal mortality [7]. The nutritional behavior of this period greatly depends on nutritional knowledge [3]. Due to the importance of pregnancy, monthly presence in health centers is a good opportunity to raise the level of awareness of pregnant mothers through education in order to influence nutritional behaviors. Today, the positive effect of nutritional knowledge and attitudes in pregnant women has been demonstrated on the nutritional status of the community and their meaningful relationship as well as cognitive factors with nutritional behaviors [8]. The present study was conducted to determine the knowledge, attitude and practice of pregnant women in the field of nutrition during pregnancy as an introduction to the implementation of nutritional educational programs for pregnant mothers to raise awareness, improve their attitude and practice.

Methods

This cross-sectional study was conducted on 120 pregnant women in Yazd in summer of 2017, with the aim of determining the knowledge, attitude and practice of pregnant women in Yazd, regarding proper nutrition during pregnancy. At first, some cluster samples from urban health centers located in five areas of Yazd city, were selected that nearly had socio economic similarity and then a health center was selected from each region. As a result, 5 clusters (health center) were randomly selected and 20 patients were assigned as a sample to each cluster. The total number of 120 people was determined for samples needed for the study by taking into account the ratio (p = 50%) and the permitted error value (d = 0.8). Then, demographic information, knowledge, attitude and practice of pregnant women were collected using anonymous self-administered questionnaires. The questionnaire used in this study was a researcher-made questionnaire and its evaluation and validation of the content and structure was examined by experts of this field. The reliability of the questionnaire was evaluated using 25 mothers, who were similar in terms of demographic characteristics, and the reliability coefficient using split half method was 0.75 for knowledge questionnaire and 0.08 for attitude and practice questionnaires. It consisted of four sections; the first part was about personal characteristics, age, occupation, education, number of children and economic status. The second part of the questionnaire was based on the knowledge of nutrition during pregnancy. Score one was assigned for each correct answer, and for each wrong answer the score was zero and the range of knowledge score was from 0 to 25, with

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a knowledge score of 0-8 indicating poor knowledge, 8 average awareness and 25-17 great knowledge. The third part of the questionnaire consisted of questions containing attitude scores ranging from 14 to 70. Attitude scores ranging from 14 to 42 indicated negative attitude and from 43 to 70 indicated positive attitude. The fourth part contained practice questions with scores ranging from 9 to 49. The score of 9 to 22.3 showed as a weak practice and the score of 23 to 50 was considered to be desirable.

The data were analyzed by SPSS software. For analyzing the results, descriptive and inferential statistical tests including Chi-square, t-test, ANOVA and correlation coefficient were utilized.

Results

The results of this study showed that the subjects with diploma (39.2%) had the highest frequency. Most of the subjects were housewives (76.9%) and most of them were in the age group of 23-29 years old (47.5%) and 39-36 years old (30.8%). In terms of the frequency of delivery, women who have never given birth (35.8%) had the highest frequency among the subjects.

The results showed that 33.3% of the subjects were in weak range, 64.2% in the average range and 2.5% in the good range (Table 1) regarding their knowledge on proper nutrition during pregnancy.

Table 1. Frequency distribution of knowledge, attitude and practice of the subjects regarding proper nutrition during pregnancy

Variables	Categories	Number	Percentage
Awareness status	Weak	**40**	**33.3**
	Average	**77**	**64.2**
	Good	**3**	**2.5**
Attitude status	Positive	**118**	**98.3**
	Negative	**1**	**0.08**
Practice status	Weak	**4**	**3.3**
	Average	**85**	**70**
	Good	**24**	**20**

According to the results, the attitude of most of the subjects (98.2%) was positive about proper nutrition during pregnancy (Table 1).

The practice of 70% of the subjects regarding proper nutrition during pregnancy is within the average range (Table 1).

The mean score of knowledge in the subjects was 3.61 ± 9.85 in the acquired range of 0-24, which is lower than the acquired mean. The mean score of attitude was 8.10 ± 55.53 in the pre-acquisition range of 14-70, which is higher than the acquired mean. The mean score of practice was 7.44 ± 30.36 in the acquired range of 9-49 which was higher than the pre-acquisition mean.

The results also showed that the mean score of knowledge, attitude and practice of pregnant women did not have a significant relationship with their education level, total monthly income, and frequency of delivery.

As it is revealed in Table 4, there is a significant relationship between mean score of women's practice and their job (p-value = 0.01). The highest score of knowledge and attitude was related to university students, respectively. The highest score of practice was for staff members.

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Table 2. Mean and standard deviation of knowledge, attitude and practice of pregnant women on their job

Job	Knowledge (Mean ± SD)	Attitude (Mean ± SD)	Practice (Mean ± SD)
Staff	10.81±3.25	59±7.16	34.81±4.68
Self-employed	7.5±4.94	51±2.82	22±7.07
University student	13.6±4.39	58.6±7.82	31.6±16.16
House wife	9.65±3.55	55.04±8.3	29.73±7.11
Others	10.66±2.08	56.66±9.01	33±3.46
P-Value	0.129	0.592	1.01

The results showed that there is a significant direct relationship between knowledge and attitude (p = 0.01), and practice is in direct relationship with knowledge and attitude (p = 0.05 and p = 0.01 respectively). In the study of demographic variables, there is a significant reverse relationship between income and knowledge (p = 0.05). The month of pregnancy has also a significant direct relationship with practice (p = 0.01).There is no significant relationship between knowledge, attitude and practice with job.

Discussion

The findings of this study showed that 97.5% of women's awareness was in the range of weak and average. This finding was consistent with the study of Khajavishojaii et al. regarding pregnant women who referred to university hospitals in Tehran, and 89.5% of them had average and low awareness [9]. Furthermore, in a study by Karimi et al. in Saveh, 74% of pregnant women had weak and average knowledge about diets [8]. However, in the study of Sajjadi et al. in Babol, the level of general nutritional knowledge in pregnant women was average [2]. In the study of Johnson et al., the knowledge score of 4.94 was reported, which indicates the low knowledge of the studied population [10].

Low awareness of mothers in this study can be related to education level and social factors.

Similarly, Nchang Mugyia et al. found that the sixty eight percent did not have knowledge about the risk of overfeeding in pregnancy [11].

The results of this study showed that 98.2% of the subjects had a positive attitude, which was consistent with the study of Fallah et al., in which 71.45% of the subjects had a positive attitude toward dietary change during pregnancy [3]. However, Karimi et al., found that one third of pregnant mothers had weak attitude about nutrition during pregnancy [8]. In a study by Farivar et al. in Sistan and Baluchestan, Golestan and Bushehr provinces, households' attitude towards nutrition in most areas has been also estimated as positive [12]. The findings of the study showed that 70% of pregnant women had an average practice of nutrition during pregnancy. Therefore, it can be assumed that average awareness and attitude, are followed by average practice. The study of Fallah et al. showed that both knowledge and attitude were effective on practice [3]. Karimi et al. also concluded in their study that working women had a better nutritional status and there was a meaningful relationship between pregnant women's education level and their knowledge. It can be concluded that two recent factors, influenced the individual's practice by generating income; however, in the current study, there is a significant relationship between job and practice, and a significant reverse relationship between income and knowledge. This is due to the refusal of many employed pregnant women to write their monthly income, or the increase in the consumption of fast foods in high-income pregnant women [8]. In a study by Mansourian et al. in Gorgan, there was a significant relationship between knowledge and attitude and family income [13]. The study of Bashirian et al. showed that the economic situation and the purchasing power of mothers have an impact on their intake of food groups [14]. The findings showed that there is not a meaningful relationship between knowledge, attitude and practice of pregnant women and their

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educational level. While in the study by Bashirian et al., there was a significant correlation between the mean score of total nutritional behavior and the education level of pregnant women [14]. In a study by Sajjadi et al., there was a significant relationship between pregnant women's education level and their overall nutritional awareness which is not in line with the results of the current study. In addition, in both studies, most of investigated subjects had diploma degree, and in this study, the highest score of knowledge and attitude was related to university students respectively and the highest score of practice was for staff members [2].

This study has shown that there is a significant relationship between knowledge and attitude at a level of 0.01; furthermore, practice with knowledge and attitude is in direct relationship respectively, which is in line with previous studies [3, 8].

The limitation of this study includes lack of participation of pregnant women covered by private centers in the study. Therefore, caution should be taken in generalizing the results to all pregnant women.

Conclusion

Regarding the relationship between knowledge, attitude and nutritional behavior in this study, in order to promote the knowledge and attitude of pregnant women, it is recommended to use goal-oriented and effective educational programs with the help of health staff and mass media. Furthermore, more effective studies and interventions can be designed and implemented, using the results of this study to improve nutritional and health promotion of pregnant women.

The majority of mothers' knowledge in the field of nutrition during pregnancy was in the average range, which affected most of them to have average range of practice. Questions about attitude showed a positive attitude toward nutrition during pregnancy; therefore, their practice can be increased by promoting their knowledge.

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Conflict of Interest

There are no conflicts of interest to declare.

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