

Knowledge and awareness of health practice during pregnancy among females of Jeddah City in Saudi Arabia

Rehab Alsaleh (1)
 Abdullah K. Alassiri (2)
 Asalah F. Hamad (2)
 Huda A. Bahasan (2)
 Nouf M. Alasiri (2)
 Maha A. Aljudaibi (2)

(1) Consultant of obstetrics and Gynecology, Ibn Sina National college for medical studies
 Jeddah, Kingdom of Saudi Arabia

(2) Medical intern, Ibn Sina National college for medical studies, Jeddah, Kingdom of Saudi Arabia

Corresponding author:

Dr. Nouf M. Alasiri
 Medical intern, Ibn Sina National college for medical studies
 Tel. No.: 00966553025400
 Email: ALASIRI_N@Dr.com

Received: October 2019; Accepted: November 2019; Published: December 1, 2019.

Citation: Rehab Alsaleh, Abdullah K. Alassiri, Asalah F. Hamad, Huda A. Bahasan, Nouf M. Alasiri, Maha A. Aljudaibi. Knowledge and awareness of health practice during pregnancy among females of Jeddah City in Saudi Arabia. World Family Medicine. 2019; 17(12): 27-34. DOI: 10.5742/MEWFM.2019.93710

Abstract

Background: Pregnancy is a delightful experience for the expectant mother. It is a good time to develop healthy lifestyle habits including regular exercise, playing yoga and avoiding smoking and it is an integral part of life of a woman which changes her physically, mentally, emotionally and spiritually for rest of her life. It is a condition in which a woman changes both from inside as well as outside. There is a direct link between healthy mothers and healthy infants.

Subjects and Method: An observational cross-sectional study was done carried out on 445 females from the general population in Jeddah city, Saudi Arabia, from January to June 2019. The tool used in this study consisted of a self-administrated questionnaire applied in Google form to cover three important perspectives (socio-demographic data, knowledge and awareness about wrong beliefs and risk behaviors during pregnancy).

Results: The study sample included 445 participants. Most participants confirmed the importance of sports during pregnancy and that smoking had a harmful effect. 75.5% of participants confirmed the importance to consult a doctor before traveling; strikingly most of the participants had limited knowledge about correct practice during pregnancy (>60%).

Conclusion: Overall knowledge about correct and poor practice during pregnancy was low to moderate. So, the study group recommended formation and implementation of health education programs to be given to expectant mothers especially on issues related to nutrition and activity. Evaluation of its impact on mothers and babies can be applied at a later stage.

Key words: Knowledge, health, practice, pregnancy, females, Jeddah

Introduction

A woman who is healthy at the time of conception is more likely to have a successful pregnancy and a healthy child. Observational studies show strong links between health before pregnancy and maternal and child health outcomes (1). Despite the importance attributed to good pre-pregnancy care and its potential to improve pregnancy and child health outcomes (2) most pregnant women in Jeddah had moderate knowledge on risk factors for a healthy pregnancy.

A cross-sectional study was conducted to assess the levels of knowledge and behavior of pregnant women and showed that only 42% of them knew all the main risk factors for pregnancy (e.g., smoking, alcohol, obesity and lack of physical activity (3).

There are growing public health concerns about the transfer of contamination, such as nicotine monoxide and other harmful chemicals, from the pregnant women who smoke, to the growing fetus. Also, it can affect the function of placental vascular and umbilical artery blood flow and can pass directly into the fetal bloodstream (4).

Previous studies have shown that the proportion of women who smoke throughout pregnancy is 7–17% in high-income countries like Sweden, Norway, Germany, Canada, USA and Australia (5). In Saudi Arabia, the prevalence of smoking in 2015 was 2.9% in females (6).

Physical activity is not harmful during pregnancy and is important for health and wellness, which has led some women to choose to stay active during pregnancy (7). Pregnant women have cited discomfort during exercise, fear of harming the fetus and a history of abortion or infertility treatments as reasons for reducing physical activity (8). Many socio-demographic factors, such as obesity, lower educational level, income and greater number of children at home, are most frequently associated with reduced physical activity (9).

However, due to physical changes that occur during pregnancy, special precautions are also needed. Most guidelines suggest that women should seek advice from their health care provider before starting or continuing an exercise program. It is advised to avoid sports that involve risk of falls, trauma or collisions during pregnancy (10).

Yoga is an ancient discipline designed to bring balance and health to the physical, mental, emotional and spiritual dimensions of the individual (11). Yoga provides a great range of activity to the unborn child and mother in numerous ways. Yoga soothes the mind, refocuses energy and prepares the woman psychologically for labor (12).

Folk traditions among women have linked dental health with pregnancy, as dental minerals are recycled to benefit fetal bone formation. In addition, confusion over the safety of accessing dental care during pregnancy has led some women to avoid treatment during the prenatal period (6).

According to the World Health Organization (WHO), sexual health is a complex biological and sociological concept that requires a positive and responsible approach to sexuality and sexual relationships. Sexual health can be greatly altered during pregnancy, birth and the postpartum period (13). Several studies have assessed the knowledge and awareness of pregnant women about their practices during pregnancy, such as smoking, lack of physical activity, oral health care and obesity. To the best of our knowledge, there is a lack of information about the level of knowledge among Saudi females as to health practices during pregnancy.

Therefore, this study aimed to evaluate the knowledge and awareness of women in Jeddah regarding important health practices during pregnancy through these objectives: 1) to evaluate knowledge about traveling by airplane, 2) to evaluate awareness about the benefits of doing physical exercise, 3) to evaluate knowledge about sexual activity during pregnancy, 4) to evaluate awareness of good dental care and regular dentist visits during pregnancy, and 5) to evaluate awareness regarding the negative impact of smoking during pregnancy.

Subjects and methods

Study design and time frame: This was an observational cross-sectional study. The study was conducted over a six-month period from January to June 2019.

Sampling methodology: Participants in this study were taken from the general population of Jeddah, Saudi Arabia. A survey was sent to 445 females living in Jeddah. Cases accepted for analysis were pregnant, non-pregnant, married, widowed and single women, children, males and females. Excluded from the study were children less than 18 years of age.

Sample size was estimated using Epi Info (Epidemiological Information Package) version (21) 3.5.3. statistical package, assuming that the frequency was (20%) at a confidence interval of 95% and power of 80%.

Study instrument: Data were collected from study participants using a standardized, self-administered questionnaire applied in a Google form that had been downloaded from the internet. Informed consent was voluntarily sought from the participants after clarifying the aim of the study, methods and duration of the study.

1- A pilot study was carried out to evaluate the validity and reliability of the questionnaire given to participants. Test-retest reliability was assessed using the questionnaire two times on 10% of the sample size (45 subjects). Based on the result of the pilot study, some modifications and rearrangement of some questions were made. Validation of the questionnaire was done as follows: the questionnaires were translated using the back-translation technique. An expert translated the original questionnaire from English into Arabic. The Arabic version of the questionnaire was translated back into English by a bilingual individual. The

back-translated and original versions of the questionnaire were compared with attention given to meaning and grammar.

2-The self-administrated questionnaire consisted of three sections: 1) The first section consisted of socio-demographic characteristics: age, occupational status, marital status, having been pregnant before, pregnant now and number of children.2) The second section consisted of four close-ended questions about knowledge and awareness about wrong beliefs and risk behaviors during pregnancy: 1) Do you think playing sports has a harmful effect on pregnancy?, 2) Does smoking have a harmful effect on pregnancy and the fetus?, 3) Do you think doing yoga is useful for pregnant women?, 4) Do you think sleeping in a specific position (sleeping on the side) has a good effect on pregnant woman?

3-The third section consisted of five questions: (Awareness): 1) Do you think traveling by plane is harmful to pregnant women? 2) Do you think visiting a dentist will harm the fetus or the mother during pregnancy?, 3) Do you think sleeping and sitting a lot is useful for pregnant women?, 4) Do you think prolonged standing, daily movement and exercise may harm the pregnant woman?, and 5) Do you think sexual intercourse is harmful during pregnancy?.

Questions were developed from a review of qualitative and quantitative literature for relevant items (3,14,15) and consisted of 15 items.

Scoring of the questionnaire: Knowledge was measured by a set of nine questions. Four questions were asked with one point given for a yes answer and zero for a no answer. An additional five questions were asked, with three points given for a correct answer and 0 for an incorrect answer. Consequently, knowledge scores ranged from 0 to 19. The higher the score was, the better the knowledge. Cronbach's Alpha was used to measure consistency of the questionnaire. A reliability coefficient of 0.703 was considered acceptable.

Ethical considerations: Ethical approval for the study was obtained from participating hospitals and the ethical review committee of the college; all study participants provided consent for the study. The nature of the study was fully explained to the participants to obtain their informed consent prior to participation in the study, and data were kept confidential.

Data analysis: Data were entered in an Excel spreadsheet. The collected data were recorded then presented and analyzed using SPSS (Statistical Package for the Social Sciences) version 22.0 and qualitative data were presented as number and percentages.

Results

Out of the 460 women invited to fill out the questionnaire in this study, 445 responded, making a response rate of 96.7%. All of the included subjects were Saudi women. Various questions were asked to assess their knowledge of wrong concepts of pregnancy in the study area. The mean age (\pm SD) of the participants was 32.4 (\pm 9.26) years. However, a considerably high proportion of the respondents (79.77%) were in the age range of 20–40 years. Most of the respondents were married (65.6%), while 62.6% of them had been pregnant before and most of them (60.7%) had healthy children, numbering from one to eight children. Only 6.3% were pregnant at the time of the study. As far as occupation, nearly two-thirds (62.7%) worked (had a job) and 37.3% were housewives, as described in Table 1 and Figure 1.

Regarding the level of awareness of participants about health concepts during pregnancy, it was good to observe that most of the participants (61.1%) believed that sleeping on one side was not necessary during pregnancy. The majority of participants confirmed the importance of doing sports during pregnancy (90.6%) and that smoking had harmful effects on pregnancy and the fetus (98%) (Table 2 and Figure 2).

It was also good to find that most participants had previous knowledge about the importance of consulting a doctor during pregnancy regarding traveling by plane (75.5%), visiting a dentist (77.1%), sleeping and sitting a lot (63.1%) and daily movement during pregnancy (70.6%). When asked about intimate relations during pregnancy, only 5.6% found that it may lead to harm during pregnancy (Table 3 and Figure 3).

Regarding participants' level of knowledge as measured through the scoring system applied, it was found that most of the participants had accurate knowledge about health practices during pregnancy (> 60%).

Table 1: Demographic characteristics among students in the study

Demographic Character		No	%
Age (32.4 ± 9.26)	20-40 years	355	79.7
	40-60 years	90	20.3
	Total	445	100.0
Married	Yes	292	65.6
	No	153	34.4
	Total	445	100.0
Pregnant now	Yes	28	6.3
	No	417	93.7
	Total	445	100.0
Pregnant before	Yes	279	62.6
	No	166	37.3
	Total	445	100.0
Had children	Yes	270	60.7
	No	175	39.3
	Total	445	100.0
Children number	1	48	10.8
	2	62	13.9
	3	66	14.8
	4 or more	94	34.8
	Total	270	100.0
Professionally active	Yes	166	37.3
	No	279	62.7
	Total	445	100.0

Figure 1: Socio-demographic characters among participants in the study

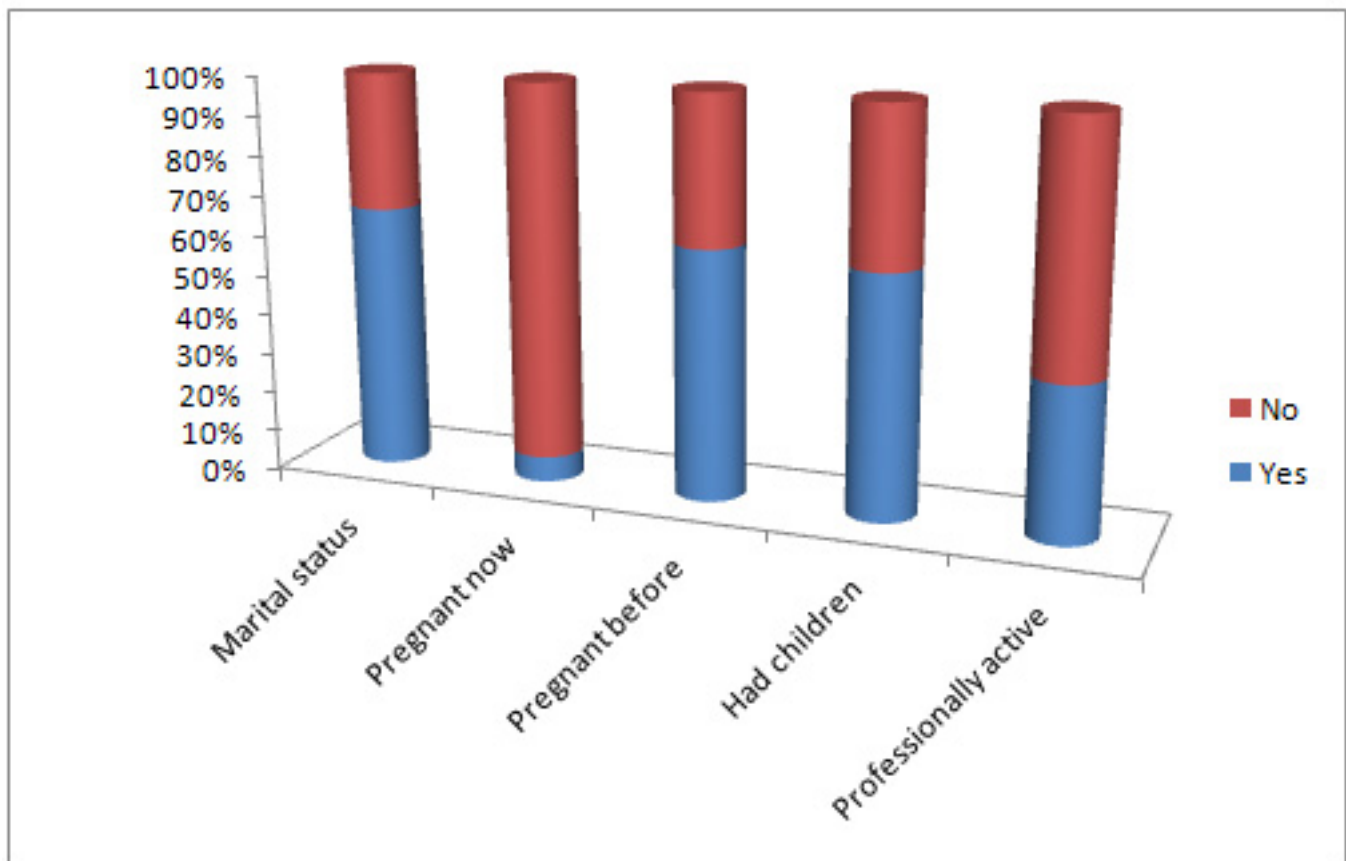


Table 2: Participants' knowledge about concepts during pregnancy

Variable		No	%
Sports have harmful effect on pregnancy	Yes	42	9.4
	No	403	90.6
	Total	445	100.0
Smoking has a harmful effect on pregnancy and fetus	Yes	436	98
	No	9	2
	Total	445	100.0
Drinking castor oil facilitates childbirth	Yes	160	36
	No	285	64
	Total	445	100.0
Yoga is useful for pregnant women	Yes	377	84.7
	No	68	15.3
	Total	445	100.0
Sleeping in a specific position has a good effect on the pregnant woman	Yes	173	38.9
	No	272	61.1
	Total	445	100.0

Figure 2: Participants' knowledge about concepts during pregnancy

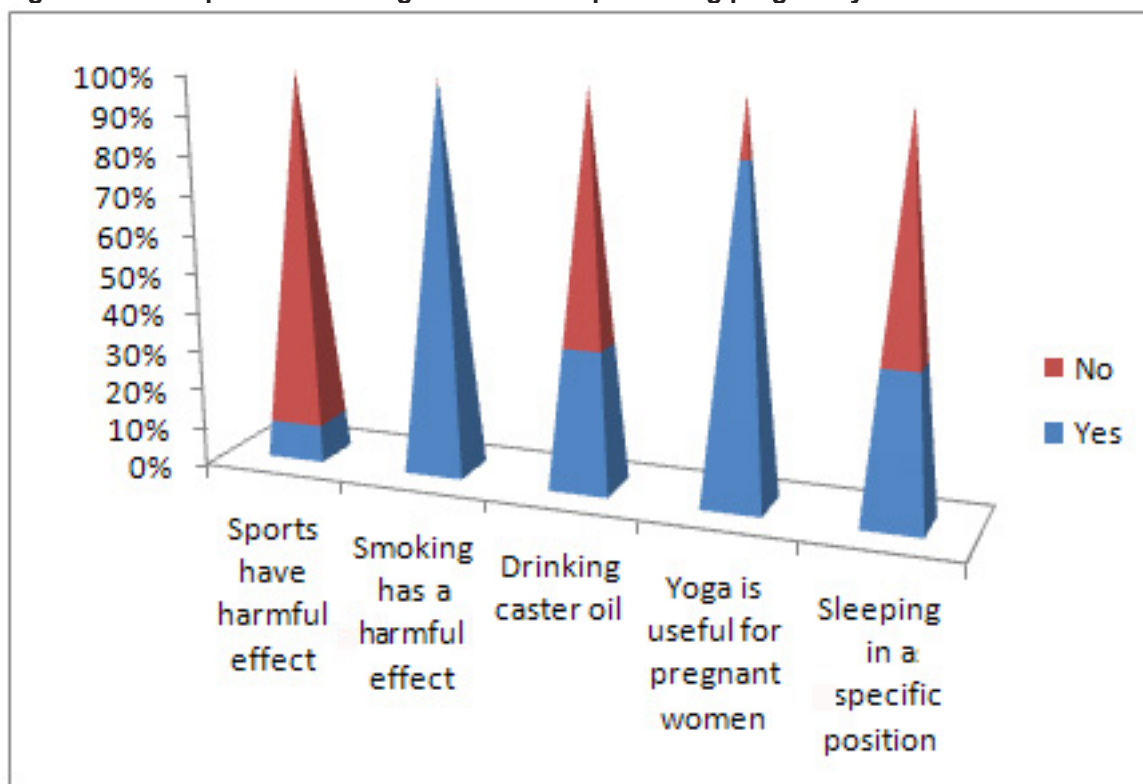
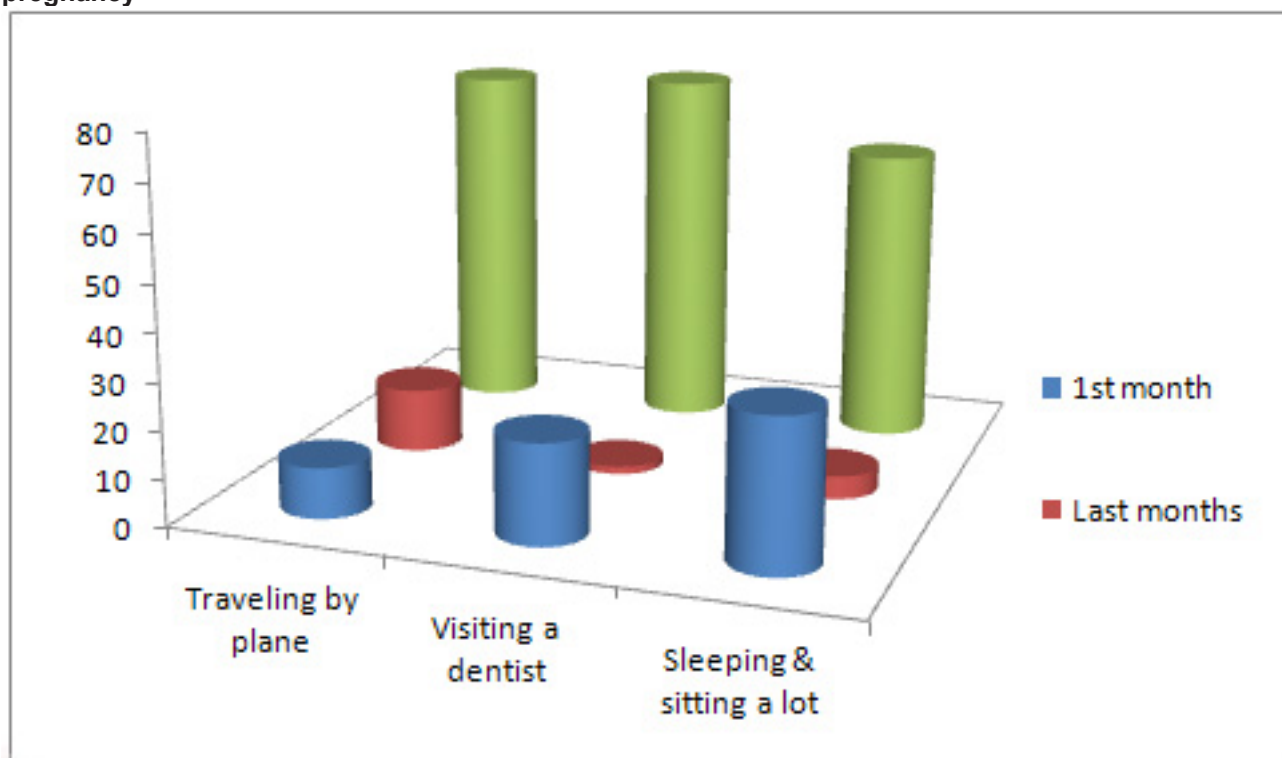


Table 3: Participants' awareness about travelling, visiting dentist, sleeping a lot, daily movement and sexual intercourse during pregnancy

		Answer (Yes)	%
Traveling by plane is harmful to pregnant women	1 st months	48	10.8
	Last months	61	13.7
	After consulting doctor	336	75.5
	Total	445	100.0
Visiting a dentist will harm the fetus or the mother during pregnancy	1 st months	95	21.3
	Last months	7	1.6
	After consulting doctor	343	77.1
	Total	445	100.0
Sleeping and sitting a lot is useful for the pregnant woman	1 st months	142	31.9
	Last months	22	4.9
	After consulting doctor	281	63.1
	Total	455	100.0
Standing, daily movement and exercise may harm the pregnant women	1 st months	117	26.3
	Last months	14	3.1
	After consulting doctor	314	70.6
	Total	455	100.0
Sexual intercourse is harmful during pregnancy	No	25	5.6
	1 st months	97	21.6
	Last months	16	3.6
	After consulting doctor	307	69
	Total	455	100.0

Figure 3: Participants' awareness about travelling, visiting dentist, sleeping a lot and daily movement during pregnancy



Discussion

Despite the importance attributed to good pre-pregnancy care, a relatively limited number of women invest in pre-pregnancy health and care. This observational, cross section study aimed to evaluate the knowledge and awareness of Jeddah females regarding various health concepts during pregnancy.

The study was conducted on 445 females through a structured questionnaire applied in a Google form. The mean age (\pm SD) of the participants was 32.4 (\pm 9.26) years. This coincides with a study done in Saudi Arabia by Alfayez et al., (16) aimed at assessing the attitudes and knowledge of Saudi women about neonatal screening programs and their psychological impact. More than half of the participants in the age group 20–40 years had healthy children (82.7%) and about 31.2% had more than four children.

The women in this study sample were shown to be adequately knowledgeable (90.6%) concerning the practice of physical exercise during pregnancy. This is similar to results reported in various other countries, as these studies evaluate the knowledge of pregnant women about physical exercise during pregnancy and investigate why some women do not exercise (17,18,19). These studies found that women perceive physical exercise as beneficial because they believe it helps control blood glucose levels, minimizes weight gain, improves energy efficiency and mood, makes childbirth easier and contributes to fetal health (8). Despite some women recognizing these advantages, the rest of the women believed that it was more important to rest and relax during pregnancy than to exercise.

Several studies (20) have investigated the effects of a regular exercise program during pregnancy. A systematic review completed in 2010 found broad literature support for the antidepressant effects of exercise in the general population and how physical activity improves self-esteem and reduces the symptoms of anxiety and depression during pregnancy (21).

Regarding practicing yoga during pregnancy, more than 80% of participants agreed that it provides a great range of activity and benefits to the unborn child and the mother (12). Practicing yoga includes physical postures and breathing techniques that minimize complications of pregnancy, such as pregnancy-induced hypertension, intrauterine growth retardation and pre-term delivery (22). Most women reported the importance of practicing yoga at least once a week in early (92%) and mid (66%) pregnancy.

Smoking during pregnancy may cause many health problems for pregnant women and their newborn. Most participants (98%) believed in the harmful effects of smoking. Esposito et al. (3) stated that about 42% of women correctly knew all the main maternal risk factors of smoking during pregnancy. The study was conducted to explain

the harm of smoking by the mother during pregnancy and found that smoking is strongly associated with low weight birth (2500 g), anatomical defects, such as congenital heart defects, and sudden infant death syndrome. Smoking also imposes a considerable economic burden on the health care system (5).

A survey was conducted on 10,735 individuals in Saudi Arabia aged 15 years or older between April and June 2013 to assess the status of tobacco consumption. It found that prevalence of current smoking was 12.2% and males were more likely to smoke than females (21.5% versus 1.1%) (23).

About food beliefs and practices during pregnancy, 64% of participants did not believe that drinking castor oil during pregnancy would help facilitate childbirth. Aikins (2014) (24) did a qualitative study that examined pregnancy food beliefs and practices in Ghana. Thirty-five multi-ethnic Ghanaian women between the ages of 29 and 75 were interviewed about pregnancy food beliefs and practices. About 23% showed that noncompliance is attributed to “faulty” cultural knowledge and poor access to expert nutrition knowledge and interventions.

A study done to describe the consumption habits of pregnant women in the Jazan region in five primary health care units in Saudi Arabia found that consumption of canned food (71%), sugary desserts (97%) and fast food (86%) were higher among pregnant women in the sample (25).

In summary, more than 60% of participants had good knowledge about health practices during pregnancy regarding exercise, nutrition, seeking medical care and smoking. In a study done by Daba et al. (2013) (15), the knowledge of pregnant mothers was relatively low concerning information about nutrition, which could be explained as differences in family income and educational status of mothers.

Limitations

One of the limitations was the need to increase the samples taken to compensate for incomplete questionnaires. And being a cross-sectional study showed the relation between variables without concluding a cause-effect relationship.

Conclusion

Overall knowledge about health practices during pregnancy was moderate. We recommend more health education programs about all aspects of antenatal care programs, including health education programs about maternal risk factors such as bad habits. Implementation and evaluation of such programs may help improve knowledge and attitudes among general populations.

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