



Assessment of Pregnant Women’s Knowledge and Practice Regarding a Healthy Diet

Mona Abdelgadir Ahmed^{1*}

¹*Faculty of Applied Medical Science, Albaha University, KSA, Saudi Arabia.*

Author’s contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

The period of pregnancy is one of the critical periods for the pregnant mother. during which the mother's nutrition and lifestyle greatly affect the health of the mother and the child and also the mother's nutrition during pregnancy affects the growth and potential development of the fetus and contributes to the maturity of a healthy child [1]. during pregnancy there are many superstitions throughout the world, especially in the developing countries like Sudan. Throughout the world pregnancy and lactation are considered vulnerable periods for both the mother and the child. this is Because of the nutritional requirements of the mother and the fetus [2]. This descriptive cross-sectional study was conducted based on a questionnaire that was distributed to expectant mothers in the outpatient clinics of Omdurman Maternity Hospital in Sudan, Khartoum State. We were able to distribute 120 questionnaires but only 80 of pregnant mothers agreed to fill it. we took in to account the psychological state of the pregnant woman, all of the participants were Sudanese, the ages ranged between more than 40 years less than 20 , most of them in first trimester , and all of them came to the hospital to follow up the pregnancy In the period from March 2019 to Aprile 2019 .

The Method: That was used is a descriptive analytical by means of a questionnaire distributed among pregnant women came to Omdurman Maternity Hospital in the outpatient clinics in the period from, March .2019 to Aprile 2019. the questionnaire was completed with all pregnant women who were satisfied to fill .the questionnaire, included the socio-demographic

*Corresponding author: Email: mauqila@bu.edu.sa, monaabdulkader200@hotmail.com;

characteristics of the mother, as well as The information about the pregnant woman's nutrition related concepts.

The Aim of this Study: The was to assess the pregnant knowledge about healthy diet during pregnancy.

The Specific Objectives: The was to evaluate nutritional concepts that among pregnant women attending outpatient clinics, Omdurman Maternity Hospital In the period from March. 2019 to Aprille 2019. This hospital was opened in 1957. and it is the largest obstetrics and gynecology hospital in Sudan . The hospital is considered one of the best hospitals in Africa. It is located in Omdurman, which is one of the largest cities in Sudan in terms of Sudanese density [3].

The Results: Excel was used to analyze the answers of 80 participants, and the result was that. Most of the participants (55%) were in the age (30-39) and in secondary education level (51.5%) And those who do not have a job were (73.75%). Also most of the pregnant women who participated in this study had a confirmed pregnancy between 4 to 6 times(46.25%) , And those who completed 24 weeks between 1 to 3 times were(63.75%) , which is the highest percentage as the lowest number were women who completed their pregnancy for more than 24 weeks for more than 6 times. also most of the participants had abortion were (68.75%), also Most of the participants said that they know a healthy diet for pregnant women (77.5%), while some said they were not sure. and others said they did not know that (22.5%), most of the participants (53.75%) stated that healthy foods are more important for children than for mothers. In answering the beliefs about foods during pregnancy (43.75%) of the them said that they believe in some foods during pregnancy. Among the most widely believed foods were eggs (11.25%), hot spices (6.25%), fish, cold drinks and other foods (19.80%). And also (25%) of the participants reported that not receiving such advice. also (12.5%) of them receive advice from outside the health system . about (23,75%) of the participants were not aware of the folic acid important for pregnancy , And (23.75%) of them do not use it ,most of those who did not use it stated that the reason was economic . also most of pregnant women (45%) who participated in this questionnaire follow up with midwives followed by physician (23.5%) , the rest (23.5%) are following the pregnancy with other parties .

Keywords: Pregnant women's; knowledge; healthy diet; pregnancy.

Justification: To correct the false knowledge, bad habits, behaviors and practice of pregnant women towards healthy diet during pregnancy.

1. INTRODUCTION:

Pregnancy is an important period for the growth and development of the fetus, and the physiological change of the mother is supported by proper nutrition. Undernutrition and overnutrition can be associated with negative pregnancy outcomes, so it is important to evaluate and monitor the improvement of maternal nutrition before and during pregnancy [4,5]. Pregnancy is considered one of the critical periods for the mother, during which the mother considers nutrition a major factor affecting the health of both the mother and the child, and complications during pregnancy or childbirth become at their lowest levels [6]. Pregnancy has additional nutritional requirements and pre-pregnancy counseling about nutritional requirements during pregnancy is an essential component of good prenatal care. Which affects the development and growth of the fetus in all

its stages and continues until after birth [7]. Nutrients are the building blocks of the body. Important nutrients include proteins (needs to grow and repair muscles and other tissues. (Carbohydrates main fuel that powers all of its activities) and fats which needs in a certain amount to function normally. other micronutrients(vitamins & minerals etc..) . Getting enough nutrients during pregnancy safeguards health and contributes to the baby's normal development [1]. Some pregnant women sometimes have food-related side effects during pregnancy, such as nausea and vomiting, which is usually caused by hormonal changes that can lead to avoiding odors and foods that worsen the disease. This sometimes leads to a pregnant woman consuming some substances that do not suit her, such as: eating more nutritious foods high in carbohydrates. dry toast or biscuits, breakfast cereals, fruits, and non-food items such as clay and other materials . Pregnancy is influenced by a variety of factors including cultural norms as well as traditional beliefs and myths about food, which are unfortunately widespread. It is evident that most women

adhere to traditional beliefs in their eating habits during pregnancy and breastfeeding (food taboos) [8]. Another problem for a pregnant woman is food taboos, which is a prohibition of some foods during pregnancy or lactation. Unfortunately many pregnant and breastfeeding women practice myths and traditional beliefs in eating foods. Myths in the use of foods and customs is thought to exist as a result of religious or cultural causes. In Sudan food taboos has been in described in Nimule sate, Southern Sudan, women and girls in this part of the country are deprived of protein rich foods due to negative cultural Which is believed to be like bad luck, misfortune and miscarriages [9]. In some areas in Sudan, some foods, such as fatty foods during pregnancy, are not allowed, with the belief that they accelerate childbirth and increase the size of the fetus, which leads to difficulty in childbirth [10]. Many women in Africa remain particularly exposed to what has become known as hidden hunger which means the lack of or inadequate intake of micronutrients resulting in different types of malnutrition such as anemia and deficiencies of iron, vitamin A and zinc [11,12]. Food insecurity in the form of undernutrition will affects early childhood development as the child's brain and central nervous system are compromised [13].

2. MATERIALS AND METHODS

The method, that was used is a descriptive analytical by means of a questionnaire distributed among pregnant women came to

Omdurman Maternity Hospital in the outpatient clinics in the period from March. 2019 to Aprille. 2019. the questionnaire was completed with all pregnant women who were satisfied to fill .the questionnaire, included the socio-demographic characteristics of the mother as well as the information about the pregnant woman's nutrition related concepts

3. RESULT S

The results were included in the following Table 1 and Figs. 1-14 The figurs below (characteristic) show that Most of the pregnant women (55%) who were between the ages of 30 to 39 , followed by the ages between 20 to 29 (27.25%), the lowest percentage is in the age is more than 40. (7.5%) while the age less the 20 years is(10%) and also show the education level of the participants which revealed That Most of their educational level is the secondary level (51.5%), followed by the primary level (23.75%), and the lowest percentage are women who have not received any education (3.75%), while the university level comes in the third stage, (21.25%) And shows that most of the pregnant women who participated in this questionnaire belong to the Islamic religion (95%) while other (Christian) is (5%). Al so the table shows that most of the survey participants are not working (73.75%), while only (26,25%) occupy jobs. And most of the pregnant women who were surveyed were from within the city (78.75%) while the lowest number are from out side city (21.25%).

Table 1. Participants characteristics regarding knowledge and practice

Characteristic, n (80)	Variables	Frequencies %
Age	<20	27.25%
	20-29	55%
	30-39	7.5%
	>40	10%
	Total	100%
Education level	illiterate	3.75%
	primary	23.75%
	secondary	51.5%
	University	21.25%
	Total	100%
Religion	Christian	5%
	Muslim	95%
Total		1005
Occupation	Household	73.75%
	Working	26.25
Total		100%
Address	Urban	78.75%
	Rural	21.25%
Total		100%

1: Gravid

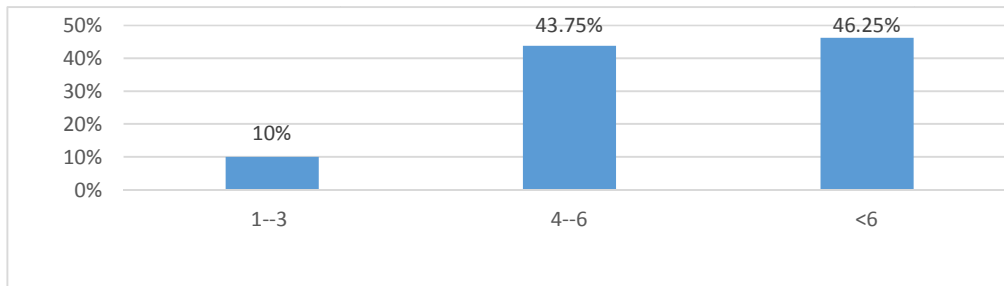


Fig. 1. The figure shows the number of confirmed pregnancies of the mothers, and most of the mothers had a confirmed pregnancy in ranged from 4 to 6 times (46.25%), while it was between 1 to 3 times (43.75%), and the number of pregnancies more than 6 times was only (10%)

2: Para

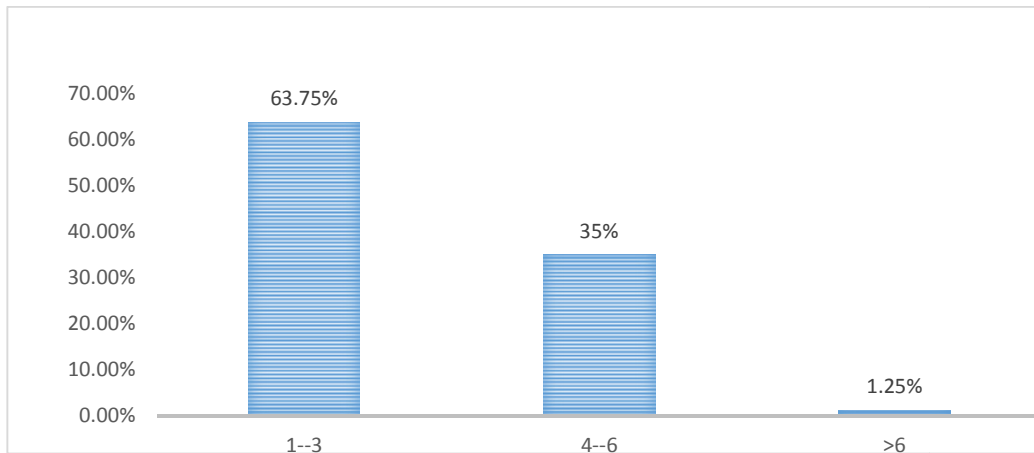


Fig. 2. shows that pregnant women who had the number of pregnancies and who had completed their pregnancy age more than 24 weeks were between 4 to 6 times wase (35%), and from 1 to 3 times wase the highest percentage, which is (63.75%), while the lowest percentage is more than 6 times, which is (1.25%)

3: Abortion

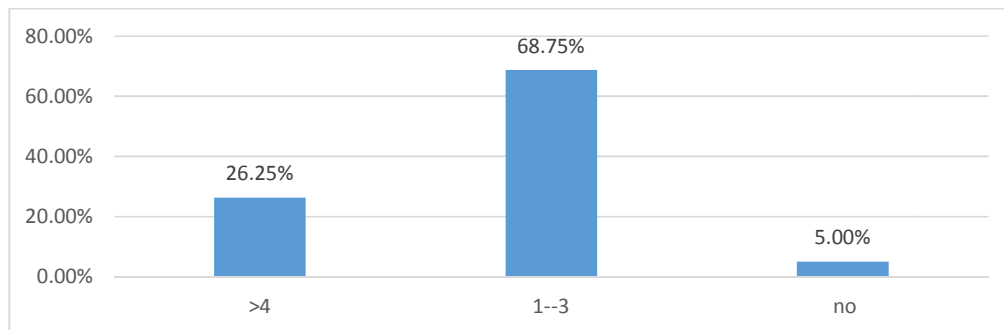


Fig. 3. shows that most of the pregnant women included in the study had not had abortion before (68.75%), while some had a abortion from 1 to 3 times wase (26.25%), and only 5% had a abortion more than 4 times

4: Gestation stage

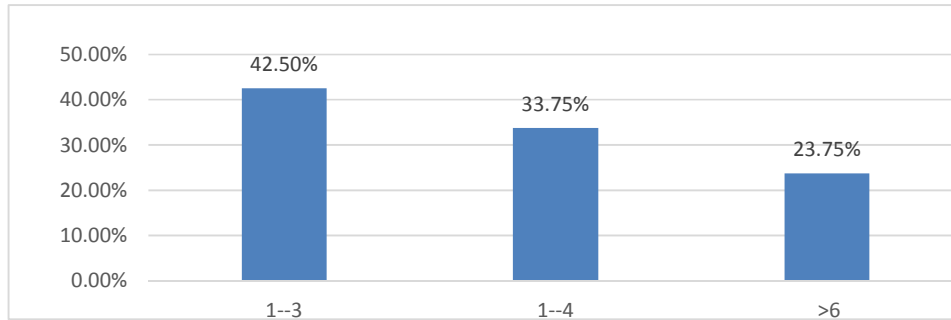


Fig. 4. Shows that most of the pregnant women (42.5%) who participating in the questionnaire came to the hospital between the first and third months, followed by those in the fourth to the sixth month (33.75), then those in >6 is months which is (23.75)

5: Knowledge about healthy food

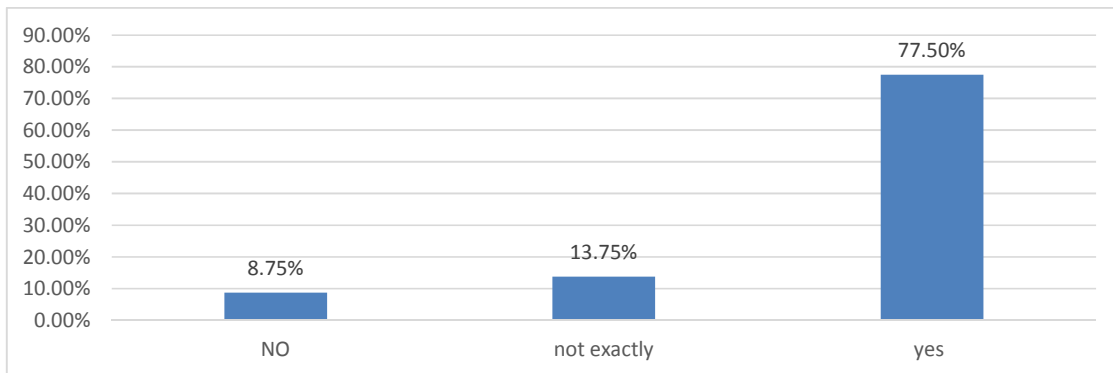


Fig. 5. Shows that the most of pregnant women (77.5%), answered that they know healthy foods, while some of them (13.75%) said they knew but not sure and others answered that they did not know (8.75%)

6: For whom the important of diet is

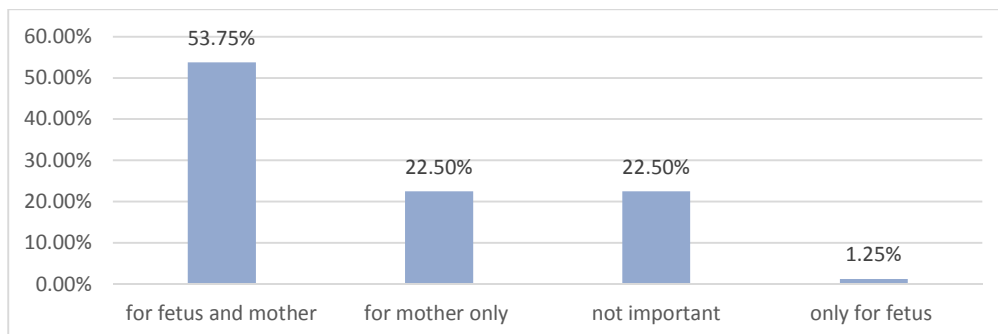


Fig. 6. Shows the answers of the respondents in the questionnaire about the importance of healthy food, where (53.75%)said the importance is for both mother and infants , while the other group (22.5) ,said the importance of healthy healthy food should be just for the mother only, while others (22.5%) , answered that healthy food is important for the fetus , and only (1.25%) do not know how important it is

7: Belief in some food?

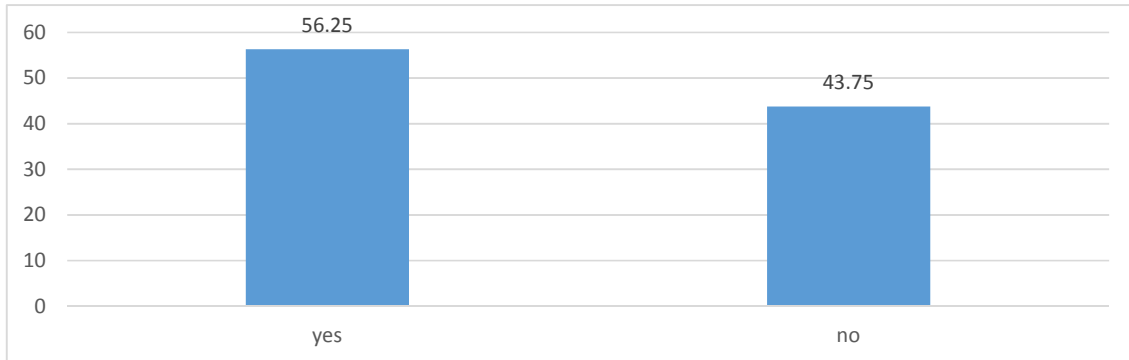


Fig. 7. Shows the participants' answers about the extent of their belief in some foodstuffs during pregnancy, as most of them (56.25%) were said he did not believe in foodstuffs, but (43.75%) said he believed in some substances during pregnancy

8: Food to be believed in

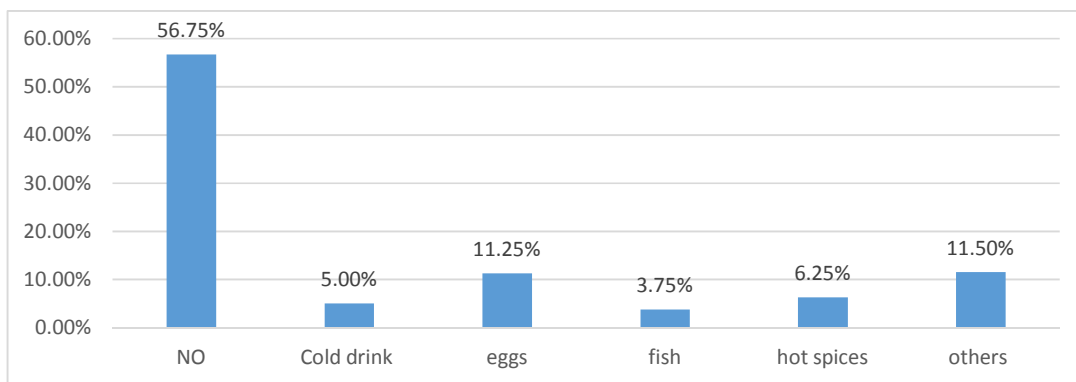


Fig. 8. Shows the answers of pregnant women participating in the questionnaire about the types of foods they believe in during pregnancy, which is that 56.75 do not believe, as mentioned in the previous table, as for the foods believed to be eggs (11.25%), hot spices 6.25% cold drinks 5%, fish 3.75%, However, there are (11.5%) believe in other foods not mentioned

9: Receive

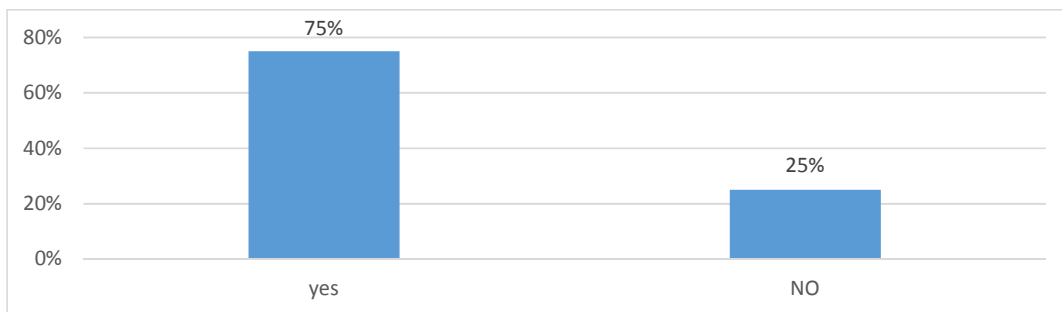


Fig. 9 Shows whether the participants received nutritional advice or not, as 75% reported receiving advice, and 25% reported not receiving such advice nutritional advice during pregnancy

10: Who is the advice provider during pregnancy

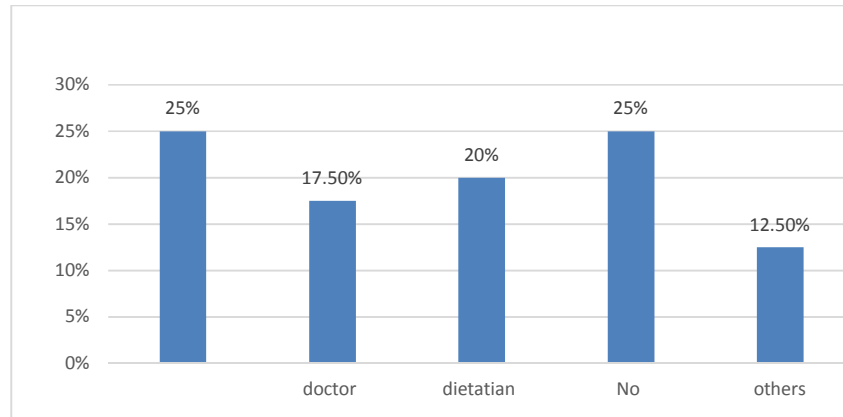


Fig. 10. Shows the respondents' answers about the agency that provides nutritional advice during pregnancy, and the answer was that 25% did not receive advice as in the previous figure, and the response of those who received advice was that it was given to them from doctors and dietitian(25%), and 20% said they received advice only from dietitians , 17.5% only from doctors, while 12.5% said they received advice from other source

11: Knowing the importance of folic acid

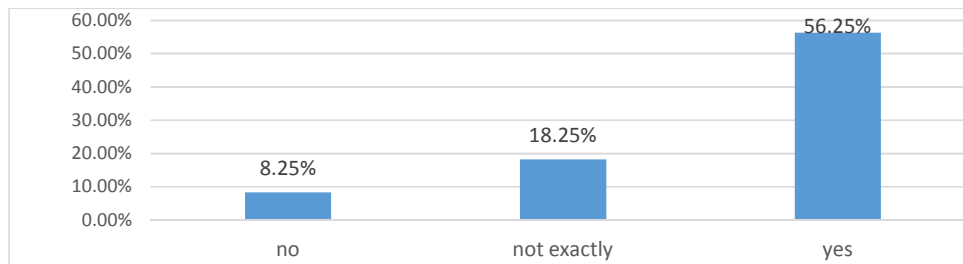


Fig. 11. Shows the answer to the importance of folic acid for pregnant women and the answer was that 56.25% knew how important it is, while 18,75%, his answer was that they were not exactly aware of its importance 8.75 were not aware about

12: Use of folic acid

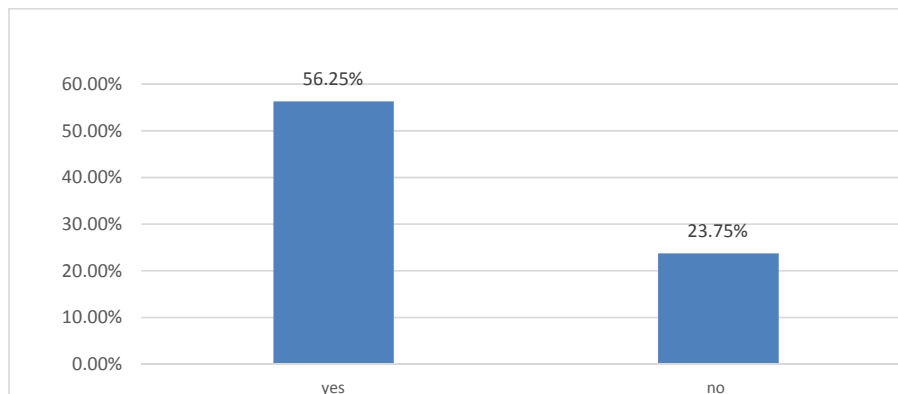


Fig. 12. Shows the answer to using folic acid for pregnant women, and the answer was that 56.25% take it, while 23.75 their answer was that they do not take folic acid

13: Why do not use folic acid

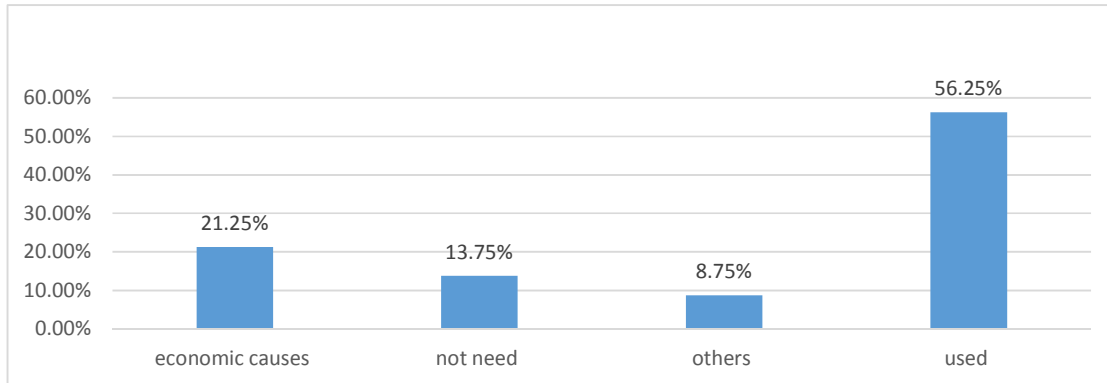


Fig. 13. Shows the answer to the reason for not using folic acid for pregnant women, and the answer was that 56.25% took it, while 23.75% was their answer that they did not take folic acid as in the previous figure, and the answer varied for not using it was 21.25% of them said the reason was economic and 13.75% said they did not need to use while 8.75% said they had other reasons for not using

14: Mother follow up

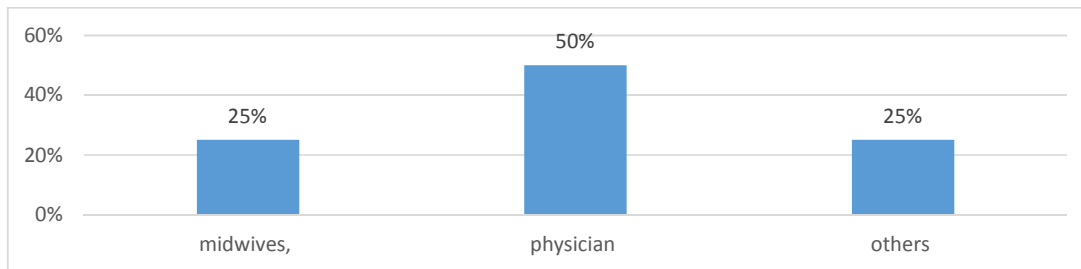


Fig. 14. Shows that most pregnant women, 50% , who participated in this questionnaire, follow up with midwives, while others follow up with physician 25%, and The rest continues with other parties 25%

4. DISCUSSION

Sudan is one of the countries with multiple food cultures, [14]. In the result of analyzing the questionnaire, I found that most pregnant women have secondary or lower secondary education, which may have an impact on increasing awareness of the correct concepts of nutrition, and moving away from false beliefs of some foods (78.8%--}, It was indicated in previous studies, and the result was the presence of dietary beliefs of some pregnant women, and the highest percentage was also a misconception about eating eggs..[8]. also found that most of the participants do not have jobs or a source of income, which also affects the economic situation, which was referred to in some of the questions, as some reported that he did not deal with some recipes such as folic

acid in relation to the economic situation. Also, a high percentage of pregnant women did not receive advice on healthy eating, and most of them follow the stages of their pregnancy at midwives outside health institutions, which makes them far from the sources specialized in the field of nutritional advice . There are also other studies conducted on a similar subject, and they found that Energy and carbohydrates intake were inadequate by pregnant Sudanese mothers, [15]. Other study in Yaounde found that satisfactory knowledge on adequate nutrition in pregnancy, but with significant gaps and difficulty in translating knowledge into practice. Maternal dietary habits are greatly influenced by hormonal changes in pregnancy, socio- economic status, food taboos and cultural beliefs; thus making it difficult to practice the nutrition advice they receive [16].

5. CONCLUSION

We found that more than a third of pregnant women have superstitious beliefs about food. From the mothers' answers, it becomes clear that some of them lack full knowledge of healthy meals as shown in the Fig. 4 (23.75%). A superstitious belief in food is sometimes associated with living in rural areas, low education and insufficient prenatal counseling. diet during pregnancy was affected by a variety of factors, including cultural norms and financial level .

6. RECOMMENDATION

Multicultural peoples, such as in Sudan, have diversified food, which sometimes affects the belief in eating certain foods. This necessitates attention to increasing nutritional advice for mothers from the competent authorities. For pregnant women, and specially for pregnant women with limited income, that must be taken care of by providing some needs, such as folic acid.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s). The questionnaire was conducted after providing permission to the hospital's administrative authorities and presenting the questionnaire and its objectives.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Thompson RF, Einstein FH. Epigenetic basis for fetal origins of age-related disease. *J Womens Health (Larchmt)*. 2010;19(3):581-7.
2. Metcalf J. Maternal nutrition and fetal outcome. *Am J Clin Nutr*. 1981;34:708–21. [PubMed]
3. Available: <https://www.guide-sd.com>
4. Feodor Nilsson S, Andersen PK, Strandberg-Larsen K, Nybo Andersen AM. Risk factors for miscarriage from a prevention perspective: A nationwide follow-up study. *BJOG*. 2014;121:1375.
5. Institute of Medicine. Nutrition during pregnancy: Part 1: Weight gain, Part2: Nutrient Supplements. Available: <http://nationalacademies.org/hmd/reports/1990/nutrition-during-pregnancy-part-i-weight-gain-part-ii-nutrient-supplements.aspx> (Accessed on April 05, 2016).
6. Torfadottir JE, Birgisdottir BE, Geirsson RT. Weight gain in women of normal weight before pregnancy: Complications in pregnancy or delivery and birth outcome. *Obstet Gynecol*. 2002;99(5 Pt1):799- 806.
7. Zerfu TA, Umeta M, Baye K. Dietary habits, food taboos, and perceptions towards weight gain during pregnancy in Arsi, rural central Ethiopia: a qualitative cross-sectional study. *J Health Popul Nutr*. 2016;35:22.
8. Kheiri SA, Kunna A, Mustafa LS, Shaaeldin MA, Alsammani MA. Superstitious food beliefs and traditional customs among ladies attending the antenatal clinic at Omdurman Maternity Hospital (OMH), Omdurman, Sudan. *Ann Med Health Sci Res*. 2017;7:218-221.
9. Ahmed S, Abdullahi H, Adam I. Practice of pica among pregnant women in Khartoum, Sudan. *Int J Gynaecol Obstet*. 2012;118:71-72.9---Meyer-Rochow VB. Food taboos: Their origins and purposes. *J Ethnobiol Ethnomed*. 2009;5:18.
10. Available: https://www.who.int/nutrition/publications/infantfeeding/essential_nutrition_actions.pdf (Accessed on 12 August 2015).
11. Golden CD, Vaitla B, Ravaoliny L, Vonona MA, Anjaranirina EG, Randriamady HJ, et al. Seasonal trends of nutrient intake in rainforest communities of north-eastern Madagascar. *Public Health Nutr*. 2019;22,:2200–2209.[CrossRef]
12. Wang XL, Wang Y, Zhou SZ. Puerperal practice pattern in a rural area of north China. *Beijing Da Xue Xue Bao*. 2007;39:140-144.
13. Kariuki LW, Lambert C, Purwestri RC, Maundu P, Biesalski HK. Role of food taboos in energy, macro and micronutrient intake of pregnant women in western Kenya. *Nutr. Food Sci*. 2017;47:795–807. [CrossRef].

14. Marioud, Abdul Basit Adam. Introduction to food science and technology: Abd al-Basit Adam Marioud. Khartoum: Sudan University of Science and Technology. 2012;293: 24.
15. Sohair Ali. Dietary energy intakes of sudanese pregnant women. International Journal of Science and Research . (IJSR) ISSN. 2013;2319-706.
16. Health Sci. Dis. 2016;17(2). Available:www.hsd-fmsb.org

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