
Food Taboos and Misconceptions Among Pregnant Women of Shashemene District, Ethiopia, 2012

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Abstract: Background: A food considered as a taboo is strictly forbidden, for health, cultural or spiritual reasons. Food taboos are known from virtually all human societies and may be found in various forms all over the world. Pregnancy is viewed as a critical period in the life of women and is usually subjected to a number of food taboos as a way of safeguarding their lives and that of the unborn baby. Poor maternal nutrition, especially in rural settings, adversely affects pregnancy and birth outcomes. In many local communities, pregnant women have food taboos with consequent depletion of vital nutrients. Malnutrition is one of the most serious health problems affecting children and their mothers in Ethiopia. As a result, there is lack of comprehensive information regarding practices and the factors associated with them in the study area. Therefore this study was aimed at measuring women who are likely to have certain taboos/misconceptions during pregnancy among pregnant women attending ANC services in public health institutions of shashemene district. Method: An institution based descriptive cross-sectional study design followed by Simple random sampling technique was used for 295 pregnant women, who are attending ANC service from public health institutions of Shashemene district. The Data was coded, entered in to EPI info 3.5.1 and exported to SPSS version 20.0 for further analysis. Frequencies, percentages, crude odds Ratio, 95% Confidence Intervals and multiple logistic-regressions were analyzed. Finally, the result of the study was presented using texts, figures and tables. Result: one half (49.8%) of total pregnant mothers encountered food taboos at least for one food item. food items avoided were, linseed 92 times, honey 84 times, milk 67 times, fatty meat 63 times, eggs 50 times, fruits 41 times and vegetables 17 times. Reasons mentioned for avoidance of this food item; Plastered on the fetal head, makes fatty baby and difficult delivery, fear of abortion, evil eye, fetal abnormality. Educational status showed a significant association with belief of balanced diet. Conclusion: The study revealed that food taboos and traditional beliefs relating to pregnancy exist and larger proportion of women still believes in old unscientific tales. This can be improved by strengthening the nutrition counseling component of ANC which was inadequate in the ANC package received. Empowering community based health workers in providing effective nutrition counseling should be explored. There is a need for nutrition education and awareness generation among women; Increasing literacy status to reduce taboos/misconceptions.

Keywords: Food, Taboo, Misconceptions, Pregnant Women, Shashemene, Ethiopia

1. Background

Women and children are among the world most vulnerable in terms of unfavorable influences in the environment including insufficient nutrition, inadequate health care and poor education. In addition, Pregnancy brings those factors high risk for women. It is also common to hear pregnant women complain about changes in their appetites. Whereas some women report a dislike of or total aversion to specific foods, others report a strong craving for specific foods and non-food items, which are usually not readily accessible. [1]

Women and children are most vulnerable to poor nutritional status due to low dietary intakes, inequitable distribution of food, improper food storage and preparation & dietary taboos. [2]

Pregnant women who were not practicing taboos had significantly higher weight gain and heavier babies than women practicing strong food taboos in Nigeria. [3]

The World Health Report, 2003 states that, more attention should be given to maternal health and nutrition by governments and nongovernmental organizations. The United Nations meeting in 2006 clearly established that poor maternal nutritional status has to be improved in order to

achieve the MDG 5 (reducing maternal mortality by three quarters in the years between 1990 and 2015). [4]

Feeding practices are differing from culture to culture and society to society. Consumption patterns are part of the culture of any given society and are related to traditions beliefs and taboos. Each culture whether traditional or modern, it has beneficial as well as harmful feeding practices. In most cases women and children are highly affected by food habits and dietary discrimination. [5]

Results of other local and national nutritional surveys suggest that diets of mothers of low socioeconomic status are deficient in iron, zinc, and vitamins A and C. Therefore, it is indispensable that health professionals become more knowledgeable about the influence the culture has on breast-feeding, pregnancy and dietary behaviors and convictions that might be potentially harmful or dangerous during pregnancy and lactation. [6]

The study done in South India, Pondicherry out of 339, 216 (63.7%) told that some vegetables/fruits should be avoided during pregnancy. There was no significant difference regarding this misconception between literates and illiterates. Most of the illiterates (91.3%) told that papaya should not be eaten during pregnancy in comparison to 83.9% of literates. Most common reason for restriction of specified fruits/vegetables was abortion. [7]

In a study done by Puri S and Kapoor S it was reported that 16.5% of the adolescent girls believe that papaya can cause abortion. [8]

A study among 1200 women from all districts of Tamil Nadu in India showed that 82 % of women avoided papaya during pregnancy. And also papaya is considered to be a fruit which is 'hot'. Conventionally 'hot' food items are avoided during pregnancy as it is thought that it will cause abortion. Similarly 'cold' foods are avoided during lactation as it might affect the quality and quantity of milk production. [9]

Brems and Berg from findings of 18 different cultures of food intake concluded that deliberate restriction of food intake during pregnancy is likely to have a small but significant effect on birth weight. In addition to cultural recommendations regarding an overall increase or decrease in food intake during pregnancy, particular foods may be encouraged or discouraged. An issue of concern however, is the fairly widespread practice of discouraging consumptions of protein during pregnancy. Several studies have found that meat, or meat from particular animals is specifically withheld, but most frequently from pregnant or lactating women [10, 18-221].

The more frequent taboo was related to the simultaneous consumption of milk and fruits, such as mango, orange, pineapple, and nuts. They also considered eating eggs and fruits together harmful, as well as a combination of meat with fish. They mentioned that "combinations are harmful", "combination kills", and "mixing together causes indigestion and vomiting." These restrictions were more frequent during the lactation period than during pregnancy. Food taboos adversely affect the daily consumption of protein, energy, and some nutrients during the first month of nursing [11].

In Sudan, pregnant women often have restricted food intake mainly due to morning sickness which is prevented and treated by eating little and limited items of food: and due also to the belief that a large fetus causing obstructed labor will result from eating unrestricted amount of food. In Sokoto state of Nigeria, the untrained traditional midwives advice pregnant women to avoid sugar and honey as they cause prolonged painful labor. They also advise pregnant ladies not to take local soda which is supposed to make the fetus slim [12].

According to the ministry of health (MOH) in Ethiopia, pregnant women avoid specific food items due to several reasons: some pregnant women avoid as result of a strong dislike (aversion), other women avoid on medical grounds & most due to cultural beliefs or impositions. On this study, milk, eggs and goats meat are the major food items prohibited during pregnancy [10].

Study from Central statistical Authority of Ethiopia indicated that there are substantial numbers of pregnant women in developing countries who are obligated to avoid specific foods due to cultural beliefs or impositions in developing countries [13].

In most traditional society's food taboos are specifically directed toward women. The best and most nourishing portions of the food are served to the men. The nutritional deficiencies of most women are high particularly among pregnant and lactating women. Pregnant women are restricted from certain food stuffs. For example, in the South South-Western and central part of Ethiopia, pregnant women are forbidden to take all foods which are white in color such as milk products, fatty meat, porridge and potato. Such foods are believed to be plastered on the body of the newly born baby. It is also assumed that the newly born baby and mother will have a bad smell if a pregnant woman eats vegetables. Green pepper is also prohibited with the assumption that a new born baby will become hairless. In the northern part of Ethiopia high carbohydrate and fat foods are forbidden for pregnant women with the assumption that it will bring about easier labor and smaller babies [11].

A study done on pregnant women in Hadiya zone, southern Ethiopia indicates that over half (65 %) avoided at least one type of food due to food taboos. According to this report milk and cheese were regarded as taboo foods by nearly half of the women (44.4%) followed by linseed and fatty meat (16%, 11.1%) respectively. The reason for avoiding food includes fear of difficulty delivery (51%), disclosures of the fetus (20%) and fear of abortion (9.75%) [1].

Food taboos and restriction of pregnant women from consuming certain kinds of food which is usually rich in the required nutrients leads to the low nutritional status among most women and put them at high risk of material death. Low body weight, iron deficiency and anemia are one of the main causes of death in case of hemorrhage during labor, and it is common among women in developing countries. For instance in Ethiopia, the mean height of women is only 156cm, indicating severe past malnutrition, and puts women at high risk in delivery, and 30% of non-pregnant women have a

body mass index less than 18.5, which indicates serious chronic energy deficiency [14].

Much work regarding food taboos and misconceptions are not done on their impact on maternal and child nutrition. As a result, there is lack of comprehensive information regarding practices of food taboos. Therefore, this study was aimed at measuring women who are likely to have certain taboos/misconceptions among pregnant women attending ANC services in public health institutions of shashemene district.

2. Methods and Materials

2.1. Study Setting

Shashemene is a transition to many parts of Ethiopia, many rural and urban migrants are attracted for trading possibilities and seasonal employment and it is the most ethnically mixed district in Ethiopia, furthermore, the activities of informal sectors are targeted the large mobile people in the area

It is a road side district located in Oromiya administrative regional states, at Trans-African Highway to Cairo-Cape Town, about 160 miles (250 km) from the capital of Ethiopia, Addis Ababa, due south. Geographically, the district has latitude of 7° 12' north and a longitude of 38° 36' east. The study was carried out in all governmental health institutions of the woreda which provide ANC service for the entire community. Currently, there is 1 General hospital, 3 health centers, and 20 private health institutions in the district which are currently providing the service. According to the Central Statistical Agency in 2005, the total population of Shashemene was estimated to reach over 93,156, of whom 46,882 were males and 46,274 were females. Among those females 35.2 % (16,288.5) were in reproductive age group (15-49), the total fertility rate was 4.2.

Shashemene is different from other cities of Ethiopia by holding community of Rastafarians, who are Citizens from Jamaica, Trinidad and Tobago, Barbados, Saint Vincent, Grenada, Guyana, New Zealand, Canada, Germany, Sweden, Ghana, Kenya, Australia, Guadalupe and Suriname.

2.2. Study Design and Population

Cross-sectional descriptive study design was employed from February to March, 2012. The source populations were all pregnant women residing in the district .While, pregnant women coming for ANC service utilization were study populations.

2.3. Sample Size Determination and Sample Procedure

The sample size was determined by single proportion formula- $n = \frac{Z^2_{(1-\alpha/2)} p(1-p)}{w^2}$. where n is the sample size, z is the standard normal deviate, set at 1.96 (for 95% confidence level), w is the desired degree of accuracy (taken as 0.05) and p is the estimate of the proportion of nutritional taboos (it is not known and assumed to be 50% p=0.5). Thus, $n = [1.96^2 \times$

$0.5(0.5)/0.052] = 384$, since the study population is less than 10,000 it was adjusted using the correction formula. $nf = \frac{N(\text{no})}{1+(N(\text{no})/N)}$ N=estimate of the population size (380) $nf = \frac{384}{1+(384/1245)} = 295$.

Finally, the sample size was proportionally allocated to each public health facility. Then study subjects were selected systematic sampling, among proportionally allocated 295 pregnant women.

2.4. Data Collection

Data was collected using pretested structured questionnaire. The questionnaire was designed in English and translated to local language "Oromiffa" for better understanding by data collectors and interviewees. A total of four diploma holder Midwives and two Supervisors with qualification of BSc Nurse were hired.

2.5. Data Analysis

After the data collection, data was coded, entered, and cleaned on Epi Info version 3.5.4. Finally data was exported to SPSS version 20 for further analysis. Frequencies and cross tabulation were used for the descriptive analysis of the data. Associations between factors affecting nutritional practices and independent variables were analyzed. Both univariate and multivariate Analysis were made, in the binomial analysis, explanatory variables having a P-value less than or equal to 0.02, variable having association in crude odds ratio, and variables shown association in different literatures was taken to multinomial analysis.

2.6. Ethical Considerations

Ethical clearance was also obtained from Internal Review Board of Addis Ababa University College of health science. Permission and verbal consent was obtained from the health institutions and study subjects respectively. Confidentiality was assured by excluding the names and specific identifiers of the study subjects'. The data was safeguarded during and after the data collection and no one except the principal investigator accessed the data.

3. Result

3.1. Socio-Demographic Characteristics

A total of 295 antenatal attendant women from Shashemene District were interviewed, 275 [93.2%] were rural residents. More than half were above age of 24 years, 39 % (115) and only 18.3% (54) women were above age of 35 years with the mean age of 27.5 +6.3 years.

The major ethnic groups among respondents were Oromo (56.9%), by Ethnicity and Muslims (61%) by religious doctrine, and the majority (93.2%) of the women were married.

Educationally, half of women 52.2% cannot read and write while (13.9%) had attended secondary and above. Greater than half (56.4%) of the study subjects had a monthly income

below 500 birr and housewives by occupation. [Table 1]

Table 1. Socio-demographic characteristics of ANC attendants in Shashemene district; March, 2012

Variables	Frequency	Percent (%)
Residence		
Peri urban	20	6.8
Rural	275	93.2
Age(N=295)		
15-24	115	39
25-34	126	42.7
>35	54	18.3
Mean + SD		27.5+6.3
Religion		
Muslim	180	61
Orthodox	78	26.4
Protestant	37	12.5
Education		
No schooling	154	52.2
Primary	100	33.9
secondary and above	41	13.9
Marital status		
Unmarried	20	6.8
Married	275	93.2
Monthly income(n=172)		
<=200 birr	19	11
201-500 birr	78	45.3
501-1000birr	53	30.8
>1000birr	22	12.8
Mean +SD		698 + 576.4481
Occupation		
House wife	164	54.6
Civil servant	48	16.3
Farmer	24	8.5
Merchant	35	12.5
Others	19	6.3

3.2. Reproductive Characteristics

About 80.7% interviewed women were multigravida with 3 +SD 1.89 median numbers of births and more than 85% of the respondents had no history of abortion or stillbirth (Table 2).

Table 2. Reproductive history of women attending ANC services in Shashemene district, March, 2012.

Variables	Frequency	Percent (%)
Gestation		
First trimester	78	26.4
Second trimester	180	61.0
Third trimester	37	12.5
Number of birth		
Primi (<=1)	56	19
Multi (2-4)	156	52.9
Grand para (>=5)	83	28.1
Ever had Abortion		
No	255	86.4
Yes	40	13.6
Ever had Still birth		
No	252	85.4
Yes	43	14.6
Previous ANC		
Yes	151	63.2
No	88	

3.3. Food taboo during Pregnancy

Almost half (49.8%) of the respondents avoid one or more food items during pregnancy. Linseed, Honey and Milk/ yoghurt were commonly avoided food items. Belief for food restriction were Plastered on the fetal head, makes fatty baby and difficult delivery, fear of abortion, evil eye, fetal abnormality. More than three forth (82.4%) believe on importance of eating balanced diet during pregnancy. but only 33.2% made changes to their normal eating habit.

More than one third (38.3%) of pregnant women practice fasting during pregnancy, type of fasting includes restriction of meat and milk containing food items in orthodox religion and Abstain from eating at day time in Muslim women. (Table 3)

Table 3. Food taboos in pregnant women attending ANC service in Shashemene district, March 2012.

Nutrition during pregnancy (N=295)	number	percent (%)
Importance of balanced diet		
Yes	243	82.4
No	52	17.6
Change in feeding habit		
Yes	98	33.2
No	197	66.8
Fasting during pregnancy		
Yes	113	38.3
No	182	61.7
Foods aversion during pregnancy		
Yes	147	49.8
No	148	50.2
Food items averted (n=147)		
Milk/ yoghurt	67	22.7
Egg	50	16.9
Fatty Meat	63	21.4
Honey	84	28.5
Linseed	92	31.2
Fruits	41	13.9
Vegetables	17	5.8
Reasons for food taboo (n=147)		
Plastered on the fetal head Fear of fatty baby and difficult delivery	90	30.5
Others (fear of fetal abnormality, Abortion)	12	4.1

3.4. Factors Associated with Maternal Nutrition during Pregnancy

Importance of balanced diet during pregnancy was found to have significant association with Age, educational status, and previous ANC attendance. Women who can read and Write were 5 times more likely to have knowledge of balanced diet than illiterate women and younger women were more likely to attend ANC and health education than their counterpart. Previous experience of ANC attendance was 3 times more in position to belief on the importance of balanced diet. (See Table 4)

Table 4. Socio-demographic factors associated with food taboo in public health institutions of Shashemene district, March 2012.

variables	balanced diet use		COR 95%CI	AOR 95% CI	P-value
	Yes	No			
Age group					
15-19	14	4			
20-24	86	11	3.062 (1.297-7.232)		0.011
25-29	80	11	3.292 (1.397-7.759)		0.006
30-34	25	10	1.474 (0.42-5.171)	0.175(0.001-3.812)	0.049
>=35	38	16	1.00	1.00	
Educational status					
Illiterate	116	38	1.00	1.00	
Can read and write	59	2	9.664 (2.253-41.444)	5 (1.212-2.682)	0.40
Primary (1-8 th grade)	29	10			
Secondary	26	1	8.517 (1.118-64.89)		0.39
College and above	13	1			
Monthly income					
<=200	14	5	1.00		
201-500	71	7	3.622 (1.004-13.065)		0.049
501-1000	46	7			
>=1000	19	3			
Previous ANC					
yes	139	12	7.293 (3.517-15.123)	3.125 (1.178-8.291)	0.022
No	54	34	1.00	1.00	
Change in feeding habit					
Yes	95	3	10.484 (3.177-34.595)		0.000
No	148	49	1.00		
Fasting during pregnancy					
Yes	103	10	3.090(1.482-6.445)		0.003
No	140	42	1.00		

4. Discussion

This study assessed common food taboos and misconceptions during pregnancy. Study subjects were between the age of 20-34 years with mean age of 27.5 and + 6.3 years. Compared to (EDHS, 2005) this study subjects are younger. On the other hand more than half (52.2%) of the interviewed women were illiterate which is inconsistent with (EDHS 2005) report. Almost half 147(49.8%) of study participants were obligated to avoid one or more food items during pregnancy. this study shows double increment from other study done in Adama town which was only 23.7% and this finding was relatively lower than study done in Hadiya zone (65%) [1].

Importance of balanced diet was found to be significantly associated with age groups, educational status, and previous ANC attendance. As age of the women increases, the belief on the importance of balanced diet decreases showing a significant association of 0.175 (0.001-3.812). Consistent with other studies, women younger than 35 years are more likely to attend ANC and health education. The possible explanation could be; younger women may be more likely to accept modern health services since; they are more energetic, more likely to attend formal education. Older women on the other hand, tend to believe on indigenous knowledge of traditional practice thus giving less attention to feeding balanced diet and ANC follow up. In addition aged women are more likely to have more children to care for; the 2005 EDHS also indicated women below 35 are more likely to utilize prenatal care than the elderly [16].

Educational status and previous ANC attendance of the women also showed significant association with belief on balanced diet with an adjusted odds ratio of 5.0 (1.212-2.682) and 3.125 (1.178-8.291) respectively. This may be due to knowledge gain from formal education and experienced health education during ANC care may improve the awareness of those mothers to feed balanced diet during pregnancy.

Feeding practices are differing from culture to culture and society to society. Consumption patterns are part of the culture which is related to traditions beliefs and taboos. Food habits are mainly determined by the availability of indigenous food supply, socio-cultural and educational orientation of food processing and preparation methods. Each culture whether traditional or modern, it has beneficial as well as harmful feeding practices. In most cases women and children are highly affected by food habits and dietary discrimination [5].

Concerning diet changes during pregnancy, only 33.2% of all respondents have made changes of their normal eating habit compared to non-pregnancy period. The responded feeding changes include increasing feeding frequency (26.1) %, eating more carbohydrate (21%), were reported more frequently. studies in Sudan indicated that one of the reasons given to avoid eating different diet items were; food items make the pregnant women fat so that their birth canal will be narrowed making difficult labor. This reason is not scientifically justifiable as there is no association between the foods eaten and direct attachment to the fetus, or narrowing of the birth canal. Study findings with higher percentage and variety of food restriction are in line with this study [10, 1], but more than half (66.8%) did not have change in feeding habit from non-pregnancy period which together with the above factors worsen the nutrient supply of the mother as well as the fetus.

The more frequent taboo reported were simultaneous consumption of linseed (92 times), honey (84 times), milk (67 times) and fruits, such as mango, orange, Avocado, pineapple, and nuts. They also considered mixing eggs and fruits together as harmful, as well as a combination of meat with cheese was also reported to be harmful for the fetus as

well as the mother. The reasons to these food taboos were; plastered on the fetal head, fatty baby, fear of abortion and still birth. This finding is consistent with the study done in Hadiya zone [1]. Food taboos adversely affect the daily consumption of protein, energy, and other essential nutrients [11]. Food restrictions were significantly associated with Ethnicity, Oromo ethnic groups were shown to have much food taboos than wolyta ethnic groups with an adjusted odds ratio of 14.988 (1.681-133.644) at 95% CI.

5. Limitations of the study

- Design Limitation in establishing the cause and effect relationship
- Very limited studies for further comparison and discussion
- Absence of qualitative findings for possible triangulation

6. Conclusion and Recommendations

The study revealed that food taboos and misconceptions governing pregnancy exist in shashemene woreda. One half (49.8%) of women in the study area were obligated to avoid specific food items due to cultural and traditional views. Less educated women were, the more they practice food taboos. The less educated women were, the more likely to observe more food taboos. This observation underscores the importance of educating women and providing nutrition education aimed at changing mothers' attitudes towards appropriate feeding practices.

Pregnant women living in rural settlements have more food taboos and misconceptions. This may be improved by strengthened nutritional counseling program. Empowering health extension workers in providing effective nutrition counseling should be explored given the overburdened public health system.

MCH clinics must play a leading role in coordinating this effort of awareness creation. They should also put mechanisms that can routinely identify women observing food taboos, assess the reasons and provide appropriate nutrition education. Other governmental and non-governmental organizations and various public associations, such as women's Associations should also be actively involved in eliminating these harmful beliefs. Pregnant women should be encouraged "eating up" during pregnancy and to provide supplementary food to poor women who cannot afford. In addition, the health education programs should take cognizance of the popular beliefs regarding food during pregnancy and use innovative means to minimize their negative and maximize their positive nutritional effects. In a bid to address every aspect of maternal health care, researchers should expand the objectives of their research to include nutritional taboos and misconceptions, outline the corresponding health implications and conduct same to reflect nation relevance.

List of Abbreviations

AA: Addis Ababa
 ACOG: American College of Obstetrics and Gynecology
 ANC: Antenatal care
 AOR: Adjusted odds ratio
 CSA: Central Statistical Agency
 COR: Crude odds ratio
 EDHS: Ethiopian Demographic Health Survey
 HTTP: Harmful Traditional Practice
 MCH: Maternal and Child Health
 MM: Maternal Mortality
 MOH: Ministry of Health
 MDG: Millennium Development Goal
 PMTCT: Prevention of Mother to Child Transmission
 SNNPR: South Nation Nationalities People Region
 UN: United Nation
 WHO: World Health Organization

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