

Food-related Taboos during Pregnancy and Lactation among Women of Rural Haryana: A Cross-sectional Study

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Abstract

Background: Pregnancy and lactation are those physiological periods when nutrient demands are considerably increased. Food taboos practiced during these periods influence food's nutritional quality, which subsequently affects pregnancy and birth outcomes.

Aim: To study the food practices and related taboos during pregnancy and lactation among women in households of village Juan, Sonapat, Haryana

Material and Methods: This cross-sectional study was conducted among 90 study households selected by systematic random sampling from September to October 2021. Data were collected by interviewing a female respondent from each household using an open-ended questionnaire.

Results: During pregnancy, the most commonly consumed foods were milk (98.9%), green leafy vegetables (96.7%), and fruits (91.1%); whereas avoided foods were spicy foods (35.6%), oily/fried foods (34.4%), papaya (31.1%), sapota (13.3%) due to fears of miscarriages and maternal deaths.

During lactation, the most commonly consumed foods were soft porridge with butter (98.9%), milk with dry dates (41.1%), and cumin water (37.8%). Foods commonly avoided were cold foods such as buttermilk/curd (95.6%), rice (54.4%); whole pulses (35.5%) due to fear of cough/cold and colic in baby.

Conclusion: A substantial proportion of study households had good practices of consuming foods rich in essential nutrients but were restricted by a few study households.

Keywords: food taboos, pregnancy, lactation, households, Haryana

Introduction

Nutrition plays a quintessential role in maternal and child health.¹ Nutritional requirement increases

physiologically during pregnancy and lactation.^{2,3} The diet must include an adequate intake of energy in the form of proteins, vitamins, and minerals to

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meet the increased needs and to prevent “nutritional stress” during pregnancy and lactation. Even though adequate dietary intake could be affected by many factors including affordability and accessibility, food taboo has been recognized as one of the factors contributing to maternal and child malnutrition during pregnancy as well as after delivery.^{1,2} Food taboos and beliefs are a global phenomenon intended to positively affect the practicing community, including conserving a scarce or sacred resource, maintaining social norms, morals, group cohesion, and identity, and protecting human health.⁴ These determine not only the consumability of food but prescribe foods during particular phases of the life cycle such as pregnancy and childbirth and are crucial in the acceptance, rejection, and promotion of certain food items.¹ These are associated with traditional beliefs such as difficult delivery, fear of abortion, fetal abnormalities, premature or low birth weight babies who are also at a substantially increased risk of stunting during childhood, and reduced mental and physical capacity.^{1,2,4,5} Consumption of special food is mainly to improve the quality and quantity of milk, strengthen the baby, and improve hemoglobin.¹ The practice of food taboo is widespread in developing countries, and varies from society to society, depending on geography, ecology, religion, culture, tradition, and belief system.¹ The “hot” and “cold” theory of humoral medicine is deeply rooted in Asia and other developing countries. The general belief is that “hot” foods are harmful and “cold” foods are beneficial during pregnancy. “Hot” foods such as lentils, meat, and eggs are encouraged during the last stage of pregnancy to aid the expulsion of the fetus. “Cold” foods such as cucumber, and watermelon are recommended during pregnancy because they are believed to increase body water and enhance fetus comfortability in the womb.² Cold and spicy foods are avoided during lactation.³ In India, most food practices and traditions have stemmed from deeply rooted traditions and customs, especially in rural settings.^{1,5} Every household has some traditions of avoidance or acceptance of food and all member shares these food taboos and beliefs. These are followed as a symbol of respect for elders, may or may not have any scientific basis, and may sometimes lead to negative health outcomes such as lack of nutrition.^{2,6} They may influence women to

disobey the recommendations or advice from health care practitioners.¹

In the Sonapat district of Haryana, a total of 61% of pregnant women between the age of 15 to 49 years were reported anemic indicating that the maternal nutritional status is vulnerable.⁷ Therefore, this unique and demanding situation (nutrition stress) needs to be addressed with an adequate diet (both quantitatively and qualitatively).¹

So, this study was undertaken to find out the food practices and related taboos during pregnancy and lactation among women in households of a rural area of district Sonapat, Haryana which affect their nutritional status to a greater extent.

Material and Methods

A community-based cross-sectional study was conducted from September to October 2021 among households of the village Juan, the field practice area of the Department of Community Medicine, Bhagat Phool Singh Government Medical College, Khanpur Kalan Sonapat. It is habituated by around 950 households as per the record maintained by the Department of Community Medicine.

Study population: All the households in Village Juan constituted the sampling frame. A list of all the households that were located at least for 6 months or more was obtained from the Department of Community Medicine.

Sample size: 10% of the sample size (90 Households)

Sampling Technique: The study households were selected through Systematic random sampling. As there were around 950 households and 90 households were chosen, the sampling interval calculated was 10. The first house was chosen at random using a lottery method. Following that, every 10th household was selected for data collection.

Study tool: A married woman more than 18 years of age from each selected study household was interviewed using an open-ended study schedule regarding food-related taboos during pregnancy and lactation. If a household had more than one eligible woman, one woman was randomly selected and interviewed.

Inclusion criteria: The households that were located for 6 months or more were included in the study

Exclusion criteria: Households that didn't give written informed consent were excluded.

Statistical analysis: The data were collected from the study households and entered in the Microsoft Excel spreadsheet 2019. Following the cleaning of data, it was analyzed using Statistical Package for Social Sciences for Windows, Version 16.0. Chicago, SPSS Inc. The data were expressed in terms of frequency, and Proportion.

Ethics approval

This study was carried out in accordance with the Helsinki Declaration of 1975, which was later amended in 2013. We explained the study's purpose and procedures and their right to withdraw at any time. The participants' biological samples were not collected. The study participants provided informed written consent. The participants' confidentiality and anonymity were strictly maintained. Data access was restricted to the study's investigators only. Ethics approval was taken from the Institutional Ethics Committee of BPSGMC (W), Khanpur Kalan, Sonapat (Reg. no. BPSGMCW/RC 637/IEC/20). Following the completion of data collection from each study household, health education was provided to all women in that study household. They have explained the scientific reasons for the food practices and taboos in the study household.

Results

Table 1: Distribution of the study households by their self-reported avoidance of selected foods during pregnancy

Foods avoided (n=90 for each food item)	n (%)	Reasons for avoidance
Spicy foods	32 (35.6)	Causes heartburn
Oily/ fried foods	31 (34.4)	Causes heartburn, nausea, and vomiting, and increases the mother's blood pressure

Papaya	28 (31.1)	Abortifacient
Sapota	12 (13.3)	Abortifacient
Cauliflower/ cabbage	12 (13.3)	forms a gas to the mother
Brinjal	11 (12.2)	Darkens the skin of baby
Hot foods*	11 (12.2)	Abortifacient
Potato	8 (8.9)	Excessive weight gain to the mother
Tea	7 (7.8)	Causes heartburn
Sweet foods	6 (6.7)	Causes eczema, Excessive weight gain to the mother/ Makes the baby big/difficult delivery
Eggs	5 (5.6)	Abortifacient
Bitter gourd	4 (4.4)	Darkens the skin of the baby
Ladyfinger	3 (3.3)	hard to digest and bloating to the mother
Nonvegetarian foods	3 (3.3)	Abortifacient

*Carom seeds, honey, coffee

Table 1 reveals that one-third of study households reported avoidance of spicy food (35.6%), oily or fried foods (34.4%) and less than one-tenth (7.8%) avoided Tea as these were considered to cause heartburn during pregnancy. Almost one-third (31.1%) of study households reported avoidance of papaya and more than one-tenth of study households reported avoidance of sapota (13.3%), as well as hot foods (12.2%) such as carrom seeds, honey, and coffee. Five study households reported avoidance of eggs, three avoided nonvegetarian foods such as meat, and chicken and only one avoided banana (not shown in the table) during pregnancy as these were considered abortifacients. Thirteen percent of study households reported avoidance of Cauliflower/cabbage and 3.3% reported avoidance of Ladyfinger as these were considered hard to digest and bloating to the mother during pregnancy.

Nine percent (8.9%) of study households reported avoidance of Potato, followed by sweet foods (6.7%) such as table sugar, sugarcane, or any packed juices as these may cause excessive weight gain to the mother and makes the baby big and difficult delivery. Sweet foods may cause skin problems in the baby. More than one-tenth (12.2%) of study households reported avoidance of brinjal and 3.3% avoided bitter gourd as these were considered to darken the skin of the baby during pregnancy. Only one study household reported avoidance of rice as it was considered to provide less strength and reduce hemoglobin of the mother during pregnancy and milk with no specific reason. (Not shown in table)

Table 2: Distribution of the study households by their self-reported foods preferences and their reasons during pregnancy

Foods recommended (n=90 for each food item)	n (%)	Reasons for preferences
Milk and milk products	89 (98.9)	strength to the mother
Increase the amount of food intake in the pre-pregnant state	88 (97.8)	strength to the mother
Green leafy vegetables	87 (96.7)	strength to the mother, increases blood formation
Fruits (mainly apples, and pomegranates)	82 (91.1)	strength to the mother, increases blood formation
Jaggery and roasted Bengal gram	21 (23.3)	strength to the mother, increases blood formation
Curd on an empty stomach	7 (7.8)	Makes the baby's skin fair
Milk with saffron	6 (6.7)	Makes the baby's skin fair
Milk with turmeric	2 (2.2)	Makes the baby's skin fair

Table 2 shows that nearly all the study households preferred more intake of milk and milk products (98.9%), green leafy vegetables (96.7%), fruits (91.1%), and increased quantity of food as compared to pre-pregnant levels (97.8%). Almost one-fourth (23.3%) of study households preferred the inclusion of jaggery and roasted Bengal gram in pregnant women's diets. These food items were considered to provide strength to the mother and increase blood formation. Less than one-tenth of study households preferred an intake of curd on an empty stomach (7.8%), milk with saffron (6.7%), and milk with turmeric (2.2%) by pregnant women as these were considered to make the baby's skin fair.

Table 3: Distribution of the study households by their self-reported food preferences during lactation

Foods recommended (n=90 for each food item)	n (%)	Reasons for preference
Soft porridge with clarified butter	89 (98.9)	Gives strength to the mother
Pudding (semolina/ edible gum/ dry fruits)	87 (96.7)	Gives strength to the mother
Tea with biscuits/ bread	87 (96.7)	Easy to digest
Milk and dry dates	37 (41.1)	Gives strength to the mother
Cumin seeds water	34 (37.8)	Increases the milk production

Table 3 shows that almost all the study households preferred soft porridge with clarified butter (98.9%), Pudding (made of semolina/ edible gum/ dry fruits) (96.7%) to increase the strength of the mother, and tea with biscuits/ bread (96.7%) for easy digestion to be consumed by women during the postpartum period. Two-fifths (41.1%) of the study households preferred an intake of milk and dry dates to increase the strength of the mother and cumin seeds water (37.8%) to increase the milk production by the mother during this period.

Table 4: Distribution of the study households by

their self-reported avoidance of selected foods during lactation

Foods avoided (n=90 for each food item)	n (%)	Reasons for avoidance
Buttermilk/ curd/ cold water	86 (95.6)	Causes cough and cold in the fetus
Rice	49 (54.4)	Causes cough and cold in the fetus
Whole pulses	32 (35.5)	bloating to the baby and hard to digest by the mother
Cauliflower, cabbage	12 (13.3)	forms a gas to the mother
Milk	3 (3.3)	May decrease the milk production of that cattle

Table 4 shows that almost all of the study households reported avoidance of Buttermilk/ curd/ cold water (95.6%) and half (54.4%) reported avoidance of rice, as these foods may cause cough and cold in the fetus. One-third (35.5%) of the study households reported avoidance of whole pulses and more than one-tenth (13.3%) reported avoidance of foods such as Cauliflower, and cabbage as they may cause bloating to the baby and are hard to digest by the mother during lactation. Only three study households reported avoidance of milk during this period due to the belief that the milk of that particular cow/buffalo will get reduced if consumed by the lactating female.

Discussion

According to the findings of the current study, avoidance of one or more foods was reported during pregnancy and lactation due to food taboos. Our study reported several good dietary practices during pregnancy such as intake of green leafy vegetables, fruits, milk, jaggery, and roasted Bengal gram to provide strength to the mother, and the growth of the baby as these foods are rich in proteins, vitamins, and minerals. The findings are supported by studies done by Catherin et al and Riang M et al but contradict Ramulondi M et al and Banu KK et al.^{1,2,4,9}

Despite the good practices, certain food items

which are good sources of protein, iron, and vitamins & minerals, essential for the growth and development of the baby as well as for the mother, may relieve constipation during pregnancy, are avoided by our study households due to fear of abortion, increase in blood pressure or severity of morning sickness to the mother, increase in the weight of mother and baby resulting in difficult delivery and pigmentation of fetal skin. The findings are consistent with the studies reported elsewhere in India and World.^{1,2,4,8-11} During postpartum recovery, curd, rice, whole pulses, and cabbage are avoided due to the belief of cold and cough in the baby, increase flatulence, and difficulty in digestion by the mother. The findings are supported by studies done by Catherin N et, Joshi A et al, and Banu KK et al.^{1,3,9}

The present study had a few strengths. It was a community-based study with a high level of participation. Because the sampling was systematic random, there was less chance of selection bias, and the results could be externally validated. After training, the data was collected by a single investigator, reducing interobserver bias. Limitation: Intake of quantity and variety of food was self-reported and could be subjected to bias because of social desirability

Conclusion

A large majority of study households had good practices of consuming foods rich in essential nutrients but were restricted by a few study households, implying the need for strengthening nutrition education to dispel such food taboos practiced in the study community. Based on the findings, the study provides a basis for developing culturally appropriate nutritional interventions and empowerment programs to provide effective nutritional counselling targeting pregnant and lactating women. This may improve birth outcomes and long-term quality of life.

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Declarations

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