

Research Article

Beliefs and practices regarding nutrition during pregnancy and lactation in a rural area in Karnataka, India: a qualitative study

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Received: 07 February 2015

Accepted: 23 February 2015

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ABSTRACT

Background: Poor maternal nutrition adversely affects pregnancy and birth outcomes, particularly vulnerable are the rural women in a rural setting. A lactating mother's nutritional requirement should meet needs of self and that of an infant. In most rural communities this situation is further complicated by food taboos, consequently either adding to or leading to additional negative balance of nutrients. Aims: To assess the food practices and beliefs during pregnancy and lactation among women residing in a rural area of Bangalore urban district.

Methods: Study was conducted during the period of January to March 2014 among the women residing under the Sarjapur PHC, Bangalore. Data was collected using Focus Group Discussions (FGDs) and in Depth Interviews (IDIs). Thematic frame work approach was used for data analysis.

Results: A total of four FGDs and twelve IDIs were conducted. Good practices included consuming green leafy vegetables, rice, bread, jowar, meat, egg and fruits like apple and mosambi. The practices which may potentially harm the health included avoidance of food items like ragi, papaya, mango and guava during pregnancy and reduced water consumption during the post natal period. Beliefs like "casting an evil eye" or "colour of the baby" had an influence on the food given to antenatal mother.

Conclusions: The study found numerous food items which are nutritious and safe and available locally either restricted or denied thus making women (pregnant and lactating) and infants vulnerable. There is need for health education programs in rural areas regarding nutrition which will in turn improve the maternal and child health.

Keywords: Qualitative study, Food practices, Maternal and child health, Food taboos

INTRODUCTION

Nutrition plays a quintessential role with regard to maternal and child health. However, this aspect is inevitably interlinked to perceived notions and beliefs with regard to food to be consumed by pregnant and lactating women. Studies have also shown existence of practices and beliefs like denying pregnant and lactating women of known nutritious food items owing to their traditional food habits.¹⁻³

In India most food practices and traditions have stemmed from deeply rooted traditions and customs. These food practices can be attributed to malnutrition, which in turn is linked to poverty, food insecurity, unhygienic practices and traditional beliefs.⁴ Beliefs are crucial in the acceptance, rejection and promotion of certain food items. These beliefs are the products of social interactions and faith which are entrenched in the minds of the community. Many of these food practices arise from the ignorance about the nutritive value of food. Most often certain cultural beliefs and practices concerning food items are due to ignorance.

Among the tribal populations of north coastal Andhra Pradesh, certain food items are preferred for consumption. However the same food items are tabooed and avoided during pregnancy as well as after the delivery as per their customs and beliefs.⁵ Most of afore mentioned factors play a major decisive role on the consumption of nutritive foods, especially during ante natal and post natal periods.⁴ Maternal undernourishment may pose an increased risk of prematurity, low birth weight and developmental anomalies. Severe anaemia in pregnant women increases maternal morbidity and mortality.⁶ The dual (mother and infant/child) and double (physiological state postpartum cum lactation coupled with meeting demands of growing infant) calls for extra nutrients and calories. This unique and demanding situation (nutrition stress)⁷ therefore needs to be addressed with adequate diet (both quantitatively and qualitatively). However contrary to this reality of increased requirements various studies have shown that pregnant women are forced to abstain from nutritious food owing to traditional food habits.⁸ Food taboos have been identified as one of the factors contributing to maternal under nutrition in pregnancy especially in rural areas.⁹

We undertook this research to find the existing food practices and beliefs, during pregnancy and lactation among women residing in a rural area of Karnataka, India. Articles to analyze the food practices especially during pregnancy and lactation period remain few. Further this research would enable teams conducting mother and child health services to broad base the scope of services beyond mere antenatal, postnatal check-ups but to include nutrition education.

METHODS

A qualitative research model was utilized to lay the framework of the study. It was conducted during the period of January to February 2014. Majority of the samples included women residing in eight villages in Karnataka. Data collection methods such as Focus Group Discussions (FGD) and in Depth Interviews (IDI) were used.

Four FGDs were conducted among antenatal mothers, postnatal mothers, community health workers and elderly women. FGDs were conducted at the health centre in the local language, Kannada and written informed consent was taken prior to the discussion. All the FGDs were recorded electronically and the key points during the interview were noted. Each FGD took an average time of 45 minutes. A sociogram was plotted to ensure equal participation of interviewees.

IDIs were conducted among antenatal mothers, postnatal mothers, and Anganwadi teachers, mothers in law, ASHA (accredited social health activist) workers and traditional dais. Among the twelve IDI's, at which we reached the saturation point of our data, few of them were conducted

in the health centre and others at the interviewee's residence. Informed consent was taken prior to the interview and the interview was recorded electronically. Each interview took an average time of 17 minutes. FGDs and IDIs were conducted using an interview guide. The domains of enquiry mainly focused on open ended questions and were broadly divided into questions that pertained to food beliefs and practices during the antenatal versus those in the postnatal period.

Table 1: Interview guide for FGDs and IDIs.

Ante-natal period	Post natal period
Food practices followed during ANC.	Food practices followed during PNC.
Foods that are avoided during PNC.	Foods that are avoided during PNC.
Reasons for avoiding these foods?	Who are responsible for these beliefs?
How these beliefs came into being?	What effect do these foods have on the mother and child?
What effect do these foods have on pregnancy?	What are the foods that increase / decrease milk production?
What are the foods that can cause an abortion?	Steadfastness of these beliefs and who assured that these practices were adhered to.
What are the foods that had a direct effect on a physical trait of the baby (Skin colour, IQ etc.)?	Knowledge about food hygiene and nutritional requirement.

The recordings were transcribed by a transcriber who was fluent in both English and Kannada and not a part of our study. The data was analysed using the thematic "Framework approach".¹⁰ The analysis was descriptive and was grouped in a few broad themes. On analyzing main themes of the study which started out broadly as food practices during the antenatal and postnatal period new subthemes and sub categories emerged.

RESULTS

Ante-natal period

Most mothers agreed that green leafy vegetables, rice, less spice, bread, ragi, jowar, groundnut powder, meats, eggs, fruits like apple, mosambi, sapota improve the health of mother and child. Reference to the antiemetic properties of condiments like rasam, coriander powder and red chilly powder these spices were more routinely consumed during the first trimester. Skin colour of the baby was a priority. Fairer skin is attributed to increased physical attractiveness and all efforts were taken by the parents to lighten the skin colour. Most mothers believed that fair skin babies were blessing from the divine and an insignia of social stature.

“Two glass of milk with saffron everyday night throughout the pregnancy will give us a fairer child.”

Conversely food items made of raggi, though nutritious was avoided for the fear that it may darken the baby. One ante natal mother said:

“We are not allowed to eat anything made of ragi and sesame because our child will become dark in colour”.

Chicken, mutton and green leafy vegetables are thought to be galactogogues, and are consumed ante-natally usually from the second trimester onwards, to ensure a bountiful supply of milk to the newly born. Ridge guard, rice, white pumpkin and green beans were considered to have cooling properties and were given to majority of mother during the antenatal period. Fish was particularly stressed upon with regard to its ability to improve the intelligence of the baby. Increasing the number of meals assumed prime importance during the first and second

trimesters. It is considered to be quintessential by most mothers for maternal and child health.

“Increased quantity of food is important during antenatal period as they need more nutrition for themselves and the growth of the baby.”

However during the last trimester food consumption is reduced to reduce abdominal distension. Closer to term certain food practices like eating the meat of a lamb's head was followed by a few mothers, they believed that this would help the new born child attain head control earlier and achieve motor milestones quicker.

There was an increased level of concern by most mothers on consuming certain foods that the mothers believed to be abortifacants. Some of these abortifacant foods were specifically restricted during the first and second trimester, while certain others were forbidden throughout gestation. A comprehensive list of these food items has been tabulated in Table 2.

Table 2: Food items consumed and avoided during pregnancy and lactation.

Food consumed	Reason	Foods avoided	Reason
Sugarcane	Clears liquor of meconium and decreases lanugo thereby delivering a 'clean baby'.	Pappaya, sesame, jack fruit, custard apple, pumpkin juice, cucumber, mango, guava, aloe-vera	Abortifacants
Ridge gourd, rice, bottle gourd, green beans	Reduces body heat	Potatoes, spices, fish, pappaya, sesame, jack fruit, egg, mangoes	Increases body heat and cause boils
Fish	Increases intelligence of the child	Egg and fish	Affect skin and hair of the baby (increases ear discharge and hair loss)
Milk with saffron, pomegranates, red apples	Alter complexion of the baby (Fair)	Raagimudhe, ragi roti's	Alter the complexion of the baby (Dark)
Jowar, groundnut powder, meat like chicken, mutton, egg, fruits like apple, mosambi, sapota and snacks like chakli	Improves maternal and child health	Sesame seeds, jack fruit	Causes wheeze and pneumonia in the foetus
Rasam, coriander, red chillies, other spices	Anti-emetic properties	Bittergourd, ridge gourd, brinjal, here kai, grapes, orange, jackfruit, apple, guava	Causes cough, cold and a wheeze in the foetus
		Potato, tapioca, yam, bengal gram, dhal.	Increase flatulence

Another genre of concern was food that increased body heat. All mothers believed that certain foods when consumed increased the body temperature and were thus avoided. Potatoes and spices, fish, papaya, sesame, milk, egg, jackfruit, unripe mangoes and red meat were considered to increase body heat and were avoided to various extents in the diet. Sesame seeds and jackfruit caused wheezing, seizures and pneumonia in child, if it was consumed ante-natally. Eggs were tabooed to

increase ear discharge and cause alopecia hence was totally avoided by few mothers during the antenatal period. Dry seeds and fried foods were believed to decrease the overall growth of the child and hence were avoided. Tubers increase flatulence in the mother and baby and hence consumption was reduced.

Most of these food practices were age old beliefs that were handed over generation after generation, most

women were forced to adhere to them for the fear of being disrespectful and defiant.

“These food practices and beliefs have always been decided by the elders in our family generation after generation and we have to follow it.”

Post-natal period

The majority of our debatable findings revolved around the practices during post parturition. It was observed that after delivery bland diet norm was followed, most elders in the family believed that after delivery the mother should not eat any solid diet for 24 hour period. Following this mothers were given plain rice and curry for the first seven days. Most elderly participants opined that the number of meals given to the mother post-delivery were restricted to a maximum of twice a day and water consumption was drastically reduced to just a single glass of water a day. They believed that this aided the mothers' stomach to heal and involution.

“For the first two days following delivery she can eat rava-ganji. From the third day she is allowed to eat rice, dry roti, ghee. This diet is adhered until the 15th day following which she resumes a normal diet”.

Food assumed to increase breast milk production such as hoofs, red meat, chicken, and cow milk were given to most mothers. Some mothers believed that spicy food decrease breast milk, and more over increase body heat. It was tabooed that these food causes boils and constipation. Green leafy vegetables like snake gourd, sorrekai, raggi-mudhe, ground nut, non-vegetarian foods, ghee mixed with milk and ginger were believed to increase breast milk and were consumed after seven days post-delivery. Meat obtained from a lamb's neck when consumed by the mother was thought to improve head control in the child. Hinge was consumed by a few and believed it to be a cleansing agent that cleanses the abdomen post-partum. Fish was not eaten post-delivery for the first month by a few.

“Fish is not given after delivery because fish bone may pass through mother's breast milk and may obstruct the baby's throat”.

Water consumption was greatly reduced during the first three month post-partum. One glass of water was given for the first one week after delivery and three glasses of water for the next three weeks after meals was given.

“Mother's abdomen post-delivery needs adequate rest and increased water consumption will increase the mother's abdominal distension”.

“For caesarean section, drinking water will increase the sheer stress on the mother's stomach and will cause the stitches to give way”.

Few mothers opined that warm water consumed by the mother caused the baby to have more prominent veins, which was unattractive and hence they preferred to consume cool water.

Practices included, where the mother was not allowed to eat daily meals with the rest of the family for the fear that an evil eye would fall on her and her child which would have a negative impact on the health of the mother and the child. Some mothers had to eat separately up to three months post-partum.

Some elders believed that if the couple engaged in coitus post parturition, the quality and quantity of breast milk produced by the mother would reduce. It is believed that the milk would initially start to thin and would eventually stop.

DISCUSSION

There is a dearth of information on nutritional practices during pregnancy and lactation period among women in rural Karnataka. This article attempted to fill some of this knowledge gap through qualitative method. Findings regarding practices clearly indicated the dominance of the powerful influence of culture and tradition in this area. Milk, green vegetables and fruits were the most commonly mentioned beneficial food items during pregnancy in a study conducted in Bihar, which is similar to our findings.¹¹ It had been documented that demographic characteristics and socio-cultural factors play a major role in nutritional practices.⁴ Newly delivered mother was given only bland diet and one glass of water in the first week. Another study also revealed very restricted diet immediately following the delivery of their child to dry out the uterus and aid in the production of milk.¹²

Most of the foods restricted were inexpensive and nutritious. Many beliefs stated for each food item had no scientific explanation. Common and inexpensive vegetables like pumpkin and cucumber were restricted and ghee and ragi were not acceptable during pregnancy. The belief about custard apple was interesting because it was avoided as it causes cold. Beliefs and restrictions may adversely affect pregnant and lactating women which was followed generation after generation. These results were consistent with similar earlier studies done in other regions of India.¹³ Lack of proper nourishment of the mother may in turn affect the growth of the baby. Similarly reported the beliefs of people from 19 states in India, which explained that the eating of red meat, chicken, eggs, milk, jack fruit, spinach and many others were supposed to harm the baby or the mother in some manner if taken during pregnancy.¹⁴

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

1. Abu-Saad K, Fraser D. Maternal nutrition and birth outcomes. *Epidemiol Rev*. 2010;32(1):5-25.
2. Bawadi HA, Al-Kuran O, Al-Bastoni LA, Tayyem RF, Jaradat A, Tuuri G, et al. Gestational nutrition improves outcomes of vaginal deliveries in Jordan: an epidemiologic screening. *Nutr Res*. 2010;30(2):110-7.
3. Bang SW, Lee SS. The factors affecting pregnancy outcomes in the second trimester pregnant women. *Nutr Res Pract*. 2009;3(2):134-40.
4. Lakshmi G. Beliefs and practices about food during pregnancy among Savara and Jataputribes. *Arch Pharm Bio Sci*. 2013;1(2):21-5.
5. Durga Rao P, Sudhakar Babu M, Narasimha Rao VL. Persistent traditional practices among the tribals of North Coastal Andhra. *Stud Tribes Tribals*. 2006;4(1):53-6.
6. Srilakshmi B. Maternal undernourishment. In: Srilakshmi B, eds. *Dietetics*. 2nd ed. Mumbai: New Age International (p) Ltd, Publishers; 1997.
7. Park K. Maternal nutrition stress. In: Park K, eds. *Park's Textbook of Preventive and Social Medicine*. 18th ed. Jabalpur: M/S Banarsidas Bhanot Publishers; 2007: 387.
8. Jo Mitchell, Dorothy Mackerras. The traditional humoral food habits of pregnant Vietnamese-Australian women and their effect on birth weight. *Austr J Public Health*. 2010;19(6):629-33.
9. Olurinde A. Oni, Jamilu Tukur. Identifying pregnant women who would adhere to food taboos in a rural community: a community based study. *Afr J Reprod Health*. 2012;16(3):72.
10. Ritchie J, Lewis J. Framework approach. In: Ritchie J, Lewis J, eds. *Qualitative Research Practice: a Guide for Social Science Students and Researchers*. 1st ed. London: SAGE Publications Ltd; 2003.
11. Piasecki AM, Alexandra M. Maternal nutrition practices and perceptions in Bihar, India, 2013. Available at: <http://pid.emory.edu/ark:/25593/d8j45>. Accessed 24 December 2014.
12. Ramakrishnan U, Lowe A, Vir S. Public health interventions, barriers, and opportunities for improving maternal nutrition in India. *Food Nutr Bull*. 2012;33(2 Suppl):71-92.
13. Meghendra Banerjee, Harish Kumar. Analyzing traditional birthing practices. In: Meghendra Banerjee, Harish Kumar, eds. *A Report Submitted to WHO India*. Issued 22. New Delhi: New Delhi Experiences; March 2006.
14. Babu KS. Illness and health care in Madugula Mandal of Andhra Pradesh. *Man India*. 1998;78(3&4):255-68.

DOI: 10.5455/2394-6040.ijcmph20150509

Cite this article as: Catherin N, Rock B, Roger V, Ankita C, Ashish G, Delwin P, Shanbhag D, Goud BR. Beliefs and practices regarding nutrition during pregnancy and lactation in a rural area in Karnataka, India: a qualitative study. *Int J Community Med Public Health* 2015;2:116-20.