

## ORIGINAL ARTICLE

### **BELIEFS AND PRACTICES AMONG MOTHERS REGARDING DIET DURING CHILDHOOD ILLNESS IN A TERTIARY CARE HOSPITAL, VISAKHAPATNAM**

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**ABSTRACT: INTRODUCTION:** Malnutrition is the most widespread condition affecting the health of the children. Scarcity of suitable foods, lack of purchasing power of the family as well as traditional beliefs and taboos about what the baby should eat, often lead to an insufficient balanced diet, resulting in malnutrition. Culturally related food restriction and reduction in feeding frequency during common childhood illnesses further contributes to the burden of malnutrition and thus to childhood morbidity and mortality. **METHODOLOGY:** A hospital based, cross sectional descriptive study was conducted among 100 ill children less than 5 years age attending outpatient department of pediatrics in a tertiary care hospital, Visakhapatnam. A semi structured, pretested interview schedule was administered after taking prior consent from mothers. Results were analyzed by using MS Excel. Data was represented as frequencies, percentages and  $p < 0.05$  was taken as statistically significant. **RESULTS:** Among 100 study subjects, 62% were boys and 38% were girls. Thirty percent of children in the study had Grade IV malnutrition (IAP classification). 38% of the mothers had education up to high school. Most of them were Hindu by religion (70%), and housewives by occupation (71%). Most of them belonged to grade III socio-economic status according to modified B G Prasad classification. During illness, one fourth of mothers in group A (children <6 months) and group B (7–24 months) decreased breast feeding and in group C (2–5 years), 35% mothers made the consistency of food thinner than usual. Belief on hot and cold foods concept was among 34% mothers. Level of education of mothers didn't show any significant difference in keeping beliefs regarding hot and cold properties of foods. **CONCLUSION:** False beliefs and practices like food restriction during child's ill health was observed in our study. Appropriate nutritional education to care givers, during common childhood illness is very much needed in the community. There is also a need for educating the physicians and other health care workers about food concepts and feeding practices during health and diseases, so that they can educate the mothers when they bring child for treatment.

**KEYWORDS:** Beliefs, Childhood illness, Diet, Malnutrition.

**INTRODUCTION:** Malnutrition is the most widespread condition affecting the health of the children. Scarcity of suitable foods, lack of purchasing power of the family as well as traditional beliefs and taboos about what the baby should eat, often lead to an insufficient balanced diet, resulting in malnutrition. Malnutrition makes the child more susceptible to infection, recovery is slower and mortality is higher. Prevention and appropriate treatment of diarrhea, measles and other infections in infancy and early childhood are important to reduce malnutrition rates as infection and malnutrition often makes vicious cycle.<sup>(1)</sup>

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Malnutrition is further compounded by food restrictions during illness. Food restrictions during illness may be due to insufficient nutritional intake or due to false beliefs. Culture has a strong impact on the food behavior of people. Culturally related food restriction and reduction in feeding frequency during common childhood illnesses further contributes to the burden of malnutrition and thus to childhood morbidity and mortality.<sup>(2)</sup> Quantity and quality of feeding should be appropriate for a child's age. In India, lack of dietary education is one of the major drawbacks.<sup>(3)</sup> A child's illness is a crucial moment for counseling regarding child feeding. Hence the present study was carried out to assess the beliefs and practices among mothers regarding diet during childhood illness.

**AIMS AND OBJECTIVES:** To study the beliefs and practices among mothers regarding diet during childhood illness in under five children.

**METHODOLOGY:** A hospital based, descriptive, cross sectional study was undertaken in the outpatient department of pediatrics, in a tertiary care hospital in Visakhapatnam. Systematic random sampling method was done and every second ill child was taken for the study. A total of 100 mothers who visited the OPD of pediatrics during month of March 2015, whose children were less than 5 years of age and suffering with acute illness were part of the study group.

**Inclusion Criteria:** Children less than five years of age suffering with acute illness and whose mothers gave informed consent were included in the study.

**Exclusion Criteria:** Children who were critically ill, those with congenital malformations, chronic diseases and whose mothers refused to participate in the study were excluded. A pretested semi structured interview schedule was administered, after obtaining informed consent from mothers. Study variables included socio demographic characteristics of mothers, nutritional status of the child, dietary practices during health and illness. Malnutrition status was classified according to IAP classification (Normal >80%, 1<sup>st</sup> degree 80-70%, 2<sup>nd</sup> degree 70-60%, 3<sup>rd</sup> degree 60-50%, 4<sup>th</sup> degree <50%). Results were analyzed by using MS Excel. Data was represented as frequencies, percentages and  $p < 0.05$  was taken as statistically significant.

**RESULTS:** In the present study, a total of 100 mothers were interviewed, of whom 31 mothers had children less than or equal to 6 months and these children were addressed as Group A. 34 mothers had children 7 to 24 months, who were addressed as Group B and 35 mothers had children 2 to 5 years, who were addressed as Group C. Among children, 62% were boys and 38% were girls. 38% of the mothers had education up to high school. Most of them were Hindu by religion (70%), and housewives by occupation (71%). Most of them belonged to grade III socio-economic status according to modified B G Prasad classification (51%) as shown in Table 1. Thirty percent of children in the study had Grade IV malnutrition (IAP classification) as shown in Table 2. The most common illness in our study group was ARI (33%) followed by fever (28%) as shown Table 3.

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**Group A:** In the study, 31% belonged to Group A, that are children <6 months of age. According to Indian Academy of Pediatrics (IAP) classification only 6.5% had normal nutritional status. 9.68% had Grade I malnutrition, 16.13% Grade II malnutrition, 22.58% Grade III malnutrition and 45.16% had Grade IV malnutrition as shown in Table 2. In this group, 26 out of 31(83.87%) were on breast feeds. Among 5(16%) mothers who started complimentary feeding, four stated that they are giving cerelac and one stated that they are giving curd rice.

17(54.84%) children did not receive any pre lacteal feeds. Of the 14(45.16%) children who received prelacteal feeds, majority (64.28%) stated that the reason for giving pre lacteal feeds was, breast feed was not yet available. The other reasons were breast milk was not sufficient and to clean the bowl. Colostrum was given to 87% children. 13% children were not given colostrum, the reason said by mothers for discarding colostrum was, it is impure milk and not advised for child.

During illness, as shown in Table 4, 19(61.2%) mothers continued breast feeding as usual. 25.8% mothers decreased breast feeding, none discontinued while only 4 (12.9%) care givers increased breast feeding as they felt that the child needed extra nutrition during illness. The reasons stated by mothers for giving decreased feeds during illness were child is tired, child cannot suck or child cannot digest properly when sick. Home remedies like giving tulsi, castor oil were practiced by few mothers before bringing the child to hospital.

**Group B:** 34% ill children belonged to group B in the study. According to Indian Academy of Pediatrics (IAP) classification, 26.4% were normal, 8.82% had Grade I malnutrition, 17.65 % Grade II malnutrition, 17.65% Grade III malnutrition and 29.41% had Grade IV malnutrition as shown in Table 2. Exclusive breast feeding for 6 months was followed only for 8 of 34(23.5%) children and all the remaining children were given complimentary feeds before completion of six months. Most commonly given complimentary feeds were mashed rice, dhal, vegetables, idly, khichidi. 55.8% children were being given non-vegetarian food also.

During illness of child, 44.12% mothers stated that they continued breast feeding as usual. Breast feeding was discontinued during illness by 11.76% mothers while 20.59% said that they increased breast feeding during illness as shown in Table 4. Nearly 30% of the mothers said that they will continue the complimentary feeding in the same manner during illness as shown in Table 5. Regarding change in consistency of food during illness 61.76% mothers said that the consistency was made thinner than usual during illness as shown in Table 6. Before bringing the child to hospital 4 out of 34 mothers have given home remedies like honey, tulsi, spatika, sonti kommu, and karakkayi. None of them have starved the child during illness.

Preferred food during illness was milk, rice, bread, curd rice, idly, banana, and rasam rice. Restricted foods during illness were cerelac, rice, milk, non-veg diet.

**Group C:** Of 35 children aged 2-5 years, according to Indian Academy of Pediatrics (IAP) classification, 65.71% were malnourished, 34.2% were normal as shown in Table 2. The consistency of food during illness was made thinner than usual for 37% children and for remaining children (63%) food was given without any change in consistency as shown in Table 6. 85% children were fed non vegetarian food and majority (91%) stopped it during illness.

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Preferred foods during illness were milk, bread, Rasam rice, Gangi water, lemon water. Restricted foods during illness were rice, non-vegetarian diet and milk.

About 28% mothers fed the child based on their own decision whereas remaining 72% mothers were influenced by other family members mostly their own parents or mother in laws as shown in Table 7.

**Beliefs on Hot and Cold Foods:** Thirty four percent mothers had belief on hot and cold foods concept. 38.7% mothers of children less than or equal to 6 months said they had belief on hot and cold foods, 38.7% and 28.5% mothers of children 7 months-24 months and 2-5 years stated that they had belief on hot and cold foods respectively. As shown in Table 8, level of education of women didn't show any statistically significant difference in keeping beliefs regarding hot and cold properties of food items ( $p > 0.05$ ).

Socio demographic profile	Group A < 6 months (n=31)	Group B 7-24 months (n=34)	Group C 2 - 5 years (n=35)	Total (n=100) n(%)
<b>Education</b>				
Illiterate	8	6	9	23(23)
Primary	7	7	7	21(21)
High school	10	16	12	38(38)
Intermediate	4	4	6	14(14)
Graduate/PG	2	1	1	4(4)
<b>Occupation</b>				
Housewife	23	27	21	71(71)
Laborer	7	5	9	21(21)
Working mother	1	2	5	8(8)
<b>Religion</b>				
Hindu	19	22	29	70(70)
Muslim	7	9	3	19(19)
Christian	5	3	3	11(11)
<b>Economic status</b>				
Class 1(> 5156)	1	0	0	1(1)
Class 2(2578-5155)	8	7	9	24(24)
Class 3(1547-2577)	11	21	19	51(51)
Class 4(773-1546)	10	6	7	23(23)
Class 5(<773)	1	0	0	1(1)

Table 1: Socio demographic profile of mothers

Malnutrition Status	< 6 months n(%)	7 - 24 months n(%)	2 - 5 years n(%)	Total n(%)
Normal	2(6.4)	9(26.4)	12(34.2)	23(23)
1 <sup>st</sup> degree	3(9.6)	3(8.8)	8(22.8)	14(14)

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2 <sup>nd</sup> degree	5(16.1)	6(17.6)	7(20)	18(18)
3 <sup>rd</sup> degree	7(22.5)	6(17.6)	2(5.7)	15(15)
4 <sup>th</sup> degree	14(45.1)	10(29.4)	6(17.1)	30(30)
Total	31(100)	34(100)	35(100)	100(100)

**Table 2: Grading of malnutrition of study population(IAP classification)**

Diagnosis of child	< 6months n(%)	7 - 24 months n(%)	2 – 5 years n(%)	Total n(%)
ARI	10(32.2)	14(41.1)	9(25.7)	33(33)
Diarrhea	4(12.9)	6(17.6)	3(8.5)	13(13)
Abdominal pain	1(3.2)	1(2.9)	6(17.1)	8(8)
UTI	0(0)	1(2.9)	7(20)	8(8)
Fever	10(32.2)	10(29.4)	8(22.8)	28(28)
Others	6(19.3)	2(5.8)	2(5.7)	10(10)
Total	31(100)	34(100)	35(100)	100(100)

**Table 3: Diagnosis of the child**

Frequency	< 6 months n(%)	7 -24 months n(%)	Total n(%)
Continued same	19(61.2)	15(44.1)	34(52.3)
Discontinued	0(0)	4(11.7)	4(6.1)
Increased	4(12.9)	7(20.5)	11(16.9)
Decreased	8(25.8)	8(23.5)	16(24.6)
Total	31(100)	34(100)	65(100)

**Table 4: Breast feeding frequency during illness**

Frequency	< 6 months n(%)	7 – 24 months n(%)	Total n(%)
Decreased	2(40)	21(61.76)	23(58.9)
Increased	0(0)	2(5.8)	2(5.1)
Stopped	1(20)	1(2.9)	2(5.1)
Continued as usual	2(40)	10(29.4)	12(30.7)
Total	5(100)	34(100)	39(100)

**Table 5: Changes in complimentary feeding during illness**

Change in consistency of food	7 -24 months n(%)	2-5 years n(%)	Total n(%)
Thinner than usual	21(61.7)	13(37.1)	34(49.2)
Thicker than usual	4(11.7)	0(0)	4(5.7)

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No change	9(26.4)	22(62.8)	31(44.9)
Total	34(100)	35(100)	69(100)

Table 6: Change in consistency of food during illness

Person influencing	< 6 months n(%)	7 – 24 months n(%)	2 – 5 years n(%)	Total n(%)
Parents	16(51.6)	3(8.8)	4(11.4)	23(23)
Grand parents	6(19.3)	5(14.7)	5(14.2)	16(16)
Mother-in law	3(9.6)	15(44.1)	15(42.8)	33(33)
Self	6(19.3)	11(32.3)	11(31.4)	28(28)
Total	31(100)	34(100)	35(100)	100(100)

Table 7: Persons influencing dietary beliefs of mothers

Level of education of mothers	Belief on hot and cold foods n(%)	No belief on hot and cold foods n(%)	Total n(%)
Illiterate	12(35.2)	11(16.6)	23(23)
Primary education	5(14.7)	16(24.2)	21(21)
High school education	11(32.3)	27(40.9)	38(38)
Intermediate	4(11.7)	10(15.1)	14(14)
Graduate/PG	2(5.8)	2(3.03)	4(4)
Total	34(100)	66(100)	100(100)

Table 8: Influence of level of education of mothers regarding beliefs on hot and cold foods

Chi square= 5.43, df= 4,  $p > 0.05$  (not significant).

**DISCUSSION:** This study was conducted with the aim of determining mother's beliefs and practices regarding diet during childhood illness. In the study, it has been observed that mothers had better dietary beliefs and practices, when child is healthy but during illness of the child many mothers followed faulty dietary practices.

Information about diet during health, revealed that among children less than 6 months the practice of giving prelacteal feeds was 45% and colostrum was fed to 87% new borns. Children who were exclusively breast fed were 83.87% in our study which was high as compared to NFHS-3 that is 46%. Anindita Maiti et al<sup>(4)</sup> in their study mentioned that, 75% fed colostrum to their newborns and 61% were practicing EBF for first 6 months which was lesser than the findings in our study.

16% mothers started complimentary feeding before 6 months of age in our study. Complimentary feeding was started before 4 months by 38.6% mothers in a study by Anindita Maiti et al.<sup>(4)</sup>

In our study, breast feeding was stopped during illness in 6.1% cases and 52.3% continued the same frequency as before and 16.9% increase the frequency among children less

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than 2 years of age. Asha D Benakappa reported in their study, that breast feeding was stopped in 1.42% cases during illness, about 65% continued the same frequency, while frequency was increased in around 4% cases.<sup>(5)</sup> Purushottam A. Giri reported that 2% caregivers stopped breast feeding, 60% continued the same frequency and 17% increase the frequency during illness.<sup>(6)</sup> However, it is not correct to stop or to reduce breast feeding during illness, especially diarrhea.

Regarding complementary feeding during illness among children less than 2 years of age, feeding was continued same as before illness in 63% children, was decreased in 23% and stopped in 10% cases. Asha D Benakappa reported that 42% cases continued the same and 20% cases decreased the complementary foods during illness.<sup>(5)</sup> Purushottam A. Giri reported that 26.5% caregivers decreased the frequency and 9% stopped the complementary feeding during illness.<sup>(6)</sup> By reducing the consistency and frequency during illness, they deprive the child of the required amount of energy and micronutrients. Sharma KP also reported in their study that instead of providing more nutrition during illnesses to meet the increased demand of body, the practice of food restriction is prevalent which may lead to disastrous consequences.<sup>(7)</sup>

In our study we found that elders at home (mothers, mother in law, grand others) were influencing dietary beliefs of the mothers. Similar findings were reported by Asha D Benakappa in their study.<sup>(5)</sup>

Among children aged 2-5 years, it was observed that, restriction of foods during childhood illness was followed by many mothers. Non vegetarian food was most commonly (91%) restricted during illness. Similar findings were reported in a study by Suwarna Madhukumar et al, where 93% did not take any form of non-vegetarian diet when they were ill.<sup>(8)</sup>

Hot and cold food concept was followed by 34% caregivers. Meat, either beef or mutton, fish, egg, chicken, was perceived as hot by majority of the respondents and vegetables were perceived as cold foods in our study. The other foods like rice, yogurt, banana, watermelon, milk and cold drink were also thought to be cold by many of the respondents. Level of education of women didn't show any statistically significant difference in keeping beliefs regarding hot and cold properties of food items. Similar findings were observed in Ali NS et al.<sup>(9)</sup> Asha D Benakappa stated that "hot" and "cold" food concept was blindly followed without a scientific basis, leading to unnecessary restriction of easily available food at home.<sup>(5)</sup>

**CONCLUSION:** False beliefs and practices like food restriction during child's ill health was observed widely in our study. Appropriate nutritional education to care givers, during common childhood illness is very much needed in the community. It can be given through IEC (Information, Education, and Communication) strategy stressing the nutritional aspects of common foods. It is necessary to identify the local cultural and traditional practices and beliefs regarding different foods given to child. There is also a need for educating the physicians and other health care workers about food concepts and feeding practices during health and diseases, so that they can educate the mothers when they bring child for treatment.



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