

A Study On Knowledge And Practice Of Mothers Regarding Infant Feeding And Nutritional Status Of Under-Five Children Attending Immunisation Clinic Of A Medical College

S Chatterjee, S Saha

Citation

S Chatterjee, S Saha. *A Study On Knowledge And Practice Of Mothers Regarding Infant Feeding And Nutritional Status Of Under-Five Children Attending Immunisation Clinic Of A Medical College*. The Internet Journal of Nutrition and Wellness. 2007 Volume 5 Number 1.

Abstract

India is a third world war country. Since independence, one of the gravest problems India is confronting with is malnutrition among under-5 children. As in other developing nations, malnourishment is a burden on considerable percentage of population, the most vulnerable being the youngest group of the society. About two-third of the under-five children of our country is malnourished. Among them, 5-8% are severely malnourished while rest fall in the group of mild or moderate malnutrition. So it can be said that malnutrition is one of the most widespread conditions affecting child health.

The 'germ' of malnutrition 'infects' a foetus in the intra-uterine life due to lack of sufficient antenatal care on part of the mother. The condition deteriorates further when after birth the infant is deprived of exclusive breast feeding or initiation of weaning is delayed. Weaning should be started after the age of 6 months and should contain energy rich semi-solid food. Malnutrition makes a child susceptible to infections and delays recovery, thus increasing mortality and morbidity.

Every time an innocent child suffers the curse of malnutrition; the responsibility goes to the mother, the family and to the community due to their faulty or no knowledge regarding the harmful effects of prelacteal feeding, benefits of exclusive breast feeding and initiation of proper weaning at the correct time.

It is to be realized that a million children die worldwide each year because they are not breast fed. Several millions who survive suffer from acute or chronic illness related to harmful effects of artificial feeding. These sufferings are unnecessary and are the preventable ones by discouraging bottle feeding and initiating efforts to bring back the breast feeding culture.

On this background, a project has been carried out under the above mentioned title, which is discussed in detail in the pages to follow. A study like this is very much essential to estimate graveness of the situation so that effective and adequate measures can be taken at the individual, family, community and government levels to combat the curse of malnourishment.

Name of the department and institution or hospital where the work was done: Nilratan Sircar Medical College and Hospital, Kolkata, India.

Objectives

The objectives of the project are as follows-

1. To study the knowledge and practice of mothers regarding infant feeding.
2. To study the nutritional status of the under-5 children.
3. To study certain factors (literacy, residents.etc) which might affect infant feeding practice and

nutritional status of under-five children.

METHODOLOGY

TYPE OF STUDY: Clinic based cross-sectional study.

PLACE OF STUDY: Immunisation Clinic, Dept. of Community Medicine, N.R.S. Medical College, Kolkata.

PERIOD OF STUDY: 01.04.02 to 30.04.02.

STUDY POPULATION: All the children attending the immunization clinic with their mothers during the period of data collection.

TOOLS:

1. Pre-designed and pre-tested schedule developed by Dept. of Community Medicine, N.R.S. Medical College, Kolkata.
2. Non-elastic measuring tape
3. Weighing machine (spring balance)
4. ICDS Growth chart.
5. Immunisation Card.

PROCEDURE

The procedure adopted for conducting the project is discussed below-

A. Briefing of the schedule: Before actual study was started, pretested and pre-designed schedules were briefed and explained to us by our teachers. We were taught to interact and collect information from mothers. Certain topics were discussed-

- Breast-feeding and its importance.
- Exclusive breast feeding.
- Weaning: proper age, foods etc.
- Assessment of nutritional status.
- The ICDS growth chart and its uses.

B. COLLECTION OF DATA : THIS WAS DONE IN FOLLOWING STEPS-

1. Interview of mothers - mothers of children attending the immunization clinic at N.R.S Medical College and Hospital (dept. of Community Medicine) were interviewed with the schedules. They were asked about their children (name, age, sex, date of birth, place of delivery, etc.), their occupation and their husbands', their knowledge about aspects of breast feeding and weaning, etc.

2. Examination of children - the general examination of children were done along with anthropometry-

a) Clinical examination: this was done to detect pallor, oedema, Bitot's spot, glossitis, angular stomatitis, etc. to assess the nutritional and health status.

b) Anthropometry : followings were performed-

1) Length- this was measured for babies who cannot stand

up. The child was placed supine on a flat surface, the head was held firmly in a position touching a vertical, rigid head board. Legs were straightened with feet at right angles to the legs keeping the toes upwards. Another rigid vertical board was brought in contact with the heel. The positions of the two boards were marked and the distance between them was measured by a tape to obtain the length of the child. The measurements were taken in centimeters.

2) Height - For children who can stand up, height was measured. Child stands upright without shoes against a vertical wall with head, shoulders, buttocks, and heel touching the wall. He looks directly forwards. A rigid board was placed on the head and its point of contact with the wall was marked. The distance between the point and the floor was measured in centimeters by a tape to give the height.

3) Mid- upper arm circumference - this was measured for children of 12-59 months of age. The left arm is conventionally chosen. It was measured at a point mid-way between the acromian process of scapula and the olecranon process of ulna. A non-elastic measuring tape was used for the purpose. Results were interpreted as follows-

- MUAC >13.5 cm suggests normal nutritional status.
- MUAC between 12.5 and 13.5 cm suggests mild to moderate malnutrition.
- MUAC <12.5 cm suggests severe malnutrition.

4) Weight - weight is measured in kilograms by using a spring balance. For this, the subject must be in minimal clothing. Proper functioning of the spring balance was assessed by weighing a known weight and also by noting if the pointer comes back to zero mark upon withdrawal of the weight.

If the child could stand, he /she was made to stand on the machine and weight was noted. If the child could not stand, he/she was laid down on the balance and weight was noted.

B) Compilation and analysis of Data: data collected by above procedures were compiled and tabulated for analysis and interpretation.

c) Presentation and Final report writing: the results of the project were presented in front of the teachers of the dept. of community medicine and fellow students. This was followed

A Study On Knowledge And Practice Of Mothers Regarding Infant Feeding And Nutritional Status Of Under-Five Children Attending Immunisation Clinic Of A Medical College

by a thorough discussion and some important suggestions came up. These were incorporated into the final report.

Then final report was prepared and written.

RESULTS

The results of our study is represented in following tables-

Figure 1

Table 1: Distribution of children according to age and sex N=55

| Age | Male | | Female | | Total | |
|--------------|--------|----------|--------|----------|--------|-------|
| | Number | % | Number | % | Number | % |
| 0-5 months | 15 | 51.72 | 14 | 53.85 | 29 | 52.73 |
| 6-11 months | 4 | 13.82 | 1 | 3.85 | 5 | 9.09 |
| 12-23 months | 7 | 24.14 | 10 | 38.46 | 17 | 30.91 |
| 24-59 months | 3 | 10.34 | 1 | 3.85 | 4 | 7.27 |
| TOTAL | 29 | 100/52.7 | 26 | 100/47.3 | 55 | 100 |

Comment: In the study population of 55 children, there were more male children (52.70%) than female children (47.30%).

Figure 2

Table 2: Distribution of children according to birth weight N=41

| Birth weights | Number | % |
|-------------------------------|--------|-------|
| Less than 2.5 kilograms | 12 | 29.27 |
| More than or equal to 2.5kgs. | 29 | 70.73 |
| TOTAL | 41 | 100 |

N.B. Birth weight was not available in case of 14 children because the mother could not recall the birth weights nor could produce any documents from which the data could be collected.

Comment: More than 25% of the study population was born with low birth weight.

Figure 3

Table 3: Distribution of children according to place of delivery N=55

| Place of Delivery | Number | % |
|------------------------|--------|-------|
| Hospital /Nursing Home | 48 | 87.27 |
| Home | 5 | 9.09 |
| Others | 2 | 3.64 |
| TOTAL | 55 | 100 |

N.B. Among the two children delivered at 'other'places, one was delivered in a taxi while the other at a railway station.

Comment: Most of the deliveries (87.27 %) have taken place in institutions; viz: Hospitals and Nursing Home.

Figure 4

Table 4: Distribution of children according to residence N=55

| Residence | Number | % |
|-----------|--------|-----|
| Rural | 11 | 20 |
| Urban | 44 | 80 |
| Total | 55 | 100 |

Comment: Majority of the study population (80%) were residents of urban areas.

Figure 5

Table 5: Distribution of children according to religion. N=55

| Religion | Number | % |
|----------|--------|-------|
| Hindu | 54 | 98.18 |
| Muslim | 00 | 00.00 |
| others | 1 | 1.82 |
| TOTAL | 55 | 100 |

Comment: Almost all the study population (98.18%) was Hindu by religion.

Figure 6

Table 6: Distribution of children according to occupation of mother. N=55

| Occupation of Mother | Number | % |
|----------------------|--------|-------|
| House wife | 50 | 90.90 |
| Service | 2 | 3.64 |
| Labour | 2 | 3.64 |
| Others | 1 | 1.82 |
| TOTAL | 55 | 100 |

Comment: Majority (90.9%) of the mothers were housewives.

Figure 7

Table 7: Distribution of children according to occupation of father N=55

| Occupation of father | Number | % |
|----------------------|--------|-------|
| Business | 15 | 27.27 |
| Service | 17 | 30.91 |
| Labour | 9 | 16.36 |
| Others | 14 | 25.46 |
| TOTAL | 55 | 100 |

Comment: Fathers of 30.91% children were engaged in service and 27.27% in business.

A Study On Knowledge And Practice Of Mothers Regarding Infant Feeding And Nutritional Status Of Under-Five Children Attending Immunisation Clinic Of A Medical College

Figure 8

Table 8: Distribution of children according to literacy status of parents. N=55

| Literacy status | Number | % |
|-------------------------|--------|-------|
| Only father literate | 15 | 27.27 |
| Only mother literate | 2 | 3.64 |
| Both parents literate | 32 | 58.18 |
| Both parents illiterate | 6 | 10.91 |
| TOTAL | 55 | 100 |

Comment: In most cases, either both or at least one of the parents were literate.

Figure 9

Table 9: Distribution of children according to knowledge of mother regarding infant feeding

| Aspects | Number of correct Entries | % |
|--|---------------------------|-------|
| First food of Newborn | 53 | 96.36 |
| Initiation of Breast feeding | 31 | 56.36 |
| Food at 3 months | 28 | 50.90 |
| Continuation of feeding during illness | 36 | 65.45 |
| Age of weaning | 29 | 52.73 |
| Weaning foods | 48 | 87.27 |

Comments: There is poor knowledge of mothers regarding proper time of initiation of breast feeding and correct age of weaning.

Figure 10

Table 10: Distribution of children according to feeding practice of mother

| Aspect | Number of Entries | % |
|---|-------------------|-------|
| Colostrum feeding | 53 | 96.36 |
| Prelacteal feeding | 30 | 54.54 |
| Initiation of Breast feeding within 1 hour of birth | 08 | 14.54 |
| *Exclusive breast feeding at least upto 6 months [N=26] | 07 | 26.96 |
| ** Continuation of feeding during illness [N=51] | 33 | 64.71 |
| Consumption of iodized salt in family | 42 | 76.36 |

* Not applicable - children below 6 months of age =29

** Not applicable- children who have not fallen ill = 4.

Comment: 96.36% mothers practised colostrum feeding but 54.54 % mothers practised pre-lacteal feeding.

Figure 11

Table 11: Distribution of children according to the age of initiation of weaning N = 34

| Age of Initiation of Weaning | Number | % |
|------------------------------|--------|-------|
| <4 months | 6 | 17.65 |
| 4-6 months | 4 | 11.76 |
| > 6 months | 24 | 70.59 |

N.B: 2 cases have been reported where children aged more than 6 months have not yet started weaning.

Comment: In cases of 17.65% children, age of initiation of weaning is <4 months, whereas in case of 70.59% children, it is >6 months.

Figure 12

Table 12: Distribution of children according to signs of nutritional deficiency N = 55

| Deficiency signs | Pallor | Angular stomatitis | Glossitis | Bitot 's spot | Oedema |
|------------------|--------|--------------------|-----------|---------------|--------|
| Numbers | 2 | 0 | 0 | 0 | 0 |
| % | 3.64 | 0.00 | 0.00 | 0.00 | 0.00 |

Comment: 3.64 % children presented with pallor.

Figure 13

Table 13: Distribution of children according to nutritional status (weight /Age) N = 55

| Nutritional status | Normal | Malnutrition | | | |
|--------------------|--------|--------------|----------|-----------|----------|
| | | Grade-I | Grade-II | Grade-III | Grade-IV |
| Number | 35 | 16 | 3 | 1 | 0 |
| % | 63.64 | 29.09 | 5.45 | 1.82 | 0.00 |

Comments: Nutritional status of 63.64% children is normal .

Figure 14

Table 13: Sex-wise distribution of nutritional status.N =55

| Nutritional status | Male | | Female | | Total | |
|---------------------------|--------|-------|--------|-------|--------|-------|
| | Number | % | Number | % | Number | % |
| Normal | 20 | 68.96 | 15 | 57.69 | 35 | 63.64 |
| Grade -I malnutrition | 6 | 20.68 | 10 | 38.46 | 16 | 29.09 |
| Grade-II malnutrition | 3 | 10.34 | 0 | 0.00 | 3 | 5.45 |
| Grade-III+IV malnutrition | 0 | 0.00 | 1 | 3.85 | 1 | 1.82 |
| TOTAL | 29 | 100 | 26 | 100 | 55 | 100 |

Comment: 68.96% of male and 57.69% of female children are of normal nutritional status.

Figure 15

Table 14: Distribution of children (12-59 months) according to Mid Upper Arm Circumference (MUAC) N = 21

| MUAC (cm) | <12.5 cm | 12.5 – 13.5 | >13.5 |
|-----------|----------|-------------|-------|
| Number | 1 | 5 | 15 |
| % | 4.76 | 23.81 | 71.43 |

Comments: 71.43 % children belonging to the age group of 12 - 59 months have normal MUAC.

Figure 16

Table 15: Distribution of children according to literacy status of mother and newborn feeding practice

| Literacy status of mother | Colostrum feeding | | | | Pre-lacteal feeding | | | |
|---------------------------|-------------------|-------|----|------|---------------------|-------|----|-------|
| | Yes | % | No | % | Yes | % | No | % |
| Literate [N=34] | 32 | 94.12 | 2 | 5.88 | 16 | 47.06 | 18 | 52.94 |
| Illiterate [N=21] | 21 | 100 | 0 | 0.00 | 14 | 66.67 | 7 | 33.33 |

Comment: There was no gross difference in practice of colostrum feeding among literate and illiterate mothers, but there was marked difference between the same in practice of pre-lacteal feeding (47.06% and 66.67% respectively).

Figure 17

Table 16: Distribution of children according to literacy status of mother and initiation of breast feeding

| Literacy status of mother | Initiation of breast feeding | | | | | |
|---------------------------|------------------------------|-------|------------|-------|------------|-------|
| | < 1hour | | 1-24 hours | | > 24 hours | |
| | Number | % | Number | % | Number | % |
| Literacy (N=34) | 7 | 20.59 | 14 | 41.18 | 13 | 38.24 |
| Illiteracy(N=21) | 1 | 4.76 | 10 | 47.62 | 10 | 47.62 |

Comment: 38.24% literate mothers and 47.62% illiterate mothers initiated breast feeding after 24 hours of birth of their children.

Figure 18

Table 17: Distribution of children (more than 6 months) according to exclusive breast feeding (up to 6 months) and nutritional status (weight/age)

| Exclusive breast feeding upto 6 months | Nutritional status | |
|--|--------------------|--------------|
| | Normal | Malnourished |
| Yes | 4 (57.14%) | 3 (42.86%) |
| No | 11 (57.90%) | 8 (42.10%) |

Comment: There is no gross difference between children (more than 6 months) who have been exclusively breast fed and who have not been fed.

SUMMARY

A study was conducted on knowledge and practice of mothers regarding infant feeding and nutritional status of under-five children attending the Immunisation Clinic at the Department of Community Medicine, N.R.S. Medical College and Hospital, Kolkata. It was a clinic-based cross-sectional study. Data collection was done by interview of mothers with predesigned and pretested schedules, and by examination of children.

Total number of children in the study = 55

Male children = 29 (52.70%) Female children = 26 (47.30%)

- 29.27 % children were born with low -birth weight and 87.27% children were delivered at institutions.
- 80% children were residents of urban areas.
- Majority of children were from Hindu community (98.18%)
- 90.9% mothers were housewives and 38.18% mothers were illiterate.
- 96.36% mothers had correct knowledge about first food of newborn.
- 52.73% mothers had correct knowledge about "age of weaning" and 87.27% about "weaning foods".
- 96.36% children got benefits of colostrum feeding.
- In case of 14.54% children, breast feeding was initiated within one hour of birth.
- 26.96% children were exclusively breast fed for at least upto 6 months of age.
- Feeding was continued during illness in 64.71% children.
- Age of initiation of weaning was more than 6 months in 70.59% children.
- In 3.64% children, pallor was found as the only clinical sign of nutritional deficiency.
- Nutritional status of 63.64% children was normal while 29.09% children had grade-I malnutrition. 68.96% of male children and 57.69% of female children had normal nutritional status.

- 71.43% children belonging to the age group of 12-59 months had mid-upper arm circumference greater than 13.5 cm.
- 94.12% literate mothers and 100% illiterate mothers had their children fed with colostrum.
- Both father and mother were literate in 58.18% while 10.91% children had illiterate parents.
- 47.06% literate mothers and 66.66% illiterate mothers practiced pre-lacteal feeding .
- 61.77% literate mothers and 52.38% illiterate mothers had initiated breast feeding within 24 hours of birth of their children.
- 57.14% children receiving exclusive breast feeding and 57.19% children not receiving exclusive breast feeding had a normal nutritional status.

RECOMMENDATIONS

A) TO MOTHER AND FAMILY :

- All the family members, particularly the elderly females should be taught about the disadvantages of prelacteal feeding and importance of colostrum feeding.
- Mothers should be advised to initiate breast feeding within one hour of delivery.
- Importances of exclusive breast feeding for the first 6 months of baby's life and proper weaning thereafter should be properly explained to the mother.
- They should be taught to continue feeding normally during illness of the children.
- Consumption of low cost nutritious foods and green leafy vegetables on part of mother is advocated during the days of pregnancy and lactation.
- Proper and timely immunization of both mother and child is to be ensured by the family.

B) TO THE COMMUNITY :

- There should be arrangements for social programmes like mother's meeting, baby shows

etc. by various organizations.

- For spreading awareness, mass communication may be made by utilizing posters, banners, local cable channels, local fairs, puja, festivals etc.
- Afternoon schools or night school should be opened and ran by the community so that mothers and fathers may get proper education.
- Pregnant women and lactating mothers should be encouraged to go to ICDS centers and take supplementary nutrition.

C) TO THE GOVERNMENT :

- Government should allot more money in health sector for integrated health packages and should ensure proper functioning of health programmes and health workers.
- Mass communication should be properly utilized for this purpose.
- It should promote integrated literacy programmes and should make provisions for incentives to attract more people.
- The government should organize seminars on this topic frequently and attendance of health workers should be made mandatory.
- The education ministry can introduce a section on infant feeding in the 'Nutrition' Chapter of Biology at Secondary or Higher Secondary level to promote knowledge in this aspect.

D) TO HEALTH PERSONNELS :

- They should arrange and actively participate in more seminars.
- The ten steps of successful breast feeding and other Infant and child welfare programmes should be followed and practiced by health personnel.

E) TO THE INSTITUTION:

- Mothers attending the Immunisation Clinic, antenatal and postnatal wards should be informed about benefits of breast feeding and different aspects of infant feeding.

ANNEXURE - PROFORMA

A STUDY ON KNOWLEDGE AND PRACTICE OF MOTHERS REGARDING INFANT FEEDING AND NUTRITIONAL STATUS OF UNDER FIVE CHILDREN ATTENDING IMMUNISATION CLINIC OF A MEDICAL COLLGE IN KOLKATA

Name of child:

Sex: M/F Age:

Date of Birth: Birth Weight:

Place of delivery: Hospital/Home/Nursing Home/others

BACKGROUND INFORMATION ABOUT FAMILY :

Name of mother:

Age:

Address:

Rural/Urban:

Religion: Hindu/Muslim/others

Occupation of father:

Occupation of mother:

Literacy status: Father - Illiterate/Literate (class)

Mother-Illiterate/Literate (class)

Type of family: Nuclear/Joint

KNOWLEDGE OF MOTHER ABOUT INFANT FEEDING:

1. What should be the first food for a new-born?
2. When should breast feeding be initiated after normal delivery?
3. What foods are to be given to a baby of 3 months of age?
4. At what age semi-solid foods are started to infant?
5. Name some semi-solid foods that can be offered to infants during period of weaning.
6. During illness feeding should be - discontinued/given much less than normal/continued normally.

NUTRITIONAL STATUS: FEEDING HABIT:

- Colostrum feeding : Yes/No
- Pre-lacteal feeding : Yes/No
- When breast feeding initiated after birth: within 1 hour/1-24 hours/after 1 day.
- Exclusive breast feeding : Yes/No
- Duration of exclusive breast feeding : <6 months/>6 months.
- Weaning started at : <4 months /4-6 months/> 6 months.
- Weaning foods used were :
- Whether feeding continued during illness: as usual/ given more/ given less/ stopped.
- Whether taken iodized salt: Yes/No.
- Pallor : Present/Absent
- Glossitis Present/ Absent
- Oedema : Present/Absent
- Angular stomatitis : Present/Absent
- Bitot's spot : Present/Absent
- Weight : kg
- Height/length : cm
- MUAC: cm.

CORRESPONDENCE TO

Name: Saurav Chatterjee, MBBS, ECFMG certified.
Resident, Neurology Intensive Therapy Unit, National Neurosciences Centre, Peerless Hospital, Kolkata,India. Co-Author: Sandhita Saha,MBBS. Resident, AMRI Hospital, Dhakuria , Kolkata, India Postal Address: Apt 3A, Mandeville Garden Court, 7D/1 Anil Moitra Road Kolkata-700 019, India. Email: saurav.sphs@gmail.com Phone:91-9831205863

References

r-0. Haiek, L. N., Gauthier, D. L., Brosseau, D., Rocheleau, L. (2007). Understanding Breastfeeding Behavior: Rates and

A Study On Knowledge And Practice Of Mothers Regarding Infant Feeding And Nutritional Status Of Under-Five Children Attending Immunisation Clinic Of A Medical College

Shifts in Patterns in Quebec. *J Hum Lact* 23: 24-31

r-1. Scott, J. A., Mostyn, T. (2003). Women's Experiences of Breastfeeding in a Bottle-Feeding Culture. *J Hum Lact* 19: 270-277

r-2. Greene, J., Stewart-Knox, B., Wright, M. (2003).

Feeding Preferences and Attitudes to Breastfeeding and Its Promotion Among Teenagers in Northern Ireland. *J Hum Lact* 19: 57-65

Author Information

Saurav Chatterjee, MBBS, ECFMG

Sandhita Saha, MBBS