International Journal of Contemporary Pediatrics
Gangaraj S et al. Int J Contemp Pediatr. 2014 Nov;1(3):152-155
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291
DOI: 10.5455/2349-3291.ijcp20141110

Research Article

Impact of feeding practices, socioeconomic, and demographic profiles of under five children with severe acute malnutrition

Subba Gangaraj[1]*, Das Ghanshyam[2]

[1]Department of Paediatrics, Sikkim Manipal Institute of Medical Sciences, Gangtok, Sikkim, India
[2]Department of Peditrics, Gajra Raja Medical College, Gwalior, Madhya Pradesh, India

Received: 11 September 2014
Accepted: 24 October 2014

***Correspondence:**
Subba Gangaraj,
E-mail: raj_subba82@rediffmail.com

ABSTRACT

Background: The benefit of the early breastfeeding and timely imitation of complementary feeding as per locally availability of resource is well-documented. WHO recommend early initiation as soon as possible of the breastfeeding after birth as well as complementary feeding at 6 months of age. The objective was to know the feeding practices, socioeconomic and demographic profiles among the children with severe acute malnutrition (SAM).
Methods: All under 5 children who fulfill the criteria of inclusion in the study. Various data were recorded and analyzed.
Results: Only 22.36% and 31.57% of children received breastfeeding within 1 h and 1-4 h of birth, but exclusive breastfeeding till 6 months of age were found in 51.5% of children with SAM. About 42.1% of children had received complementary feeding between 6 months and 1 years of age and majority after 1 year of age, but no on were started on complementary feed before 6 months of age. Socio-economic, literacy, parity and demographic profiles had direct impacts that lead to malnutrition.
Conclusions: The study has shown the existence of the under 5 children with SAM in nuclear and urban areas also.

Keywords: Feeding practices, Socio-economic, Demographic Profile, Severe Acute Malnutrition

INTRODUCTION

The benefit of the early breastfeeding and timely initiation of complementary feeding is well documented and recommended by the WHO. Soon after the birth the baby is awake and ready to breastfeed biologically. The breastfeeding confers short term and long term benefits to both mother and child, including the children to protect against the acute and chronic diseases.[1]

Complementary feeding should be timely, meaning that all infants should start receiving food in addition to breast milk from 6 months of age onwards, which should be adequate, safe and appropriate as per locally available of food resources. Although the breastfeeding rate was high 97%, complementary feeding was less ideal as many children 14% were started on this feed before 3 months of age, and high rate of stunting was found 20%. Nti and Lartey 2007.[2] 52.75% of the mother had correct knowledge about the "age of initiation complementary feed" and 87.27% regarding the "complementary feed." The age of initiation of complementary feed was more than 6 months of age in 70.59% and failing to start breast feeding or ceasing of breast-feed resulted to 8-10 fold increased in the rate of diarrhea mortality.[3]

On the other hand, the malnutrition is a major global problem in developing countries where majority leaves below the poverty line. This malnutrition is a disease of multifactorial deprivation where socio-demographic, environmental and nutritional factors such as family size, education, improper breastfeeding, complementary feeding, etc. influences the child's growth and development. The severe acute malnutrition (SAM) which suggest wasting

is acute and one of the most lethal form of malnutrition in children. Very few women in India have access to counseling services on infant and young child feeding practices.[4] With all these views current study was carried out to find out regarding the feeding practices that was used in children with SAM and its association with various socio-economic and demographic profiles.

METHODS

This is a descriptive type of prospective observational study carried out in Kamala Raja Hospital under G R Medical College, India over a period of one year 2008-2010 in all under 5 years children who were admitted with SAM. The case was defined as SAM if the weight for height/length is 70% or less below the median, or 3SD or more below the mean National Centre for Health statistics reference value, which is called "wasted," the presence of bilateral pedal pitting edema of nutritional origin which is called "edematous malnutrition" or mid-upper arm circumference of <110 mm in 1-5 years age group. The children with chronic diseases that lead to malnutrition such as congenital heart disease, chronic renal failure, chronic liver disease, cerebral palsy, disseminated tuberculosis, hemolytic diseases, malignancies, etc. were excluded. There were 76 children who were included in the study after taking the written consents from guardian. Feeding practices, socioeconomic, demographic profile are recorded after proper questioners. The children who were receiving breastfeed or received breast milk from his/her mother or wet nurse, or expressed breast milk, nothing else excepts drops/syrup containing of vitamins, minerals or medicines were considered as exclusively breast feed. The infants who received predominantly breastfeed along with water or water based drinks such as sweetened water, juices, teas etc., before 6 months of age was considered to be predominantly breastfeed and infants who receive both mother milk and artificial feed before 6 months of age was regarded as partial breast feed. All data were entered into the Excel and analyzed.

RESULTS

Concerning the socioeconomic and demographic profile of cases (Table 1), majority of the severely acute malnourished children were found in the age group of 6-12 months (30.26%) and >12-24 months (32.8%), respectively. About 57.9% of mothers and 31.6% of fathers were illiterate but fair numbers of parents were literate. The impact of mother's education on malnutrition was observed more. The socioeconomic belonging of family were 26.3% class III, 35.5% Class IV and 21% Class V. 47.36% of subjects had 1-2 siblings, 22.36% and 15.8% subjects had 6 or more and 3-5 siblings respectively, but 14.5% of subjects were lone children. Majority 61.54% belongs to the rural area, and 63% were in the nuclear family.

Table 2 shows that 76.3% were non-edematous malnourished and remaining 23.68% were edematous.

Table 1: Socioeconomic and demographic profiles (*n*=76).

Socioeconomic and demographic profiles	Number of cases	Percentage
Ages		
3-<6 months	06	7.9
6-12 months	23	30.26
>12-24 months	25	32.8
>24-36 months	13	17
>36 months	09	11.8
Type of family		
Nuclear	48	63
Joint	28	37
Residency		
Urban	29	38.5
Rural	47	61.84
Socioeconomic status (B J Prasad classification)		
Class I	09	11.9
Class II	06	7.89
Class III	20	26.3
Class IV	27	35.5
Class V	16	21
Number of siblings of subjects		
0	11	14.5
1-2	36	47.36
3-5	12	15.8
6 or more	17	22.36
Educational status of parents (%)	Father	Mother
Illiterate	24 (31.6)	44 (57.9)
Primary	18 (23.7)	12 (15.8)
Secondary	20 (26.3)	14 (18.42)
Senior secondary	08 (10.5)	06 (7.9)
Graduate	06 (7.9)	00

Table 2: Classification between edematous and non-edematous malnutrition.

Bilateral pedal edema	(%)
Present	18 (23.68)
Absent	58 (76.3)

Regarding the time of initiation of the breastfeeding (Table 3) 31.57% and 35.52% of subjects had received breastfeeding between 1 and 4 h and >4 h of birth. Only 22.36% were initiated breastfeeding with 1 h of life and 10.5% were completely artificial feed.

Looking to Table 4 the exclusive breast feeding till 6 months (or were feeding in under 6 month age) were 51.3%. 14.47%

and 26.3% were predominantly and partially breastfeed, but 10.5% were artificial feed.

No one under 6 months of age children (n = 6) were receiving complementary feed. In remaining children of 6 months, onwards no one has received complementary feeding before 6 months of age. 45.7% and 34.28% of n = 70 children had received complementary feed at 6-12 months and >12 months of age onwards and remaining 20 % were not receiving and most of them were 6-12 months of age (Table 5).

DISCUSSION

In this study, we included the children under 5 years of age as they are more prone for malnutrition as well as the caregivers may not know the how and when to starts the complementary feeding Gueri et al.[5] The prevalence was high between 6 months to 2 years of age in our study.

In this study, only 22.36% were initiated breastfeeding with 1 h of life and 10.5% were completely artificial feed. 31.57% and 35.52% of subjects had received breastfeeding between 1-4 h and >4 h of birth. Gover et al. found that 9.1% infants were breastfeed within 1 h of birth and 71.7% mother agreed that the breastfeeding protects from infection

Table 3: Time of initiation of breast feeding (*n*=76).

Time of initiation of breastfeeding	(%)
Within 1 h of birth	17 (22.36)
>1 to 4 h of birth	24 (31.57)
>4 h of birth	27 (35.52)
Not at all	08 (10.5)

Table 4: Types of feed received (*n*=76).

Types of feeding	(%)
Exclusive breast feeding till 6 months of age	39 (51.3)
Predominantly breast feed	11 (14.47)
Partial breast feed	20 (26.3)
Artificial feed	8 (10.5)

Table 5: Time of initiation of complementary feeding in 6 months of age onwards children (*n*=70) as 6 children were under 6 months of age.

Time of initiation of complementary feeding from 6 months of age onwards	(%)
< 6 months of age	0 (0)
6 months to 1 years of age	32 (45.71)
>1 years of age	24 (34.28)
Not receiving at admission	20 (20)

and healthiest food.[6] In Vadodara city, 2010 that only 32.1% started breastfeeding within 1 h of birth.[7] Similarly in Nepal none of the mother got advices on breastfeeding antenatally.[8] Hence, the late initiation of breastfeeding was observed in our study. The exclusively breastfed till 6 months of age or exclusive breastfeeding under 6 months of age was 51.3% among the children with SAM but Chetterjee and Saha, found that 26.96% were exclusively breastfeed till 6 month of age on under 5 years all children attaining immunization clinic.[3] 14.47% and 26.3% were predominantly and partially breastfeed but 10.5% were artificial feed in this study. In 6 month of age bottle fed children faced 1.6-1.8 times significantly higher risk of height for age deficiency than exclusively breastfed, Castillo et al., Chile[9] and this bottle feeding in infants have significantly higher episodes of diarrheal disease, Ram et al.[10] It has been known that occurrence of diarrhea is more severe (3-4 times) and more common (5-7) in a malnourished children than normal and acts as vicious circle.[11]

In this study that no one under 6 months of age children (n = 6) were receiving complementary feed. In remaining children of 6 months onwards no one has received complementary feeding before 6 months of age. 45.7% and 34.28% of 70 children above 6 months of age had received complementary feed at 6-12 months and >12 months of age onwards, which showing the age of starting the complementary feeding time was correct. Nti and Lartey, 2007 found that the although breastfeeding rate was high (97 %), but the complementary feeding was less ideal with as many as 14% were introduced the complementary feeding before 3 months of age and prevalence of stunting was high (20%).[2] 52.73% mothers had correct knowledge and 87.27% mother about time of initiation of "complementary feeding" and 70.59% children received complementary feed at more than 6 months of ages Chetterjee and Saha.[3] Looking to our study that initiation of the complementary feed was late, which itself can lead to malnutrition. For timely initiation and as well adequacy of complementary feed to improve the child nutrition in this population, nutritional education programs aimed at improving nutrients intake among young children, through improved diet diversity and increased use of local food rich in iron and other nutrient need to be undertaken which WHO recommends.

In this study, 57.9% of mothers and 31.6% of fathers were illiterate but fair numbers of parents were literate. The impact of mother's education on malnutrition was observed more. Mother schooling is the stronger determinants of child welfare Bicego and Boerma.[12] Improved parental education could have dramatic effects upon reducing malnutrition among preschool Kassouf and Senauer.[13] and majority of SAM children belongs to rural 61.54% but equally rising in urban and more existences in nuclear family also 63%.

CONCLUSION

This study has shown that the existence of the under 5 children with SAM in nuclear and urban areas also. Although the impact of parental education and socioeconomic

condition was there with SAM but still fair number of cases were found in literate and good economic condition family also. The WHO recommendation as soon as breastfeeding after birth and timely initiation of complementary feed with its quality need to be address. The counseling regarding the importance of infant and young children feeding is needed right from antenatal check up to under 5 clinic attaining. Hence, the burden of SAM with both its short and long terms consequences can be avoided.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Leon-Cava N, Lutter S, Ross J, Martin L. Quantifying the Benefits of Breastfeeding: A Summary of Evidence. Washington, DC: Pan American Health Organisation; 2002.
2. Nti CA, Lartey A. Young child feeding practices and child nutritional status in rural Ghana. Int J Consum Stud. 2007;31(4):326-32.
3. Chetterjee S, Saha S. A study on knowledge and practices of mothers regarding infant feeding and nutritional status of under – Five children attending immunization clinic of a medical college. Int J Nutr Wellness. 2007;5(1).
4. Dadhich JP, Gupta A. Assessment of status of infant and young child feeding (IYCF) practices, polices and programme. Achievements and gaps. Breast Feeding Promotion Network of India; 2005.
5. Gueri M, Andrews N, Fox K, Jutsum P, St Hill D. A supplementary feeding programme for the management of severe and moderate malnutrition outside hospital. J Trop Pediatr. 1985;31:101-8.
6. Gover VL, Pragati C, Aggrawal OP. Breastfeeding in rural area of East Delhi. Health Popul Perspect Issue. 1997;20(2):49-56.
7. Bhatta S, Pooja P, Neha K, Amit K, Rahul P. Knowledge, attitude and practice of postnatal mothers for early iitiation of breastfeeding in obstrectic ward of a tertiary care hospital of Vadodara. Natl J Community Med. 2012;3(2):305-9.
8. Castillo C, Atalah E, Riumalló J, Castro R. Breast-feeding and the nutritional status of nursing children in Chile. Bull Pan Am Health Organ. 1996;30:125-33.
9. Ram R, Ghosh MN, Shah JB, Bhattacharya SKB, Haldar A, Chetterjee C. Breast feeding practices in rural community of Darjeeling. West Bengal. Indian J Community Med. 2000;25(2):79-82.
10. Mubarak A, Atta-Ullah M, Abid H. Acute hypokalemic flaccid paralysis in malnourished children. Pak Pediatr J. 2003;27(4):166.
11. Chaudhary RN, Shash T, Raja S. Knowledge and Practices of mothers regarding breastfeeding. A hospital based study. Health Renaiss. 2011;9(3):194-200.
12. Bicego GT, Boerma JT. Maternal education and child survival: A comparative syudy of survey data from 17 Countries. Soc Sci Med. 1993;36(9):1207-27.
13. Kassouf AL, Senauer B. Direct and indirect effects of parental education on malnutrition among children in Brazil: A full income approach. Popline Documents Number: 122250.

DOI: 10.5455/2349-3291.ijcp20141110
Cite this article as: Gangaraj S, Ghanshyam D. Impact of feeding practices, socioeconomic and demographic profiles of under five children with severe acute malnutrition. Int J Contemp Pediatr 2014;1:152-5.