A Longitudinal Study On Feeding Practices And Morbidity Patterns Of Infants In A Rural Field Practice Area Of Thadikonda, Guntur (Dt),Ap

Dr.B. Sreedevi ,Asst Professor, Dr.R.Nageswara Rao Professor
Department Of community Medicine, Guntur Medical College Guntur, AP, India

Abstract:
Background: *Feeding practices and illnesses during infancy are of critical importance for growth and development of children .Though several programs have been implemented by WHO and UNICEF to improve the health status of newborn and infant, child morbidity and mortality rates in rural area are still higher compared to urban areas in India.*
Objective: *To assess the feeding practices and morbidity patterns of infants in a rural field practice area .*
Methodology: *A longitudinal study was undertaken in field practice area under community medicine Department, Guntur from Jan 2013 to march 2014.A birth cohort of hundred children born during first 3 months of study period were assessed and followed up till they attained 1year age .Data collected on feeding practices ,infant illnesses and socio-demographic factors.*
Results: *The incidence of episodes of morbidity was 2.78 per infant per year. Respiratory Tract Infections are most common observed illness followed by diarrhea .Majority of the mothers (90%)*
Were given colostrum ,50% were breast fed their babies with in 1 hour of delivery,60% were given EBF(Exclusive Breast Feeding). The   illnesses are less common in first 6 months of infancy compared to letter half of life .A Significant association between feeding practices and morbidities
Conclusion: *Hence focusing education on faulty feeding practices and implementation of IMNCI(integrated management of newborn and childhood illnesses)   at gross root level by health workers need to be emphasized .***Keywords:*** *Infants ,feeding practices, morbidity.*

I.   Introduction

Infants (0-1year) form a vulnerable group in any population. Health of infant is considered as a sensitive indicator of Health & Socio-economic development of a country [1]. World Health Organization (WHO) proposed a theme on World Health Day during 2003 as Healthy environment for children. Globally 7million children under 5yesrs of age died in 2011 and about 1/4th 0f deaths occurred in India. As per WHO –Child Health Epidemiology Reference group(CHERG) 2012 estimates in India major cause of 0-5year child mortality was pneumonia(15%),diarrhea(11%) and measles(3%)[6]

Optimal infant and child feeding practices are crucial for nutritional status, growth and development. Exclusive Breast feeding for 6 months is an essential component for growth and development of the infant[2].For children older than 6 months breast milk alone is no longer sufficient to meet the nutritional requirements and therefore other foods are needed along with breast milk .Introduction of semi-solid foods after first 6months is essential to avoid the malnutrition in early life [3].Various studies in India have shown that Respiratory and Gastrointestinal tract infections are the leading cause of morbidity in infants[4,5].These infectious diseases are affected by several factors such as birth weight, gestational age, birth order ,immunization status ,day care attendance and socio-economic status of the family.

Hence effective child health care delivery information regarding infant feeding practices and pattern of morbidity is important. This study was done to describe infant feeding practices ,morbidity pattern and care given during the episodes of illness in rural area of Tadikonda, Guntur.

II.   Material And Methods

A longitudinal study was conducted on a birth cohort of 112 infants born during 1st 3months of the study(that is from January 2013 to march 2013) period were assessed at enrollment and followed up quarterly till they attain 1year of age .Study was conducted in field practice area of Tadikonda under community medicine department at Guntur Medical college in Guntur, A.P. from Jan2013 to March 2014.Tadikonda has a Rural Health Centre with 4 sub centers under it. Two of these sub centers were selected randomly for this study namely Pedaparimi and ponnekallu with a population of 15,000.All children born from Jan2013 to Mar2013 formed the birth cohort that was followed up. During the initial phase the investigator visited houses of mothers within 10 days of a child birth and collected information on Socio –demographic factors, Feeding practices and

illnesses of infants using a pre-designed proforma. Later quarterly house visits were made to enquire about their morbidities followed by a detailed clinical examination and also Document verification was done if child had illness in between the visits. Inclusion criteria were singleton pregnancy and permanent residents of Newborn mothers. Exclusion criteria were Multiple births and temporary residents of mothers who come to parental house for delivery which is a common cultural practice in India and finally 12 children were excluded from the study because of temporary residents of mothers. So now the study subjects were 100.

Data analysis was done using Epi info software and presented as proportions. Testing significance chi-square test was used. Assessment of Socio economic status Modified BG Prasad classification used.

III. Results

Total 100 infants mothers participated in the study. The present study revealed 55% were male infants,50% were belonged to lower middle class and 40% were educated upto secondary level. It was observed that 90% infants received colostrum after birth and 20% received pre-lacteal feeds of them glucose water and animal milk were more. It was also observed that in 50% of the infants Breast feeding was initiated within 1hr followed by 80% were within 6hrs. The study also revealed 80% of the infants were feed on demand and 60% were on Exclusive Breast Feeding (EBF). The values are present in Table1 and 2. The incidence of infant morbidity was 2.78 episodes per infant per year. The present study revealed Respiratory Tract Infections were the highest incidence at 1.34 per infant per yr followed by Diarrhoea 0.71. The incidence of all morbidities was less during the first 6 months of infancy (1.09 per infant per 6months) as compared to second 6 months (1.30 per infant per 6 months). Values are summarized in Table3.

The present study revealed RTIS ,Diarrhoea, Vit A deficiency were more common in the second half of infancy where as skin diseases were more in first half. Majority (70%) of the mothers used Animal milk and milk products as complementary foods.

The present study showed out of 20 (100%) infants who were given pre-lacteal feeds 16 (80%) had Diarrhoea and 14(70%) had Respiratory Tract infections. The present study also reported those infants (40) who did not receive EBF till 6 months of them 88% had Diarrhoea and 70% had RTIs. Significant association($P<0.001$) was observed between pre-lacteal feeding, Exclusive Breast feeding(EBF) and infant morbidities of Diarrhoea, Respiratory Tract infections.(Table4)

Table 1. Socio-Demographic characteristics

Socio – Demographic	Freq (n =100)
Sex	
Male	55
Female	45
Literacy	
Primary	10
Middle	25
Secondary	40
Inter	20
Degree	5
Social class	
Upper lower	5
Upper middle	15
Lower middle	50
Lower	30

Table 2 .Feeding practices of Infants

Colostrum given	Freq (N= 100)
Yes	90
No	10
Pre – Lacteal feeds	
Yes	20
No	80
Type of pre-lacteal feeds	
Honey water	2
Animal milk	8
Glucose water	10
Initiation of BF	
Within 1 hr	50
1– 6 hrs	30
6– 12 hrs	10
12 hrs	10
BF on Demand	
Yes	80

No	20
Exclusive Breast Feeding	
< 6 months	40
>6 months	60
Complementary feeding	
Animal milk	55
Formula milk	15
Semi solid	20
Solid	10

Table3. Morbidity Episodes and Incidence among Infants N=100

Type of morbidity	NO of episodes	Incidence/Infant/yr
RTI	134	1.34
Diarrhoea	71	0.71
Otitis Media	5	0.05
Skin diseases	29	0.29
Vit A deficiency	4	0.04
Eye infections	6	0.06
Others	29	0.29
Total	278	2.78

Table4. Association of Feeding Practices & Morbidities

Type of Morbidity	Pre –lacteal feeds		Exclusive BF	
	Yes(n-20)	No(n-80)	<6months(n-40)	> 6 (n-60)
Diarrhoea				
Yes	16(80%)	22(28%)	35(88%)	18(30%)
No	4 (20%)	58(72%)	5(12%)	42(70%)
	P<0.001,s		p<0.001,s	
RTIs				
Yes	14(70%)	28(35%)	28(70%)	24(40%)
No	6(30%)	52(65%)	12(30%)	36(60%)
	P<0.01 s		p<0.01,S	

IV.   Discussion

In the present study incidence of Morbidities among Infant was 2.78 per Infant per year. These findings were comparable with the studies done in South India and similar findings have been reported by Nitin Joseph et al [7] where Morbidity incidence was 3.28. Another study conducted in semi urban area of Delhi revealed Morbidity was found to be 3.1 This variation with the present study may be due to varying in local environment. The commonest Morbidity seen in the present study was Respiratory Tract Infections followed by Diarrhoea.It was similar to Belgam study.

In the present study the incidence of morbidity was lower in first 6 months (1.09/infant/6months) compared to second 6 months(1.30/infant/6months) .Similar findings were reported by Nitin et al, Datta Bank et al where morbidity incidence in the first 6 months(1.51,1.06 respectively) compared to later 6 months(1.77,1.12). This is an expected outcome as in early part of infancy exposure to outside infection is likely to be less and later part of infancy has multiple risk factors like unhygienic feeding practices,wanning of maternal immunity and higher chances of exposure to outside.

However present study observed that percentage of Infants who were given pre lacteal feeds was 20% among them 50% were given glucose water followed by 40% animal milk. These findings are compared to Pondicherry study[12] where 5.9% were given pre lacteal feed among them 62.5% received animal milk. This variation with the present study may be due to inadequate milk secretion, breast sore and job of mothers.

In the present study 10% Newborns did not receive colostrum. This finding was compared to other Indian studies where colostrum not received was 2.2%. In this study initiation of BF within 1hr after birth was 50% which was lower compared to other studies such as Pondicherry, uttar Pradesh where 64.7%,67.2% respectively. In the present study it was observed that majority of mothers breast fed their babies on demand was 80% which was similar to study conducted in west Bengal.[11]

In the present study the association was observed between feeding practices and morbidities such as diarrhoea, RTIs was highly significant. This was similar to Pondicherry study. This reveals pre-lacteal feeds and stopping of EBE increases the incidence of diarrhea and Respiratory Tract infections.

V.   Conclusion

Majority of the mothers were given EBF and on demand feeding. About half of mothers given breast milk within 1hr and 80% were given within 6hrs after birth. Faulty feeding practices were more among mothers who had low literacy & low income. Increased morbidity in later half of infancy was due to exposure to other foods indicate lack of hygiene. Hence implementation of IMNCI(integrated management of neonatal and childhood illness) at gross root level by health workers need to be emphasized.

Acknowledgements

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