Childcare Practice in Two Ecologically Different Rural Areas : A Case Study

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Abstract

Child feeding and health seeking behaviour among the mothers of two ecologically different rural areas was studied to evaluate their child care practice. Location I is a highland, tripple crop area and location II is a low lying flood prone, double crop area. Children under 2 years of age were studied. Nutritional care (feeding), health care (both preventive and curative) and growth status of the target children were evaluated. Breastfeeding was found universal, but exclusive breastfeeding was non existent in both the areas. Pre-lacteal feeding was a normal practice. Sweet water was offered as first feed to more than half of the infants. One-half of the mothers found initiated breastfeeding within 24 hours of delivery. Seventy percent babies received colostrum. Over sixty percent of the target mothers were still continuing breastfeeding their babies. Complementary feeding, which was practiced by a fewer number of mothers usually started with rice gruel and some with cow's milk. Late weaning was observed in location – I. Mashed banana was introduced in that locality as the primary weaning food whereas mashed rice/mixed food dominated in location -II. Family food rather than food specially prepared for the babies were served. Twenty to thirty percent of the studied children were reported to suffer either from diarrhoea or from ARI. Immunization and VAC coverage found satisfactory. During illness most of the families found to seek help from the paramedics/traditional healer rather than going to the thana health complex. Malnutrition prevalence expressed as percentage of children with z-score shows very few to be classified as 'normal' nutritionally. More than 40 % children in location – I were found to suffer from third degree malnutrition. Severity of malnutrition between the two ecologically different rural areas was significant ($p<0.05$).

Key Words: Childcare, Feeding Practices, Child Growth, Rural Areas, Weaning.

Introduction

Nutritional care contributes to healthy growth and development by providing high quality nutrients hygienically, and countering infection. The manifold problem of childhood malnutrition is caused by a complex array of both food

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and non-food factors. It is recognized that normal growth and development of infants and young children require care, that adequately meet the basic needs (nutrition, health, sanitation, protection from illness etc.)[1]. Bangladesh is a country, where children malnutrition is a major public health problem. More than ninety percent of the under-five year children are suffering from certain degree of malnutrition. Current estimate of infant mortality rate is 84 per thousand live births. The low birth weight incidence is estimated at 45 percent, highest in the world [2].

Importance of childcare in ensuring optimal child survival, growth and development is increasingly recognized [3]. Considerable evidences suggest correlation between caring behaviour (both qualitative and quantitative) and child growth and development [4-6]. In poorer communities, like Bangladesh, where majority of the people are living below the accepted level of poverty line, the scope and opportunities for childcare practices are compromised. In this present scenario, attempts were made to look for the existing child feeding and healthseeking behavior by the rural families in two ecologically different locations in rural Bangladesh.

Materials and methods

Study location

Two ecologically different locations were purposively selected based on the difference in the topographical pattern of the locality, level of agricultural activities, cropping pattern, and closeness to the town life etc.

Location I (Jorbaria) : Is a flood-free high land area. The principal occupation in the locality is cultivation. It is a tripple crop area. Rice is the main crop; other seasonal crops are grown very rarely. Scarcity of fish in the whole area is well observed.

Location II (Falshatia) : Is under the district of Manikganj, a low lying flood prone area which experiences annual flood almost every year during the monsoon season. It is a double crop area where rice is cultivated along with other winter crops. Onion is widely cultivated in the winter as a cash crop. Fish is available in abundance in the village. Seasonal migration by the male members of the village during the lean period is widely observed because of its close proximity to the highway that links to the capital city with other parts of the country.

Selection of the households

Since the purpose of the study was to investigate the childcare practice in a particular group i.e., the rural mothers, it was necessary to identify the households on the basis of certain defined criteria. Households having children under two years of age were enumerated during preliminary visits to the selected villages. Fortyeight and thirtyeight households were qualified for inclusion in the study from location - I and location – II respectively. For inclusion in the study this particular age group was considered, primarily, maximum relative growth is achieved at this period than any other time of life [7], and secondly, the 2nd year of life is the time when the child experiences 'transitional' dietary period and is also exposed to external environment. In absence of proper childcare during this period the children will certain to suffer for the rest of their life due to improper growth and development.

Household information

Information on various parameters of household socio-economic characteristics such as occupation of the householdhead, educational level of the mother, family income, housing and environmental conditions, access to safe water, access to health care facilities etc. were obtained through a structured and pre-coded questionnaire.

Child care practice

Information on child feeding viz. breastfeeding, colostrum feeding, pre-lacteal feeding, complementary feeding, supplementation etc. was recorded by putting questions to the respondent mothers. Morbidity information was obtained by recalling the number and type of illness with duration during the previous month of the study. Questions were also asked about childcare during illness, utilization of available health care facilities, which provides immunization, vitamin A capsule supplementation etc.

For analyses, the SES and childfeeding data were calculated using SPSS software package. Nutritional status was expressed in anthropometric indices, weight-for age and length-for-age indices were calculated using Anthro V.1.01 (CDC/WHO,1990) and expressed in z-score of the NCHS reference[8].

Results

Geography

Important geographic data of the study villages are given in Table 1.

Table 1. Geographic data of the study villages

Geography	Location – I (Jorbaria)	Location-II (Falshatia)
Distance from district center (km)	35	12
Distance from rural health center (km)	2	3
Total households	609	271
Population (person)		
Total	3055	1415
Male	1579	721
	(52%)	(51%)
Female	1476	694
	(48%)	(49%)

* Percentage in parentheses is ratio

Social status

People of Location – II have a better economic status than the location – I (Table 2).

Location – I produces more rice than the other village, but the villagers in the area have no other additional source of income than cultivation. The villagers in location –II gain more by additional income from winter crop, especially onion. Members of this area migrate to other places in search of labor in the monsoon season every year. Literacy rate among the mothers is more (54%) in location – II. Housing conditions are better in location – II than in location I. Usage of sanitary latrine is more among the villagers in location – II, though majority villagers in both the locations use bamboo non-pit latrine.

Infant feeding behaviour

All children were breastfed (Table 3). However, exclusive breastfeeding was absent. Seventy percent of the mothers give colostrum to their babies. Those who reject colostrum, opined it to be harmful. Pre-lacteal feeding was universal. Sweet water (83% : 57%) and honey (17% : 43%) was offered as first food to the newborn in the studied areas. Lactational performance was found better in Location – II, where more than ninety percent mothers started breastfeeding their babies within 24 hours of delivery. Continued breastfeeding behaviour for longer period was observed in location – I. Seventythree percent mothers continue breastfeeding beyond 24 months.

Table 2. Socio-economic characteristics of the study group (Percentage distribution)

Characteristics	Location - I	Location - II
Income		
Less than Tk.1500	66	29
Tk.1500 - 3300	22	27
More than Tk.3300	12	44
Occupation of father		
Farming	33	34
Agricultural/skilled labour	43	41
Small business	17	15
Service	5	5
Others	2	5
Level of mother's education		
Illiterate	71	46
Primary	14	30
Secondary and above	15	24
Housing condition		
Earthen wall with tin roof	33	0
Bamboo wall	45	39
Tin wall	12	56
Others	10	5
Tubewell water sources	100	100
Latrine facilities		
Sanitary	19	32
Bamboo, non-pit	81	68
Washing after defaecation		
Soap	21	39
Soil	62	56
Others	17	5

Table 3. Feeding practice of the target population (percentage distribution)

Feeding practice	Location - I	Location - II
Pre-lacteal feeding		
Sweetened water	83	57
Honey	17	43
Colostrum		
Given	71	74
Not given	29	26
Breastfeeding initiation		
Within 24 hours	50	92
24 - 48 hours	30	6
After 48 hours	20	2
Present breastfeeding status		
Continuing	37	12
Discontinued	63	82
Usual breastfeeding duration		
Less than 12 months	17	14
Upto 24 months	10	50
More than 24 months	73	36

Complementary feeding

In addition to breast milk, complementary foods were introduced by one-third of the mothers before the age of 3 months (Table 4). Mothers preferentially gave rice gruel (location – I), and in

Table 4. Complementary feeding pattern

Feeding status	Location- I	Location – II
Time of start		
Below 3 months	17	11
Between 3 – 6 months	5	7
Not started	26	20
Food item given*		
Cow's milk	22	31
Powder milk	15	27
Barley	13	9
Rice gruel	50	33

* Percentage distribution of the children who received complementary feeding

location–II it was cow's milk or powder milk. Reasons behind giving complementary feeding before the age of 6 months were reported to have insufficient breast milk.

Table 5. Percentage distribution of population by their weaning practice

Characteristics	Location – I	Location II
Weaning started		
Before 6 month	0	6
6 – 12 month	28	52
After 12 month	72	42
Foods introduced		
Mashed banana	59	0
Mashed rice	36	44
Mixed food	5	56
Feeding frequency		
3 times a day	3	3
4 – 5	80	76
6 and more ..	17	56
Food preparation		
Separate	17	27
Family food	83	73

Weaning behaviour

Late weaning is noted among the mothers in location – I (Table 5). There are differences in the type of weaning foods among the study villages. Mashed banana is the food to introduce for weaning in location – I, and in location – II, it is the mixed food. Usually specific foods are not prepared for the baby; rather normal family foods are given. In both the areas the babies are fed solid foods 4 – 5 times a day.

Child morbidity

Twenty to thirty percent of the studied children were reported to suffer during the preceding month of the study period (data not shown). Among all of the illnesses recorded, diarrhoea and respiratory tract infection were the most occuring illnesses comprising 65% and 53% of all episodes respectively.

Health care

Immunization and VAC coverage were found to be satisfactory in both the villages (Table 6). Though the thana health complex is not far away from the villages, but the villagers reported to take treatment help from the paramedics/ traditional healers during their illnesses. No significant difference on treatment behaviour between the villages was found.

Table 6. Health care indicators of the study children (Percentage distribution)

Characteristics	Location - I	Location – II
Immunization	75	74
VAC coverage	79	87
Treatment during illness		
Thana Health Complex	34	40
Paramedics	21	34
Traditional healers	45	26

Nutritional status

Mean weight, length and MAC of the studied children is given in Table 7. No significant difference between the villages could be ascertained.

Table 7. Mean (± sd) weight, length and MAC of children

Indices	Location - I	Location – II
Weight (kg)	8.8 ± 16.3	8.6 ± 1.3
Length (cm)	79.31 ± 11.9	76.0 ± 6.2
MAC (mm)	137 ± 11.6	137 ± 13.6

The prevalence of malnutrition as indicated by low weight-for-age (z-score <-2) and low height-for-age (z-score <-2) is shown in Table 8 and 9.

Table 8. Nutritional status of children by Z-score

Level of z-score	Location - I	Location – II
W/A z-score :		
Normal	4	11
% below M – 2 sd	23	26
%between –2sd to – 3sd	27	34
% below – 3 sd	46	29
L/A z-score :		
Normal	21	21
% below M – 2 sd	10	21
%between –2sd to – 3sd	27	37
% below – 3 sd	42	21

Table 9. Prevalence of stunting and wasting

Location	Prevalence ranges (% of children below – 2 z-scores)	
	Stunting	Wasting
Location – I	69	73
Location - II	58	63

Few children were found anthropometrically sound. Higher prevalence of malnutrition was observed in location- I. More than forty percent babies were found severely malnourished (W/A z-score below – 3 sd or L/A z-score – 3 sd) in that village. Significant difference in the prevalence of severe malnourishment could be observed between the villages ($p < 0.05$). Low nutritional status (both stunting and wasting) was more evidenced in location – I compared to location – II (Table 9).

Discussion

Infant feeding is obviously a determining factor in growth and nutritional status and is considered to be more important than morbidity[9,10]. Information on childcare (feeding and health) was collected by means of interviews with the mothers. Care was taken not to comment on mother's feeding practices. Breastfeeding is universal in the study areas, as in most rural Bangladeshi population and is homogenously prolonged[11]. The weaning patterns are quite different from the recommendations of the WHO[12].

Children receiving prolonged breastfeeding in combination with other forms of child feeding, have a lower nutritional status as shown by M Nube and WK Asenso Okyere[13]. In these rural population, infants were breastfed as recommended but none was exclusively breastfed, since they all received sweet water or honey. Water consumption was begun on day 1. Introduction of additional food was begun too early in many infants; before 3 months, more than 30% had already eaten some kind of additional food for at least once.

Weaning was observed better in location – I. Half of the children in that locality were weaned between 6-12 months. Frequency of adminstration is an important feature of infant feeding and also the type of food introduced. In the areas studied, feeding with additional food done though 4-5 times a day in most of the cases reported, but the food was monotonous in type without any variation (mashed banana/mashed rice) and the amount varied enormously. The nutritional quality of the supplementary diet was very low. Brown et al made similar observation in a separate study among the Bangladeshi infants[14]. Even the family meal, which did not require any additional work on the part of the mothers, was not given properly everyday in adequate amount once it was introduced. Such irregular consumption of additional food is unlikely to contribute a great deal to the energy intake.

Explanation for irregular infant feeding with family diet is that it may not be given primarily for nutritional reasons, but rather for cultural reasons, to introduce the infant into the group around the common dish, and to accustom the child to eating solids. In addition, morbidity levels are high in these rural communities. Large number of children were reported to suffer from diarrhoea, ARI etc. Sick children often refuse additional foods and consume nothing but breast milk for several days. Several reports indicate that on sick days, children in developing countries consume 20-30% less energy from complementary food[15,16]. High percentage of malnutrition exists in the areas. Improper feeding care, frequent acute illnesses, poor health care practice etc. accounted for poor nutritional status of the studied children. No as such differences on childcare practice between the villages could be ascertained. Late weaning and prolonged breastfeeding are the notable differentiating points of childcare between the villages. Economy, maternal education, employment opportunities might have contributed much more than the caring pattern itself on the health and nutritional welfare of the studied children.

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