

The Effect of Exclusive Breast-Feeding Practices on Morbidity among Under-five Children in a Semi-Urban Community in Sokoto, North-Western Nigeria

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ABSTRACT

Background: Breast feeding is an important component of child survival strategy. It protects against infections especially diarrhoeal and respiratory diseases. Objectives: To determine the rate of exclusive breast feeding and its effect on under-5 morbidity in Gwiwa community.

Methods: A cross-sectional descriptive study carried out at PHC Gwiwa, in Gwiwa community, Wammakko LGA, Sokoto state, Nigeria between May and August 2021. One hundred and eighty-six Mothers with children aged 6 – 59 months were interviewed using structured interviewer questionnaire. Data was analyzed using SPSS version 23.0.

Results: Seventy-three (39.2%) of the respondents were aged 15 – 24 years and majority (54.3%) are of low socio-economic class. Thirty-three (17.7%) of the children were exclusively breast fed for 6 months. There was significant difference in the rate of exclusive breast feeding among different socio-economic classes. One (3.0%) and 16 (10.5%) hospitalization were recorded among exclusively and non-exclusively breast-fed children respectively ($p= 0.4$). Seven (21.2%) and 8 (24.2%) of the exclusively breastfed children had diarrhoea and ARI respectively as compared to 113 (73.9%) and 118 (77.1%) with diarrhoea ($p= 0.03$) and ARI ($p= 0.04$) respectively among non-exclusively breastfed children.

Conclusion: The incidence rate of exclusive breast feeding is low in our community and might have impacted negatively on under-5 morbidity in the community. Efforts should be geared towards improving exclusive breast-feeding campaign in our community.

Key words: Exclusive, Breastfeeding, Childhood, Morbidity

INTRODUCTION

Exclusive breast-feeding (EBF) is feeding a child with breast milk (BM) alone in the first six month of life.^{1,2,3,4} World Health Organization (WHO) recommends introducing nutritionally rich, safe, and appropriate complementary foods while continuing to breastfeed for at least two years.^{2,4,5} Breast feeding is an important component of child survival strategy and

breastmilk has the nutrients the child needs for optimal growth and development including anti-infective and immunological properties that protect babies against a range of diseases especially diarrheal and respiratory diseases.^{2,3,4} Studies done in developing countries had demonstrated that EBF gives a variety of short- and long-term benefits to the child and the mother.^{6,7,8} These includes protection against the

incidence of diarrhoea and acute respiratory infections (ARI). In addition, it was documented that breast feeding (BF) as long-term benefit, increases intelligence scores and academic performance as well as lower the risk of diabetes and obesity in children, and a decreased risk of breast and ovarian cancer in mothers.^{6,7,8,9} EBF substantially reduces the risk of morbidity and mortality from infectious diseases by eliminating the chance of contamination from formula milk or other fluids and foods.⁷ Lack of adequate BF practices causes 45% of neonatal deaths from infections, 18% of acute respiratory deaths and 30% of deaths due to diarrhoeal diseases among children under the age of 5.^{1,2,10} It was also reported in a previous meta-analysis and systemic review research method, that EBF can prevent wasting among children under five years old as it was demonstrated in children who are not exclusively breastfed to have a greater risk of wasting when compared to children who are given EBF.¹¹ In high income countries, initiation and duration of breastfeeding among mothers are associated with higher socioeconomic status and education in contrast to low- and middle-income countries (LMICs), where mothers with lower income are more likely to breastfeed for longer periods of time than wealthier mothers.¹² The World Health Organization (WHO) recommends rate of EBF for the first 6 months of life to be 90% but only less than 40% of infants globally were exclusively breast fed for 6 months.¹³ In Nigeria and other developing countries, EBF rates continue to fall well below the WHO/UNICEF recommended 90% in children less than 6 months.^{14,15} The highest rate of EBF recorded been 85% in Rwanda, lowest rate of 1% in Djibouti and 15% & 17% rates in Nigeria.^{15,16} A previous study done over a decade ago (2011) in Sokoto but in different community (Kware) not the current (Gwiwa) study area recorded 31% EBF rate in less than 6 months of age.¹⁷ There is a need to review and update breast feeding rate in our environment. The current study was aimed at to determine the rate of

exclusive breast feeding and its effect on under-5 morbidity during medical outreach in Gwiwa community, a semi-urban area in Sokoto, North-western Nigeria

MATERIALS AND METHOD:

A cross-sectional descriptive community-based study carried out in Gwiwa community at Primary Health Centre (PHC) Gwiwa, Sokoto state, North-western Nigeria between May and August 2021. Gwiwa community is within Sokoto town under Wammakko Local Government Area, Sokoto State. The subjects were mothers with children aged 6 – 59 months whom were interviewed using structured interviewer questionnaire during weekly medical outreach programme by the Islamic Medical Association of Nigeria (IMAN), Usmanu Danfodiyo University and Teaching Hospital, Sokoto branch. The medical outreach was provided freely to all members of the community irrespective of faith or ethnic group as a community service. These services include health talk on breastfeeding, environmental sanitation, medical consultations, free drugs and referral of emergency cases and those that require further evaluation and treatment. The participants at the outreach were all residing in Gwiwa community. Mothers, with children aged 6 – 59 months, who consented were recruited with their children consecutively once for the study. Those children with incomplete information, life threatening condition (s) or features of chronic illnesses such as sickle cell diseases, tuberculosis, malignancies were excluded from the study.

The structured interview sheet was developed by the researchers and included demographic characteristics of the studied subjects such as age, gender and socio-economic status. Respondents were asked in addition, (i) whether the baby was exclusively breastfed or not, (ii) has the baby had any diarrhea in the last 2 weeks? (iii) presence of fever at any time during the last 2 weeks and (iv) cough and difficulty in breathing in the last 2 weeks. Responses were recorded “Yes” vs “No”. ARI was diagnosed,

if child’s mother reported that during the last 2 weeks preceding the survey the child had a cough along with short, rapid breathing accompanied by a fever.

Data was analyzed using SPSS version 23.0. Chi-square was used to assessed the effect of EBF on morbidity among the subjects. A p-value ≤ 0.05 was considered significant.

Approval for the study was obtained from the LGA health authority and Ethic and Research committee of UDUTH Sokoto as well as informed written consent from the mothers. Confidentiality of the information obtained was maintained within the members of the research team.

RESULTS

One hundred and eighty-six mothers (respondents) were recruited in the study. Seventy-three (39.2%) of the respondents were aged 15 – 24 years and majority

(54.3%) were of low socio-economic class as shown in Table I. One hundred and forty-one (75.8%) mothers, initiated BF in less than 30 mins of delivery whereas 102 (55%) commenced in the first 1 hour after birth. Thirty-three (17.7%) of the children were exclusively breast fed for 6 months as in figure 1. There was statistically significant difference ($p=0.04$) in the rate of exclusive breast feeding among different socio-economic classes as depicted in Table II. One (3.0%) and 16 (10.5%) hospitalization were recorded among exclusively and non-exclusively breast-fed children respectively ($p=0.4$). Seven (21.2%) and 8 (24.2%) of the exclusively breastfed children had diarrhoea and ARI respectively as compared to 113 (73.9%) and 118 (77.1%) with diarrhoea ($p=0.003$) and ARI ($p=0.004$) respectively among non-exclusively breastfed children as shown in Table III and IV.

Table I: Socio-demographic characteristics of the Respondents

Parameters	Number	Percentage
Age Group (Years)		
15 – 24	73	39.2
25 – 34	66	35.5
≥ 35	47	25.3
Education Status		
None	19	10.2
Qur’anic	105	56.5
Primary	19	10.2
Secondary	25	13.4
Tertiary	18	9.7
Socio-economic Status		
Upper	25	13.4
Middle	60	32.3
Lower	101	54.3

Figure 1: Rate of Exclusive Breastfeeding in a Semi-Urban Community in Sokoto

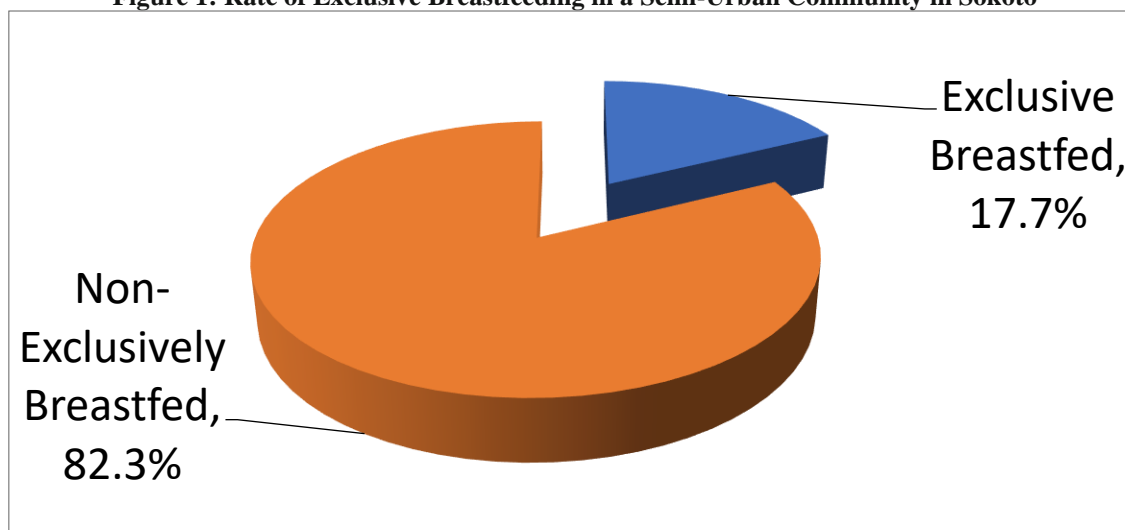


Table: II Distribution of Exclusive Breast Feeding Among Socio-economic Classes

Socio-economic status	Exclusive Breast Feeding		Total
	Yes	No	
Upper	8	17	25
Middle	13	47	60
Lower	12	89	101
Total	33	153	186

$$X^2 = 6.49, p=0.04$$

Table: III Effect of Exclusive Breast Feeding on Occurrence of Diarrhoeal Disease

Presence of Diarrhoea	Exclusive Breast Feeding		Total
	Yes	No	
Yes	7	113	120
No	26	40	66
Total	33	153	186

$$X^2 = 32.9, p=0.003, (\text{Odd ratio} = 0.1, 0.04 - 0.24 @ 95\% \text{ CI})$$

Table IV: Effect of Exclusive Breast Feeding on Acute Respiratory Tract Infection

Presence of ARI	Exclusive Breast Feeding		Total
	Yes	No	
Yes	8	118	126
No	25	35	60
Total	33	153	186

$$X^2 = 27.6, p=0.004, (\text{Odd ratio} = 0.13, 95\% \text{ CI} = 0.06 - 0.32)$$

DISCUSSION

Breast feeding is an important component of child survival strategy. Optimal breast feeding especially in the first six months of life reduces significantly morbidity and mortality particularly from diarrhoea, ARI and undernutrition among under 5. The current study has shown the rate of exclusive breast feeding and its effect on common childhood morbidities (diarrhoea and ARI) in a semi-urban community. All the respondents breastfed their babies but the exclusive breast-feeding rate was low (17.7%) in this community. This is similar to that earlier reported EBF rate in Nigeria¹⁵ but lower compared to that of Ile Ife (23%)¹⁸ and much lower to an earlier recorded rates in another community in Sokoto (31%) and that from Anambra (37.3%) and Lagos (52.9%) states respectively.^{17,19,20} Again, a previous tertiary hospital-based study in Sokoto recorded double the rate (34.8%)²¹ of EBF compared to the lower rate in this current study. The low rate recorded in our study may be related to low literacy level, poverty and or cultural beliefs or norms among respondents' mothers in the community who were mostly from low socio-economic class.

Furthermore, the low rate of EBF obtained in this study may reflect an optimal breast-feeding rate in the study environment as PHC is the first area of contact of health care facility where people in the community go to very often for health care services, because is the closest, easily accessible, acceptable and at affordable cost to the people.

Diarrhoeal diseases and ARI are among the commonest cause of under-5 morbidity and mortality. Majority of the children of the respondents had ARI or diarrhoea within 6 months before this study. In this series, those who were exclusively breastfed were less affected by any of these morbidities. This is similar to earlier reported findings in the literature.^{6,7,10,22,23} This is expected as breastmilk contains immunological factors such as IgA, lactoferrin, lysozyme, probiotics etc.^{6,7,8,10} Infants on exclusive breastfeeding are less likely predisposed to contaminated feed or drink.⁷ These assist the young children to resist infections in the formative years of life, reducing the morbidity and indirectly, the mortality among these children. The low rate of exclusive breastfeeding and poor breastfeeding practices noted in this

community may explain the persistence of malnutrition and high under-5 morbidity and mortality rates in this part of the country.

CONCLUSION AND RECOMMENDATIONS

The rate of exclusive breast feeding is low in the studied area and had impacted negatively on under-5 morbidity and directly or indirectly may have resultant effects on mortality among affected children in the community. Efforts should be geared towards improving exclusive breast-feeding campaign, thereby promoting child survival strategy in order to reduce childhood morbidity and mortality in our community.

Declaration by Authors

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