Contributory Factors to Nutritional Status among Under Five Children in Ogba-Egbema-Ndoni Local Government Area of Rivers State

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Abstract: **This work investigated contributory factors to nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State. Five research questions and hypotheses were formulated to achieve the objectives of the study. The design of the study is descriptive survey research design. The population of the study comprised of all children one to five years (1-5 years) of age and their mothers. A sample size of 400 was used for the study. Multistage sampling procedure was used to select the participants for the study. The instrument for the study was a pre-tested structured questionnaire contributory factors to poor nutritional among under five children with a reliability coefficient of 0.70, was used to collect data. That analysis were carried out using percentage and Chi-square. The results showed that The result showed a significant relationship between mother's education, socio-economic status, occupation, religion and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State (p<0.05). Based on the findings it was concluded that malnutrition among children aged 1-5 years was influenced by socio-economic status, age, religion, educational qualification and occupation were found to influence nutritional status of children aged 1-5 years. It was recommended that Primary health care personnel in health facilities should educate women on the proteinous and highly nutritious foods available to them in their environment particularly the ones which are cheap to enhance the consumption of balance diet even among those with a low wealth index**

I. INTRODUCTION

Malnutrition is a serious public health problem faced by children in the world; currently, 195 million under-five children are affected by malnutrition globally; 55 million of them suffer from acute malnutrition and around 26 million under-five children are severely acute malnourished. Among the total under-five children suffering from malnutrition, 90% lives in sub-Saharan Africa and South Asia. Every year, 3.5 million children die of malnutrition-related causes in the world. Hence, it is at third level in the world of the disease burden in this age group (Hobbs & Bush, 2014). Thus, in the developing countries more than 25% (143 million) under-five children are malnourished. Among these, nearly three quarters live in just 10 countries Even though childhood acute malnutrition declined relatively during the year 1990's globally; its burden in Africa was increased in Sub-Saharan Africa region and more than one-quarter of children under-

five are malnourished in Nigeria and Ethiopia alone which accounts more than 33% (Dereje, 2014).Malnutrition is a major public health problem faced by children under five years. It inhibits their cognitive and physical development as well as contributes to child morbidity and mortality. Malnutrition is linked to poverty, low levels of education, poor immunization, traditional stable foods, poor access to health services and presence of infections (Akombi, Agho, & Renzaho, 2017).

Malnutrition is a condition that results from eating a diet in which nutrients are either not enough or are too much such that the diet causes health problems (United Nations Children's Fund, 2010). It may involve calories, protein, carbohydrates, vitamins or minerals. Not enough nutrient is called under nutrition or undernourishment while too much is called over nutrition. Malnutrition is often used to specifically refer to under nutrition where an individual is not getting enough calories, protein, or micronutrients (Young, 2012). If undernutrition occurs during pregnancy, or before two years of age, it may result in permanent problems with physical and mental development. Extreme undernourishment, known as starvation, may have symptoms that include: a short height, thin body, very poor energy levels, and swollen legs and abdomen. People also often get infections and are frequently cold. The symptoms of micronutrient deficiencies depend on the micronutrient that is lacking (Papadia, Di-Sabatino, Corazza & Forbes, 2014).

Under nutrition puts children at greater risk of dying from common infections, increases the frequency and severity of such infections and contributes to delayed recovery. In addition, the interaction between under nutrition and infection can create a potentially lethal cycle of worsening illness and deteriorating nutritional status. Poor nutrition in the first 1,000 days of a child's life can also lead to stunted growth, which is irreversible and associated with impaired cognitive ability and reduced school and work performance. United Nations International Children Education Fund (UNICEF, 2017). However, in African and most developing countries, 206 million of children under five years are stunted, 60 million are wasted and 167 million are under weight. One third of the nutritional statistics of these children are due to the fact that only 40% are exclusively breastfed, and most complementary

foods given to children are very watery. In Sub-Sahara Africa, more than one-quarter of the children under five years are under weight and this has caused an aggregation of malnutrition rate of nearly 80%. In West Africa, 36.0% of the children under five years are stunted, most of whom live in Sub-Sahara Africa (UNICEF, 2008).

Malnutrition is a serious problem because it has resulted to the deaths of 3.5 million children under 5 years old per-year in the world, as well as it is at third level in the world of the disease burden in this age group as more than 25% under five children in the developing world are malnourished which accounts about 143 million children. Among these 143 million malnourished children, nearly three quarters live in just 10 countries in Sub-Saharan Africa region and more than one-quarter of children under five are malnourished in Nigeria and Ethiopia alone accounts more than 33% (Bantamen, Belaynew & Dube, 2014).

Undernourishment is most often due to not enough high-quality food being available to eat. This is often related to high food prices and poverty (UNICEF, 2012). A lack of breastfeeding may contribute, as may a number of infectious diseases such as: gastroenteritis, pneumonia, malaria, and measles, which increase nutrient requirements. Young (2012) noted that there are two main types of undernutrition: protein-energy malnutrition and dietary deficiencies. Protein-energy malnutrition has two severe forms: marasmus (a lack of protein and calories) and kwashiorkor (a lack of just protein). Common micronutrient deficiencies include: a lack of iron, iodine, and vitamin A. During pregnancy, due to the body's increased need, deficiencies may become more common (Food and Agricultural Organization, 2015). In some developing countries, overnutrition in the form of obesity is beginning to present within the same communities as undernutrition (Global Burden of Disease Study, 2015).

However, under nutrition, which is focus of this study, conversely has been estimated to be an underlying cause for around half of all child deaths worldwide. It has different types of measurements. Due to this fact, malnutrition continues to be a significant public health and development concern not only in developing country but also in the world. Then child malnutrition still remains a public health problem mostly in developing countries including Nigeria (Bantamen et al, 2014). Also, according to the Millennium Development Goal (MDG) Report (2015), Sub Sahara Africa accounts for one third of all under nourished children globally highlighting that malnutrition still remains a major health concern for children under five years in the sub region including Nigeria, thus reiterating the need for urgent intervention

Statement of the Problem

The African region and South-East Asia have reported the highest prevalence of under nutrition with the former accounting for about 39.4% of the stunted, 10.3% of the wasted, and 24.9% of the underweight children under five years of age. Globally about 7.7% of children were wasted,

24.5% were stunted and 15% were underweight while in Nigeria, child malnutrition was estimated to 26.70% (WHO, 2014).UNICEF (2016) reported thousands of children are currently severely malnourished in Nigeria. Nigeria loses 2,300 under five-year-old and 145 women of child bearing age, accounting for the country being second largest contributor to the under-five and maternal mortality rate in the world. Malnourished children in south-south are 140,000 and 11,000 children in Rivers State are severely malnourished (UNICEF, 2016).

Ojfeitimi and Owolabi (2003) noted that height/length deficiency of linear growth that has failed to reach genetic potentials were as a result of poor diet and diseases. Out of every four Nigerian children, one is under-weight; their weight is too low for their age while 90% of the children are wasted and also noted that within Nigeria, extremely poor nutritional indices exist (stunting 41%, underweight 23%). However, in Nigeria, child nutrition was estimated to 26% (World Bank, 2008)

In Rivers state, there is a popular belief that the uplands are always malnourished compared to the riverine due to surplus proteinous diet in their domain than the upper land who often took to excess carbohydrate in their diets. Also, in Ogba-Egbema-Ndoni Local Government Area there tends to be poor knowledge, attitude and practice towards exclusive breast feeding, poor child care, poor medical care, poor health facilities to take care of children, poor complementary food, poor educational and ignorance of mothers. In Ogba-Egbema-Ndoni Local Government Area of Rivers State, little is known about causes of poor nutrition especially among under five children despite all research work that have been written, Therefore, this study intends to investigate contributory factors to nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

Aim of the Study

The aim of this research is to investigate the contributory factors to nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

Hypotheses

The following hypotheses will guide the study.

1. There is no significant relationship between mother's education and the nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.
2. There is no significant relationship between socioeconomic status and the nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.
3. There is no significant relationship between mothers occupation and the nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

4. There is no significant relationship between religious beliefs and the nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.
5. There is no significant relationship between socioeconomic status and the nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

Research Design: The design of the study is descriptive survey research design.

Population for the Study: The population of the study consisted of all children between one to five years (1-5 years) of age and their mothers (women of child bearing age 15-45years) in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

Sample and Sampling Technique: The sample size was 400 women of child bearing age in Ogba-Egbema-Ndoni Local Government Area. A multi-stage sampling procedure was adopted for the study.

*Instrument for Data Collection***:** The instrument for data collection was a structured questionnaire titled "contributory factors to poor nutritional among under five children ". The questionnaire was in two sections. Section A addressed demographic characteristic of the respondents while sections B addressed variables.

Reliability of the Instrument: The instrument attained a reliability co-efficient of 0.70.

Method of Data Analysis: Data was analysed with statistical tools such as percentage and Chi-square.

II. RESULTS

Hypothesis 1: There is no significant relationship between mother's education and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State

Table 1: Summary of Chi-square test showing relationship between mother's education and nutritional status among under five children

Mother's education	Nutritional status		Total	df	X^2-value	p-value	Decision
	Poor F(%)	Normal F(%)					
None	34(94.4)	2(5.6)	36(100)	3	34.436	0.000	Rejected
FSLC	16(100)	0(0.0)	16(100)				
SSCE	74(90.2)	8(9.8)	82(100)				
Tertiary	160(65.6)	84(34.4)	244(100)				
Total	284(75.1)	94(24.9)	378(100)				

*Significant

Table 1 showed the chi-square test of relationship between mother's education and nutritional status among under five children. The result showed a significant relationship (X^2-value = 34.436, df = 3, p<0.05). Thus, the null hypothesis which stated that there is no significant relationship between

mother's education and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State was rejected.

Hypothesis 2: There is no significant relationship between mother's socio-economic status and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State

Table 2: Summary of Chi-square test showing relationship between mother's socio-economic status and nutritional status among under five children

Mother's socio-economic	Nutritional status Poor Normal		Total	df	X^2-value	p-value	Decision
	F(%)	F(%)					
<30,000	118(62.8)	70(37.2)	188(100)	2	30.449	0.000	Rejected
30-60,000	104(86.7)	16(13.3)	120(100)				
100,000 & above	34(94.4)	2(5.6)	36(100)				
Total	256(74.4)	88(25.6)	344(100)				

*Significant

Table 1 showed the chi-square test of relationship between mother's socio-economic status and nutritional status among under five children. The result showed a significant relationship (X^2-value = 30.449, df = 2, p<0.05). Thus, the null hypothesis which stated that there is no significant relationship between mother's socio-economic status and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State was rejected.

Hypothesis 3: There is no significant relationship between mother's occupation and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State

Table 3: Summary of Chi-square test showing relationship between mother's occupation and nutritional status among under five children

Mother's occupation	Nutritional status Poor Normal		Total	df	X^2-value	p-value	Decision
	F(%)	F(%)					
Farming	50(92.6)	4(7.4)	54(100)	4	48.889	0.000	Rejected
Housewife	42(77.8)	12(22.2)	54(100)				
Civil servant	50(96.2)	2(3.8)	52(100)				
Self-employed	106(60.2)	70(39.8)	176(100)				
Student	40(90.9)	4(9.1)	44(100)				
Total	288(75.8)	92(24.2)	380(100)				

*Significant

Table 3 showed the chi-square test of relationship between mother's occupation and nutritional status among under five children. The result showed a significant relationship (X^2-value = 48.889, df = 4, p<0.05). Thus, the null hypothesis which stated that there is no significant relationship between mother's occupation and nutritional status among under five

children in Ogba-Egbema-Ndoni Local Government Area of Rivers State was rejected.

Hypothesis 4: There is no significant relationship between mother's age and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State

Table 4: Summary of Chi-square test showing relationship between mother's age and nutritional status among under five children

Mother's age	Nutritional status Poor Normal		Total	df	X^2-value	p-value	Decision
	F(%)	F(%)					
<19 years	18(100)	0(0.0)	18(100)	4	52.770	0.000	Rejected
20-29 years	110(59.1)	76(40.9)	186(100)				
30-39 years	112(88.9)	14(11.1)	126(100)				
40-49 years	30(83.8)	2(6.3)	32(100)				
≥50 years	8(100)	0(0.0)	8(100)				
Total	278(75.1)	92(24.9)	370(100)				

*Significant

Table 4 showed the chi-square test of relationship between mother's age and nutritional status among under five children. The result showed a significant relationship (X^2-value = 52.770, df = 4, p<0.05). Thus, the null hypothesis which stated that there is no significant relationship between mother's age and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State was rejected.

Hypothesis 5: There is no significant relationship between mother's religion and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State

Table 5: Summary of Chi-square test showing relationship between mother's religion and nutritional status among under five children

Mother's religion	Nutritional status Poor Normal		Total	df	X^2-value	p-value	Decision
	F(%)	F(%)					
Christianity	242(72.0)	94(28.0)	336(100)	2	8.346	0.080	Not rejected
Islam	14(100)	0(0.0)	14(100)				
Tradition	8(100)	0(0.0)	8(100)				
Total	278(75.1)	92(24.9)	358(100)				

*Not Significant

Table 4.10 showed the chi-square test of relationship between mother's religion and nutritional status among under five children. The result showed a significant relationship (X^2-value = 8.346, df = 2, p>0.05). Thus, the null hypothesis which stated that there is no significant relationship between mother's religion and nutritional status among under five

children in Ogba-Egbema-Ndoni Local Government Area of Rivers State was not rejected.

III. DISCUSSIONS

Hypothesis 1: There is no significant relationship between mother's education and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

The result showed a significant relationship between mother's education and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State (X^2-value = 34.436, df = 3, p<0.05). The finding of the study is in line with that of Daba et al (2013) and Gebre et al (2019) whose study reported a significant relationship between education and malnutrition among under five children. The finding of the study also corroborates with that of Geetanjali et al (2017), Mohseni et al (2017), Tekile et al (2017) and Ghishain et al (2017) whose study found out that education relates to malnutrition among under five children. The study also agrees with that of Eme et al (2014), Lantonirina (2018) and Debbie et al (2017) whose study discovered a relationship between education of mothers and malnutrition among under five children. The similarities between these studies might be due to the fact that education helps mothers with better nutrition information on how to give balanced and adequate diet to their children right from breastfeeding.

Hypothesis 2: There is no significant relationship between mother's socio-economic status and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

The result showed a significant relationship between mother's socio-economic status and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State (X^2-value = 30.449, df = 2, p<0.05). The finding of the study corroborates that of Daba et al (2013) whose study reported that economic status contributes to proper nutrition. The study also agrees with that of Mahama (2014) and Eme et at (2014) whose study found a significant relationship with socioeconomic status and nutrition among children. The study also confirms that of Abdibani et al (2016) and Tekile et al (2019) whose study discovered a relationship with wealth index and nutrition. This indicates that wealth index can contribute to what mothers can afford when it comes to buying of any appropriate food for their children. Hence, those who have the money can afford any good nutrition for their children without any form of stress compared to those who do not have. However, the study of Lantonirina (2018) and Debbie et al (2017) indicates that wealth index matters a lot but there are some factors that may hinder proper nutrition of children even when good nutrition can be afforded. These factors may include communal crisis or war, lack of proper nutrition education and appropriate time for caring for their children.

Hypothesis 3: There is no significant relationship between mother's occupation and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

The result showed a significant relationship between mother's occupation and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State (X^2-value = 48.889, df = 4, p<0.05). The finding of the study corroborates with that of Eme et al (2014) whose study found out that mothers occupation relates to malnutrition among under five children. The finding also confirms the study of Mohammed et al (2017), Das and Gulshan (2017) and Lamirot et al (2017) whose study found a significant relationship between mother's occupation and malnutrition among under five children. This is so because mother's occupation plays a significant role in the feeding of under five children. For example, career mothers such as bankers find it difficult to spend enough time feeding their children. The finding of the study of Fernades et al supports the study but vary slightly from the present study as it discovered that nutrition plays an important role in child malnutrition but stated that mothers who are farmers feed their children more with the proceed of they produce which may sometimes lead to obesity from over feeding.

*Hypothesis 4***:** There is no significant relationship between mother's age and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

The result showed a significant relationship between mother's age and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State (X^2-value = 52.770, df = 4, p<0.05). The finding of the study corroborates with that of Nilesh et al (2016) whose study found out that mothers mother's age at birth relates to malnutrition among under five children. The finding also confirms the study of Fernades et al (2017), Ayaya, etal (2004) and Gebre et al (2019) whose study found a significant relationship between mother's age and malnutrition among under five children. This is so because mother's age plays a significant role in the feeding of under five children.

Hypothesis 5: There is no significant relationship between mother's religion and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State.

The result showed a significant relationship between mother's religion and nutritional status among under five children in Ogba-Egbema-Ndoni Local Government Area of Rivers State (X^2-value = 8.346, df = 2, p>0.05). The finding of the study is in keeping with that of Harimbola and Mizumoto (2017) who discovered that malnutrition among under five children is related to what religion permits. The finding also attests to that of Harimbola and Mizumoto (2017) and Umme et al (2017) whose study discovered a significant relationship between religious beliefs and malnutrition among under five

children. These similarities might be due to the fact that in the study areas, religion plays a vital role in the type of food that is usually eaten. However, Ooreoluwa et al (2018) in his study reported that malnutrition among under five is due to what mothers eat during pregnancy.

IV. CONCLUSION

Based on the data and the findings, it was concluded that; parents especially mothers needs empowerment programmes that is geared towards financial and educational autonomy. However, some factors such as socio-economic status, age, religion, educational qualification and occupation were found to influence nutritional status of children aged 1-5 years.

V. RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

1. Primary health care personnel in health facilities should educate women on the proteinous and highly nutritious foods available to them in their environment particularly the ones which are cheap to enhance the consumption of balance diet even among those with a low wealth index.

2. The Health care workers in the different facilities should take it as a point of duty to regularly emphasize the dangers of malnutrition during antenatal and post-natal visit of women to the clinics, since women are mainly concerned about the management of nutritional activities at home, this will help even the uneducated women to be aware of better nutritional plan for the family.

3. Public health care systems authorities should mobilize resources and take measures to improve women's awareness and knowledge about the importance of proper nutrition through educational training and guidance to maintain active and healthy lives.

4. The United Nation Food and Agricultural Organization (FAO) should make effort to clear any misconception about foods which may have risen from the cultural perspective through the different mass media to discourage the inhibition of some rich foods due to cultural practices.

5. The United Nations International Children Education Fund (UNICEF) should sufficiently recognize and address the health conditions of children and give appropriate food supplement tablets to be administered to children of different age group, this reduce malnutrition among children.

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