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Prevalence and Management Strategies of Malnutrition among under Five Children in Chanchaga Lga, Niger State, Nigeria

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Abstract: Malnutrition remains one of the major problems confronting children in Sub-Saharan Africa (SSA). The nutritional status of children influences their health status, which is a key determinant of child survival. Therefore, improvement of children's nutritional status increases the chances of child survival.
The objective of this study is to evaluate the prevalence and community-based management strategies of malnutrition among under five children in Chanchaga LGA, Niger state.
A descriptive epidemiology study design was used to collect information on the prevalence and management strategies of malnutrition among under five children in Chanchaga LGA, Niger state. Sample size of 127 was determined using Korlik & Higgins formula (2015). It was selected by multistage sampling techniques. Data were collated and analyzed using Statistical Package for Social Science (SPSS) version 25.
The results of this study revealed that:

- Socio demographic information of the respondents shows their socio demographic information, age distribution shows that most 32 (25.2%) were between 30-39 years and 31 (24.4%) were between 40-49 years.
- Most of the respondents used for this study shown over average knowledge on the community-based management strategies of malnutrition among under five children in Chanchaga LGA, Niger state.

Based on the findings of this study, the following recommendations were made: (1) Health facilities should encourage educational campaign that would focus on teaching mothers and community members how to use foods already available to them to prevent malnutrition in an economically feasible manner. (2) Research should be encouraged to evaluate existing programs on prevention of malnutrition for its effectiveness and adjustment as the case may be, mothers and caregivers should attend child welfare clinic for their children's growth to be monitored.
Keywords: Management, Prevalence, Strategies, Under-Five Children.

INTRODUCTION

Conceptual Review

Concept of malnutrition

Malnutrition literally means "bad nutrition" and it entails both over- and under-nutrition. In relations to trends of malnutrition in nations, the later is much prevalent in developing countries including Nigeria. The World Food Programme (WFP) defines malnutrition as "a state in which the physical function of an individual is impaired to the point where he or she can no longer maintain adequate bodily performance process such as growth, pregnancy, lactation, physical work or resisting and recovering from disease" (WFP, 2015).

The WHO defines malnutrition as "the cellular imbalance between the supply of nutrients and energy and the body's demand for them to ensure growth" (World Bank, 2017). Malnutrition can also be defined as all forms of "bad" nutrition which includes both under nutrition and over nutrition. Under-nutrition results from insufficient food intake, inadequate care and infectious diseases, or a combination of these factors. This comprehensive term includes being underweight for one's age, too short for one's age (stunting), dangerously thin for one's height (wasting) and deficient in micronutrients (Benjon *et al.*, 2019). According to UNICEF (2015), failure to grow is easily observed through h the three forms mentioned.

Acute malnutrition or wasting reflects weight loss as highlighted by a small weight for a given height. A child suffering from acute malnutrition can be categorized as being either moderately or severely thin or wasted. The consequences of acute malnutrition affect every organ and system. The presence of bilateral pitting edema is always a sign of severe acute malnutrition. Severe wasting, also referred to as severe acute malnutrition or SAM, is characterized by the following clinical manifestation. Marasmus, otherwise known as severe wasting. A child with marasmus is extremely thin, with wizard, aged man appearance. Kwashiorkor, a manifestation of severe acute malnutrition is indicated by bilateral pitting edema. A child suffering from kwashiorkor may not appear to be undernourished, because the body swells as a result of edema. The additional water retained by the body increases the child's weight so that it may be within limits. In its most severe form, kwashiorkor results in

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extremely tight, shining skin, skin lesions, and discoloured hair (Benjon *et al.*, 2019).

Stunting is an adaptation to chronic malnutrition and reflects the negative effects of nutritional deprivation on a child's potential growth over time. Stunting can occur when a child suffers from long term nutrient deficiencies e.g vit A, vit D, Iron or chronic illness, so, that only weight gain but height is affected. It can also be an outcome of repeated episodes of acute malnutrition. Stunting is classified by low height for age, indicating a restriction of potential linear growth in children, it negatively and often affects organ growth, stunting is strongly linked to cognitive impairment (Benjon *et al.*, 2019).

Underweight is an effect of both wasting and stunting and is therefore a composite indicator of general malnutrition. It is measured by low weight for age in children or low weight for height in adults, and it's an outcome of either past or present under nutrition (Benjon *et al.*, 2019). There are three assessment methods that is used to assess malnutrition. Anthropometric measurement which is often used include height, weight, arm circumference, and skin fold. We have Analysis of biomedical content of blood and urine (such as iron deficiency and Vitamin A supplementation), and the last one is clinical assessment of physical signs of nutrient deficiencies (UNICEF, 2018).

Among the three assessment methods, anthropometric measurement is a common and easy way to assess health and nutrition status. The other two methods are less practical because of the logistical difficulties involved and because data collection and analysis is expensive and time – consuming. Biochemical and clinical indicators are more useful when malnutrition is extreme. Due to their relative cost – effectiveness for wide – scale usage and relative sensitivity in detecting more moderate forms of malnutrition, anthropometric measurements are the most widely available in household surveys (WFP, 2015).

Consequently, UNICEF recommended exclusive breastfeeding for the first six months of the infant's life. More than 95% of children less than five years in Africa are currently breastfed (Busayo & Phiri, 2021). Three common measurements include weight – for – age, height – for – age and weight for – height (often converted into Body Mass Index, or BMI). Each measurement is generally converted to a z – score, which indicates the number of standard deviations an individual is above or below the mean of a reference population. A z – score of two standard deviations or more below the mean indicates moderate malnutrition, Weight – for – age, routinely collected in growth promotion programs, is the most common assessment of child nutrition status (WFP, 2015). A child is considered underweight if his/her weight – for – age is two standard deviations or more below the mean for the reference population. Weight – for – height is a measure of acute or short – term nutritional deficiency. Wasting, a term applied when weight – for – height falls two standard deviations or more below the mean for the reference population, is a sensitive indicator often used for short – term program intervention such as providing nutritional supplementation in emergencies. Wasting can be calculated without knowing the age of a child and, therefore, is the best malnutrition indicator when it is difficult to determine the exact ages of the children being measured (such as in complex emergencies like famines) (WFP, 2015). Height – for – age is a measure of linear growth and reflects the long term, cumulative effects of inadequate nutrition and poor health status. A child is considered stunted if his/her height – for – age is two standard deviations (WFP, 2015).

Causes of Malnutrition among Children 0-5 years

According to UNICEF (2015), the causes of malnutrition among children of 0-5 years are:

- Inadequate food intake is the most common cause of malnutrition worldwide. In developing countries, inadequate food intake is secondary to insufficient or inappropriate food supplies or early cessation of breastfeeding. In some areas, cultural and religious food customs may play a role. Inadequate sanitation further endangers children by increasing the risk of infectious diseases that increase nutritional losses and alters metabolic demands.
- In developed countries, inadequate food intake is a less common cause of malnutrition. Instead, diseases and, in particular, chronic illnesses play an important role in the etiology of malnutrition. Children with chronic illness are at risk for nutritional problems for several reasons, including the following:
    - Children with chronic illnesses frequently have anorexia, which leads to inadequate food intake.
    - Increased inflammatory burden and increased metabolic demands can increase caloric need.
    - Any chronic illness that involves the liver or small bowel affects nutrition adversely by impairing digestive and absorptive functions.
- Chronic illnesses that commonly are associated with nutritional deficiencies include the following:
    - Cystic fibrosis
    - Chronic renal failure
    - Childhood malignancies
    - Congenital heart disease
    - Neuromuscular diseases
    - Chronic inflammatory bowel diseases
- In addition, the following conditions place children at significant risk for the development of nutritional deficiencies:
    - Prematurity
    - Developmental delay
    - In utero toxin exposure (ie, fetal alcohol exposure)

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- Children with multiple food allergies present a special nutritional challenge because of severe dietary restrictions. Patients with active allergic symptoms may have increased calorie and protein needs.
- Guidelines on fruit juice intake for children by the American Academy of Pediatrics recommend that in the evaluation of children with malnutrition, the pediatrician should determine the amount of juice being consumed as excessive juice consumption may be associated with malnutrition (overnutrition and undernutrition).

Classifications of malnutrition in children less than 5 years

According to World Health Organisation (WHO, 2018), the classifications of malnutrition in children less than 5 years are tabular explained below:

Variables	Mild Malnutrition	Moderate Malnutrition	Severe Malnutrition
Percent Ideal Body Weight	80-90%	70-79%	< 70%
Percent of Usual Body Weight	90-95%	80-89%	< 80%
Albumin (g/dL)	2.8-3.4	2.1-2.7	< 2.1
Transferrin (mg/dL)	150 – 200	100 – 149	< 100
Total Lymphocyte Count (per µL)	1200 – 2000	800 – 1199	< 800

THEORETICAL REVIEW

Malnutrition Treatment & Management

Medical Care

Following evaluation of the child's nutritional status and identification of the underlying etiology of the malnutrition, dietary intervention in collaboration with a dietitian or other nutritional professionals should be initiated. Children with edema must be assessed carefully for actual nutritional status because edema may mask the severity of malnutrition. Children with chronic malnutrition may require caloric intakes more than 120-150 kcal/kg/d to achieve appropriate weight gain. The formula for determining adequate caloric intake is: kcal/kg = (RDA for age X ideal weight)/actual weight (Busayo & Phiri, 2021).

Additionally, any micronutrient deficiencies must be corrected for the child to attain appropriate growth and development. Most children with mild malnutrition respond to increased oral caloric intake and supplementation with vitamin, iron, and folate supplements. The requirement for increased protein is met typically by increasing the food intake, which, in turn, increases both protein and caloric intake. Adequacy of intake is determined by monitoring weight gain (Busayo & Phiri, 2021).

A *Cochrane Database of Systematic Reviews* study noted that micronutrient powders (MNPs), which are single-dose packets containing multiple vitamins and minerals in powder form for sprinkling onto any semisolid food, can effectively reduce anemia and iron deficiency in children aged 6-23 months. While the benefits of this intervention as a survival strategy or on developmental outcomes are unclear, the use of MNP is possibly comparable to daily iron supplementation and better than placebo or no intervention (Busayo & Phiri, 2021).

In mild-to-moderate cases of malnutrition, initial assessment and nutritional intervention may be done in the outpatient setting. A patient with malnutrition may require hospitalization based on the severity and instability of the clinical situation. Hospitalization of patients with suspected malnutrition secondary to neglect allows observation of the interactions between parent/caregiver and child and documentation of actual intake and feeding difficulties. It may also be warranted in cases where dehydration and acidosis complicate the clinical picture. In moderate-to-severe cases of malnutrition, enteral supplementation via tube feedings may be necessary (Busayo & Phiri, 2021).

A study by Stobaugh et al found that the proportion of children that recovered from moderate acute malnutrition was significantly higher in the group that received ready-to-use supplementary food containing dairy ingredients in the form of whey permeate and whey protein concentrate than in the group that received soy ready-to-use supplementary food. The authors added that this study highlighted the importance of milk protein in the treatment of moderate acute malnutrition (Busayo & Phiri, 2021).

Consultations

According to Busayo & Phiri (2021), the consultative strategic managements of malnutrition are:

- Any child at risk for nutritional deficiency should be referred to a registered dietitian or other nutritional professional for a complete nutritional assessment and dietary counseling.
- Children with poor nutrition secondary to inadequate intake should be referred to the appropriate social agencies to assist the family in obtaining resources and providing ongoing care for the child.
- Other subspecialty referrals are based on findings in the initial evaluation that may indicate a specific cause of inadequate nutrition other than inadequate food intake.

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Diet

F75 and F100 are specially formulated milks used in inpatient settings to treat SAM. F75 is given in the stabilization phase of inpatient treatment; children are provided with approximately 80–100 kilocalories per kilogram per day (kcal/kg/d) spread over 8–12 meals per day for three to seven days. F75 is not designed for weight gain (personal communication, Nutriset. F100 is given during the rehabilitation phase of inpatient treatment of SAM, providing children with approximately 100–200 kcal/kg/d for three to four weeks (personal communication, Nutriset. Because F75 and F100 require preparation and have high moisture content, they cannot be stored for long at room temperature for food safety reasons, and are not given to caretakers to prepare at home (UNICEF, 2015).

Ready-to-use-foods (RUFs) are specially formulated bars, pastes, or biscuits that provide varying ranges of high-quality protein, energy, and micronutrients. These products are more nutrient dense than available home foods and do not require preparation; they typically have very low moisture content and are resistant to microbes. With use of each of these products, continued breastfeeding is recommended (UNICEF, 2015). UNICEF (2015) stated that:

- Ready-to-use therapeutic foods (RUTFs), such as Plumpy'Nut are designed for the treatment of uncomplicated SAM.
- Ready-to-use supplementary foods (RUSFs), such as Plumpy'Sup, are designed as a supplement to treat MAM.
- Medium-quantity lipid-based nutrient supplements (LNSs), such as Plumpy'Doz, are designed as a supplement to prevent MAM.

Fortified blended flours (FBFs) are an additional class of specially formulated foods. The most commonly used product is Supercereal Plus, formerly called Corn Soy Blend Plus (CSB++). FBFs require some preparation before consumption and are typically distributed in larger quantities as family rations for treating or preventing MAM. The nutrient composition of some common formulated foods for treatment and prevention of acute malnutrition are shown in. Annan *et al.* (2015) provide a more comprehensive product list of specially formulated foods for MAM management (Busayo & Phiri, 2021).

Malnutrition Follow-up

- Monitor patients closely for growth and resolution of clinical signs and symptoms of malnutrition. Follow-up should be based on the severity of the illness, age of the patient, and the patient's initial response to intervention.
- Minimal intervals between visits should give the patient sufficient time to show a change in the measured parameter. For example, in infants beyond the newborn stage, the time needed to show an appreciable change in weight is 7 days. A 4-week interval is needed to document changes in length, and an 8-week interval is needed to document a change in height.

Deterrence/Prevention of Malnutrition

According to Busayo & Phiri (2021), the deterrence or prevention of malnutrition is very important in reducing child morbidity and mortality. These strategic means of preventing malnutrition are:

- Prevention of malnutrition in children starts with an emphasis on prenatal nutrition and good prenatal care. Health care providers should emphasize the importance of breastfeeding in the first year of life. Promotion of breastfeeding is particularly crucial in developing countries where safe alternatives to human milk are unavailable. In addition to the promotion of breastfeeding, health care providers should counsel parents on the appropriate introduction of nutritious supplemental foods. Health care providers should continue to provide age-appropriate nutritional counseling at every opportunity.
- Programs addressing micronutrient supplementation and fortification have been successful at decreasing the incidence of specific micronutrient deficiencies (eg, iodine, vitamin D) in many countries, and supplementation in pregnant women has also been beneficial. These programs should be promoted more in developing countries. In addition, research demonstrates that zinc supplementation can help reduce the duration and severity of acute and persistent diarrheal illnesses in children in areas where diarrhea is a significant cause of mortality and is recommended by the World Health Organization and UNICEF. Additional fortification programs should be developed to address other common nutritional deficiencies such as iron deficiency, which continues to be significant problem throughout the world.
- Improvement in hygiene practices and sanitation reduces the incidence of infectious diseases, which decreases the incidence of malnutrition in developing countries.

RESEARCH METHODS

Study Design

A descriptive research study design was used to collect information on the prevalence and management strategies of malnutrition among under five children in Chanchaga LGA, Niger state.

Total Population

The population of Chanchaga based on 2006 national census is 201,429. Under 5 children usually account for 17.6% of the total population of any demographic area. Therefore, the total number of under 5 children based on 2006 census is 35,452.

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Inclusion Criteria

The eligibile group included in this research were mothers and caregivers of children 0-5 years in Chanchaga LGA, Niger state.

Exclusion Criteria

The non eligibile group excluded in this research were non-nursing teenagers, mothers and caregivers of children above 5 years in Chanchaga LGA, Niger state.

Sample Size Determination

The sample size was determined by using the statistical formula of Fisher (Korlik & Higgins, 2015) since the target population is more than 10,000.

$N = z^2pq/d^2$

Z = 1.96, 95% confidence limit

d= 0.05 as the acceptable margin of error

p= the probability of the event occurring = 0.09

q= 1-p = which is the probability of the event not occurring in this 1-p =0.92

The sample size will then be determined as follows;

$n= 1.96^2 (pq)/d^2$

$n= 1.96^2(0.09) (0.92)/ 0.0025$

n= 0.31808448/0.0025

n= 127

Sample and Sampling techniques

A multistage sampling technique was used in selecting respondents in this study. The selection was in 3 stages as follows:

- **Stage 1:** Simple random technique by balloting with no replacement was used to select 30 compounds. Proportional allocation was used to distribute the sample size across the selected compounds to give at least 4 respondents in each compound.
- **Stage 2:** Systematic sampling technique was used to select the required number of households in each compound using a list of houses in each selected compound as sample frame. The total number of houses was divided by the allocated proportion of the total sample size to obtain the sampling interval(K). The first households were selected randomly after which the K interval was used, using the list of households until the desired sample size was recruited for each compound.
- **Stage 3:** Eligible under 5 children selected from each household were recruited for this study. Where a respondent from selected household declined consent or has any of the exclusion criteria, the next household on the sampling frame was randomly selected until the desired sample size was reached.

Research Instruments

The tool that was used for data collection is a self-structured questionnaire. Relevant data for the analysis was collected through the distribution of the questionnaire among the population under study. The questionnaire contained section A and B. section A focused on collecting sociodemographic data while section B focused on the prevalence and management strategies of malnutrition among under five children in Chanchaga LGA, Niger state. The self-structured questionnaires were distributed to the respondents to elicit information from respondents on background characteristics and other variables relevant to the study objectives and questions.

RESULTS OR FINDING

DATA ANALYSIS AND INTERPRETATION

Table 1. Respondents' Socio Demographic Characteristics (n = 127)

Variables	Number	Frequency
Age		
15-19 years	22	17.3%
20-29 years	23	18.1%
30-39 years	32	25.2%
40-49 years	31	24.4%
50 years and above	19	15.0%
Marital Status		
Married	89	70.1%
Divorced	26	20.5%
Widowed	12	9.4%
Type of marriage		
Monogamy	54	42.5%
Polygamy	73	57.5%
Ethnicity		
Hausa	89	70.1%
Igbo	6	4.7%
Yoruba	5	3.9%
Fulani	27	21.3%
Religion		

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Islam	96	75.6%
Christianity	21	16.5%
Traditional	10	7.9%
Educational Status		
Primary	43	33.9%
Secondary	25	19.7%
Informal	16	12.6%
Tertiary	12	9.4%
None	31	24.4%
Employment Status		
Farming	39	30.7%
Trading	57	44.9%
Artisan	6	4.7%
Civil/Public Servant	12	9.4%
Others	0	0.0%
None	13	10.2%

Table 1 above shows the socio demographic information of the respondents: age distribution shows that most 32 (25.2%) were between 30-39 years, 31 (24.4%) were between 40-49 years, 23 (18.1%) were between 20-29 years, 22 (17.3%) were between 15-19 years and 19 (15.0%) were between 50 years and above. Marital distribution shows that majority 89 (70.1%) of the respondents were married, 26 (20.5%)v of the respondents were divorced and 12 (9.4%) of the respondent were widowed. Data on type of marriage shows that majority 73 (57.5%) of the respondents married into polygamous family while 54 (42.5%) of the respondents married into monogamous family. Data on ethnicity distribution shows that majority 89 (70.1%) of the respondents were Hausa, 27 (21.3%) of the respondents were Fulani, 6 (4.7%) of the respondents were Igbo and 5 (3.9%) of the respondents were Yoruba. Data on religion shows that majority 96 (75.6%) of the respondents practice Islam, 21 (16.5%) of the respondents practice Christianity and 10 (7.9%) of the respondents were traditionalist. Educational qualification shows that most 43 (33.9%) were primary school certificate holders, 31 (24.4%) of the respondents had no form of education and 25 (19.7%) of the respondents attained secondary school level of education. Data on employment status shows that majority 57 (50.4%) of the respondents were traders while 57 (44.9%) of the respondents were traders, 39 (30.7%) of the respondents were farmers and 13 (10.2%) of the respondents were unemployed.

Answering Research Questions

Question 1: What is the prevalence rate of malnutrition among under five children in Chanchaga LGA, Niger state?

\Table 2. The prevalence rate of malnutrition among under five children in Chanchaga LGA, Niger state

Variables	No of Children	Percentage
Stunting	58	45.7%
Wasting	11	8.7%
Underweight	35	27.6%
Not Malnourished	23	18.1%

Table 2 above indicates that 58 (45.7%) of the children were stunted, 11(8.7%) were wasted, 35 (27.6%) were underweight and only 23 (18.1%) were not malnourished.

Question 2: What are the factors that contribute to malnutrition among under five children in Chanchaga LGA, Niger state?

Table 3. The factors that contribute to malnutrition among under five children in Chanchaga LGA, Niger state

Risk factors of malnutrition	SA	A	D	SD
Inability to consume enough portable water	65 (51.2%)	32 (25.2%)	24 (18.9%)	6 (4.7%)
Truncated or incomplete immunization	32 (25.2%)	26 (20.5%)	58 (45.7%)	11 (8.7%)
Acute Respiratory infection in the last 8 weeks	51 (40.2%)	43 (33.9%)	24 (18.9%)	9 (7.1%)
Diarrhea in the last 8 weeks	63 (49.6%)	45 (35.4%)	13 (10.2%)	6 (4.7%)
Low maternal education	72 (56.7%)	46 (36.2%)	4 (3.1%)	5 (3.9%)

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The table 3 above shows the factors that contribute to malnutrition among under five children in Chanchaga LGA, Niger state. Majority 65 (51.2%) of the respondents strongly agreed that inability to consume enough portable water is a risk factor for malnutrition among under five children. Majority 58 (45.7%) of the respondents disagreed that truncated or incomplete immunization is a risk factor for malnutrition among under five children. Majority 51 (40.2%) of the respondents strongly agreed that acute respiratory infection in the last 8 weeks is a risk factor for malnutrition among under five children. And most 72 (56.7%) of the respondents strongly agreed that Low maternal education is a risk factor for malnutrition among under five children

Question 4: What are the community-based management strategies of malnutrition among under five children in Chanchaga LGA, Niger state.

Table 4. Community-based management strategies of malnutrition among under five children in Chanchaga LGA, Niger state

Management of malnutrition	SA	A	D	SD
Taking the child to a health centre for medical treatment	67 (52.8%)	34 (26.8%)	23 (18.1%)	3 2.4%)
Offer prayers for the child whether at home or away from home	124 (97.6%)	3 (2.4%)	0 (0.0%)	0 0.0%)
Provide traditional treatment (spiritual or herbal care)	56 (44.1%)	45 (35.4%)	14 (11.0%)	12 9.4%)
Feed the child with less starchy foods	6 (4.7%)	8 (6.3%)	24 (18.9%)	89 (70.1%)
Feed the child with fruits and vegetables	13 (10.2%)	21 (16.5%)	62 (48.8%)	31 (24.4%)
Give the child more water or fluids to drink	76 (59.8%)	42 (33.1%)	3 (2.4%)	6 (4.7%)
Allow the child to rest frequently	71 (55.9%)	48 (37.8%)	2 (1.6%)	6 (4.7%)
Giving other food supplements to children who are severely malnourished	32 (25.2%)	28 (22.0%)	56 (44.1%)	11 (8.7%)
Do nothing	2 (1.6%)	4 (3.1%)	16 (12.6%)	105 (82.7%)

Table 4 above shows community-based management strategies of malnutrition among under five children in Chanchaga LGA, Niger state. Majority 67 (52.8%) of the respondents strongly agreed to taking the child to a health centre for medical treatment during malnutrition. Majority 124 (97.6%) of the respondents strongly agreed to offering prayers for the child whether at home or away from home during malnutrition. Most 56 (44.1%) of the respondents strongly agreed to providing traditional treatment (spiritual or herbal care) for the child during malnutrition.

Majority 89 (70.1%) of the respondents strongly disagreed with feeding the with less starchy foods during malnutrition. Most 76 (59.8%) of the respondents strongly agreed to giving the child more water or fluids to drink during malnutrition. Majority 71 (55.9%) strongly agreed to allowing the child to rest frequently during malnutrition. 56 (44.1%) of the respondents disagreed with giving other food supplements to children who are severely malnourished while 105 (82.7%) of the respondents strongly disagreed with doing nothing when a child is malnourished.

CONCLUSION

Most of the respondents used for this study shown over average knowledge on the community-based management strategies of malnutrition among under five children in Chanchaga LGA, Niger state. Even despite of the good knowledge, there is need for government to step up their various interventions aimed at complementing this good knowledge to vastly reduce the incidence of malnutrition among children of 0-5 years. Also, health workers need to step up health education programs to scale up this level of knowledge to more excellent level and for more positive attitude among nursing mothers and guardians towards the reduction of malnutrition among children of 0-5 years.

Recommendations

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

- Health facilities should encourage educational campaign that would focus on teaching mothers and community members how to use foods already available to them to prevent malnutrition in an economically feasible manner.
- Research should be encouraged to evaluate existing programs on prevention of

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malnutrition for its effectiveness and adjustment as the case may be.

- Mothers and caregivers should attend child welfare clinic for their children's growth to be monitored.

REFERENCES

1. Bejon, P., Mohammed, S., Mwangi, I., Atkinson, S. H., Osier, F., Peshu, N., ... & Berkley, J. A. (2008). Fraction of all hospital admissions and deaths attributable to malnutrition among children in rural Kenya. *The American journal of clinical nutrition*, *88*(6), 1626-1631.
2. Brown (2019) Scaling up nutrition in Ghana. The Lancet Global Health Blog.
3. Goudet, S. M., Faiz, S., Bogin, B. A., & Griffiths, P. L. (2011). Pregnant women's and community health workers' perceptions of root causes of malnutrition among infants and young children in the slums of Dhaka, Bangladesh. *American journal of public health*, *101*(7), 1225-1233.
4. Busayo, S., & Phiri, S. (2021). Prevalence and Strategies to Reduce Malnutrition Among Children of 0-5 years in Ifedore LGA, Ondo State, Nigeria. Academia Letters, 2.
5. Glanz C., Rimer A., & Lewis W., (2019) The Effect of Maternal Education on Child Nutritional Status in the Democratic Republic of Congo, 254(0), 20–27.
6. World Health Organization. (2006). *WHO child growth standards: length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age: methods and development*. World Health Organization.
7. Kolsteren, P., Lefèvre, P., & Lerude, P. M. (1997). Nutrition rehabilitation and the importance of the perception of malnutrition in the follow-up of rehabilitated children. *Asia Pacific Journal of Clinical Nutrition*, *6*(2), 106-110.
8. UNICEF, (2015). *Programming guide: infant and young child feeding. Nutrition Section Programmes*. New York.
9. Bejon, P., Mohammed, S., Mwangi, I., Atkinson, S. H., Osier, F., Peshu, N., ... & Berkley, J. A. (2008). Fraction of all hospital admissions and deaths attributable to malnutrition among children in rural Kenya. *The American journal of clinical nutrition*, *88*(6), 1626-1631.
10. WFP, (2015). preventing malnutrition in Lagos. a focus strategy to improve nutrition in young children.
11. Smith, L. C., Ruel, M. T., & Ndiaye, A. (2005). Why is child malnutrition lower in urban than in rural areas? Evidence from 36 developing countries. *World development*, *33*(8), 1285-1305.
12. WHO, (2018). *Report of the expert consultation on the optimal duration of exclusive breastfeeding*. Geneva, Switzerland.
13. Yimer, G. (2017). Malnutrition among children in Southern Ethiopia: Levels and risk factors. *Ethiopian Journal of Health development*, *14*(3): 283- 292.

***Corresponding Author:** Sesan Emmanuel Busayo