PERVASIVENESS OF MALNUTRITION AMONG UNDER-FIVE CHILDREN

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ABSTRACT

Background

In the world, Malnutrition among children residues one of the utmost significant causes of morbidity and mortality. The World Bank estimates that India is one of the highest ranking countries in the world for the number of children suffering from malnutrition. The pervasiveness of underweight children in India is among the highest in the world, and is nearly double that of Sub Saharan Africa with terrible consequences for mobility, mortality, productivity and economic growth.

Aim: To assess the pervasivenessand to find out association between pervasiveness of malnutrition and selected socio-demographic variables.

Methods: Non-experimental descriptive researchdesign was adopted.55 subjects were recruited by non-probabilityconvenience sampling technique among under-five children. The data was collected by using WHO child growth standards. The collected data was optimized and analyzed by using descriptive statistics and inferential statistics.

Results: The study revealed that majority of (56.3%) of under-five children were normal nourished,(30.9%) of them were underweight children and (12.7%) of them were severe underweight children.

Conclusion: An outstanding prominence should also be given to reinforce the health extension program to improve and provide participatory nutrition education to create

awareness and to develop behavior change communication for better child feeding and caring practices in the rural community.

Key words: Pervasiveness, malnutrition, under five children, rural area, education programme on prevention and management of malnutrition.

Introduction

Children of today are populaces of tomorrow and hence improving nutritional status of children becomes enormouslysignificant .The World Bank estimates that India is one of the highest ranking countries in the world for the number of children suffering from malnutrition[1]. In developing countries among under-five children malnutrition is a common public health problem and it is one of the foremost causes for the death of children[2].

Malnutrition in early childhood has serious, long-term consequences because it hampers motor, sensory, cognitive, social and emotional development. In developing countries, about 40% of 11 million deaths of under-five children implicated due to malnutrion in every year. According to the UNICEF the highest level of underweight children is found in South Asia, involving 46% of all under-fives in the region. Three out of every 10 stunted children in the world are in India[3].

Stunting, or low height-forage, is a sign of chronic under-nutrition that reflects failure to receive adequate nutrition over a long period. Stunting can also be affected by recurrent and chronic illness. Wasting, or low weight-for-height, is a measure of acute under-nutrition and represents the failure to receive adequate nutrition in the period immediately before the survey. Wasting may result from inadequate food intake or from a recent episode of illness causing weight loss. Weight-for-age is a composite index that takes into account both acute and chronic undernutrition[5].

The pervasiveness of underweight children in India is among the highest in the world, and is nearly double that of Sub Saharan Africa with dire consequences for mobility, mortality, productivity and economic growth[2]. The 2015 Global Hunger Index (GHI) Report ranked India 20th amongst leading countries with a serious hunger situation. Amongst South Asian nations, it ranks third behind only Afghanistan and Pakistan with a GHI score of 29.0 ("serious situation")[2].

India is one of the fastest growing countries in terms of population and economics, sitting at a population of 1.2 billion and growing at 1.5%–1.7% annually (from 2001–2007)[3].India's Gross Domestic Product growth was 9.0% from 2007 to 2008; since Independence, its

economic status has been classified as a low-income country with majority of the population at or below the poverty line[4.]

Nearly half of all deaths in under- five children are attributable to under nutrition. This translates into the unnecessary loss of about 3 million young lives a year. Under nutritionsituates 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 fatal cycle of worsening illness and worsening nutritional status. Poor nutrition in the first 1,000 days of a child's life can also lead to underdeveloped growth, which is irreversible and associated with impaired cognitive ability and reduced school and work performance[5-6].

With this information in the investigatorsmind, assessment of thenutritional status of the under-five children was undertaken.

Aim: To assess the pervasiveness and to find out association between pervasiveness of malnutrition and selected socio-demographic variables.

Assumption

- Under-five children may have a varying degree of malnutrition.

Hypothesis:

- **H_1**: There is a significant association between pervasiveness of malnutrition and selected sociodemographic variables of under-five children.

Methodology:

A cross-sectional survey, descriptive research design was adapted. 55 subjects were recruited by non-probability convenience sampling technique. The study was carried out in rural area of Bangalore. Under-five children those who are enrolled in registers and the age group of 01 yearto < 5 years were included. Under-five children those who are unreachable in spite of two visit, parents who were unwilling to give consent or co-operate with the study and who are sick during data collection period were excluded. Formal written permission was obtained from the concerned authority. The data collection was carried out in the month of March-April 2017. Primarily, the investigator surveyed the selected area to identify the number of Under-five children. The participants' parents/guardian was approached during their free time. Each of them was informed about intention of the study and parental written consent and assent from children was obtained with their anonymity and confidentiality of data. The investigatorcollected data using assessment of the nutritional status tool (WHO Child Growth

Standards). About 15 to 20 minutes was spent by each subject for assessment in each time. Approximately 4 to 6 subjects were assessed per day.

The obtained data were analyzed using SPSS-20 software. More specifically, descriptive statistics (frequency and percentage, mean, standard deviation) were used to describe the subjects' characteristics and pervasiveness of malnutrition. Chi – square test used in order to find out the association between the pervasiveness of malnutritionand selected socio-demographic variables. The level of significance was set at $p<0.05$.

❖ **Findings of the study:**

Fifty five (55)under-five children were participated in the study for final analysis. The study revealedthat majority of the subjects 30 (54.5 %) were agedbetween >1year - ≥ 3years. Majority of them were males 30 (54.5 %). Maximum number of subjects belongs to Hindu religion 54 (98.2%). Most of them 31 (56.4%) were delivered in government hospital, Majorityof fathers18 (32.7 %). had secondary education 18 (32.7 %).Most of the mothers19 (34.5%) had higher secondary education). Majority of fathers were private employee 23 (41.8%), Majorityof mothers were Home maker 49 (89.1%). Maximum number of subject 49 (89.1%) had Rs. >5000 - ≥ 20000 family monthly income. Majority of subjects 46 (83.6%) were fathers in decision maker of the family. Majority of subjects 37 (67.3 %) were belongs to nuclear family. Maximum number of subjects 31 (56.4 %) were married in the age group of > 20 years. With regard to total number of children in the family, majority of them 30 (54.5 %) of them had two children. Majority of subjects 41 (74.5 %) of them were taking mixed diet. Based on duration of exclusive breast feeding of the child, the majority 47 (85.5%) is < 6 months. Maximum number of subjects 36 (65.5 %) had birth weight of 2 - 3 Kg.Majority of subjects 47 (85.5 %) were adequately fed. Maximum number of subjects 20 (36.4%) were stopped breast feeding between 10-15 months. Maximum number of subjects 30 (54.5%) were not having sufficient milk. Majority of the subjects 47 (85.5%) were term babies. With regard to Immunization status of the child (as per Immunization card), 35 (63.6 %) ofthe subjects were immunized. Majority of the subjects 25 (45.5%) were started supplementary feeds on 6-7 months. Maximum number of the subjects 48 (87.3 %) were not having chronic illness.

Table -3: Nutritional status of under-five year children according to age by Standard Deviation (SD) classification using WHO Child Growth Standards. **n= 55**

Score	Nutritional Grade	Frequency (f)	Percentage (%)
≥ Median – 2 SD	Normal nutritional status	31	56.4%
≥ Median – 3 SD to < Median – 2 SD	Under-weight	17	30.9%
< Median - 3 SD	Severe under-weight	7	12.7%

In relation to pervasiveness of malnutrition, according to WHO Growth standards of malnutrition classification, majority of 31 (56.4 %) of under five children were normally nourished, 17 (30.9) % of them were underweight children and 7 (12.7%) of them were severe underweight children.There is a significant association found between pervasiveness of malnutrition with demographic variables such assupplementary feeding.

Discussion

In developing countries, child malnutrition endures to be a foremost public health problem. Children are most susceptible to malnutrition because of low dietary intakes, infectious diseases, lack of appropriate care, and inequitable distribution of food within the household in developing countries.

In the current study 17 (30.9) of children under-five were underweightand 7 (12.7%) of children under-five were severe underweight. Mengistu K et al (2013) reported that the prevalence of malnutrition of children aged 6-59 months higher than a study conducted in Gimbi district, Oromia region on 490 children, 32.4%stunting, 23.5%underweight and 15.9%wasting[7].Teshome B et al (2006) revealed that the prevalence of underweight very high but lower than study conducted on food Surplus region of Ethiopia in case of West Gojam zone with 49.2% of children under five were affected by underweight[8].A study by Asres G and EidelmanAI, revealed that 37.2%, 14.6% and 4.9% of children age 0-59 months were stunted, underweight and wasted, respectively[9]. The prevalence of malnutrition increased as age increases.

In the current study, with regard to total number of children in the family there is no significant association with pervasiveness of malnutrition.A study conducted by E. Andy et al (2016)[10]J. Coates et al (2007)[11] and G. Egata et al (2014)[12] contradictory to the current study ofassociated with household family size.

Few studies revealed that, mothers' educational status influence on prevalence of malnutrition among under-five children and also highly associate with malnutrion.

❖ **Conclusion:**

In relation to pervasiveness of malnutrition among under five children the findings of the study shows that According WHO Growth Standards, majority of (56.3%) of under five children were normally nourished, (30.9%) of them were underweight children and (12.7%) of them were severe underweight children.

An outstanding prominence should also be given to reinforce the health extension program to improve and provide participatory nutrition education to create awareness and to develop behavior change communication for better child feeding and caring practices in the rural community.Promoting use of family planning, preventing diarrhoeal diseases, and vaccinating children integrated with the access of nutrition education programs are vital interventions to improve nutritional status of the children.

Recommendations:

Based on the findings of the study, the following recommendations are made:

- Community based nutrition program should be established to tackle the problem of malnutrition at community level depending on the severity of malnutrition.
- Nutrition education by health extension works should be strengthening to improving the feeding practice of parents on appropriate children feeding.

Limitations:

Some of the limitations of the study are that we have not explored maternal factors like maternal BMI and antenatal care, socio demographic factors and other environmental factors which also play significant role in childhood under nutrition.

Conflicts of interest disclosure: The authors declare that there is no conflict of interest statement.

Source of funding: Self-funding of the researchers.

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