

# Malnutrition among under Five Children: Effectiveness of Selected Intervention

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**Abstract:** This paper presents an overview on malnutrition among under five children, its effectiveness of selected intervention.

**Keywords:** malnutrition

## 1. Introduction

Today's children are tomorrow's citizens. Unless the nutritional needs of the children are adequately met, we cannot ensure healthy citizens of future. In the whole world around 8% of people are malnourished and according to statistics more than 160 million Under-five children are poorly nourished. Today, child malnutrition is prevalent in 7% of children under the age of 5 in China, 28% in Sub-Saharan Africa and 43% in India. Undernutrition is mainly seen in rural areas and 27-28% of them are underweight children. Malnutrition is a major pediatric problem and it is responsible for high rate of morbidity and mortality. Mortality due to malnutrition in India accounted for 58% for the total mortality in 2006. About 5,00,000 of infants and children dies every year in India due to gross malnutrition. About 75 to 80% of the hospitalized children suffer from some degree of malnutrition. Malnutrition is a great challenge for under developing countries. In India the death rate is highest in the group 0 - 4 years. This is result of malnutrition and infection. The purpose of this study was to determine the effectiveness of Mixed cereals porridge on malnutrition among under five children in selected villages, Barabanki Lucknow.

## 2. Methodology

A Quasi experimental design was chosen for the study. The conceptual framework for the study was based on Modified Wiedenbach's Helping Art of clinical nursing (1964) Demographic information was assessed using a structured interview schedule. The sample consisted of 60 under five children, 30 in experimental and 30 in control group from selected villages, Barabanki Lucknow. The data were analysed using descriptive and inferential statistics to test the hypothesis, independent 't' test and chi-square was used. The  $p < 0.001$  level of significance was used to test the hypothesis

## 3. Results

Main findings of the study include,

- In experimental group 46.7% of them were in 3.6-4 years of

age 68% were female, 69% were at home, 91.5% of them were non vegetarian, 51.6% of them were second order of birth, and 64.2% of them belongs to nuclear family.

- In control group 36.9% of them were in 2.6-3 years of age, 55.7% of them were male, 56.8% of them were at home, 86% of them were non vegetarian, 48% of them were first birth order, and 86.7% of them belongs to nuclear family.
- In experimental group 56.1% of father's had completed primary school, 33.1% of mothers had completed primary school, 51% of fathers were unskilled workers, 73.3% of mothers were unemployed, and 43.1% of the children's family monthly income is between Rs.4893-2936.
- In control group 53.3% of fathers had completed primary school, 48.1% of mothers had completed primary school, 33.9% of fathers were unskilled workers, 71.3% of mothers were unemployed, and 38% of the children's family monthly income is between Rs.4893-2936.
- In experimental group the mean pre-test weight was  $10.84 \pm 1.02$  whereas in the control group the mean pretest weight was  $10.80 \pm 1.02$  revealing a difference of 0.4
- In experimental group the mean pre-test weight was  $10.84 \pm 1.02$  whereas the mean post test weight was  $13.18 \pm 1$  revealing a difference of 2.34. However, in the control group the mean pretest weight was  $11.81 \pm 1.29$  and the post test weight was  $11.82 \pm 1.22$  revealing a difference of 0.01
- In experimental group the mean post test score was  $12.12 \pm 1$  whereas in control group the mean post test score was  $11.79 \pm 1.42$  and 't' value is 2.4. Which was higher than the table value at 0.05 level. Hence significant difference was found in the post test mean weight of under five children in experimental group and control group ( $P < 0.05$ ).
- There was no significant association between weight of under five children and their selected demographic variables in both experimental and control group ( $P > 0.05$ ) except age where significant association is found ( $p < 0.05$ ).
- There was significant association between weight of under five children and selected demographic variables of parents in experimental and control group ( $p < 0.05$ ) except education level of father and occupation of mother in control group where no significant association was found ( $p > 0.05$ ). Hence hypothesis (H2) was accepted with post test weight of under five children and selected demographic variables of

parents in Experimental and Control group except education level of father and occupation of mother in Control group where it was rejected.

#### 4. Discussion

Distribution of under five children according to their Demographic variables in experimental group 46.7% of them were in 3.6-4 years of age, 68% were female, 69% were at home, 91.5% of them were non vegetarian, 51.6% of them were second order of birth, and 64.2% of them belongs to nuclear family.

- In control group 36.9% of them were in 2.6-3 years of age, 55.7% of them were male, 56.8% of them were at home, 86% of them were non vegetarian, 48% of them were first birth order, and 86.7% of them belongs to nuclear family.
- In experimental group 56.1% of father's had completed primary school, 33.1% of mothers had completed primary school, 51% of fathers were unskilled 66 workers, 73.3% of mothers were unemployed, and 43.1% of the children's family monthly income is between Rs. 4893-2936.
- In control group 53.3% of fathers had completed primary school, 48.1% of mothers had completed primary school, 33.9% of fathers were unskilled workers, 71.3% of mothers were unemployed, and 38% of the children's family monthly income is between Rs.4893-2936.

The findings compared with a cross-sectional study was done by Saphika. V. S and Greeshma. C. P, (2008) to determine the prevalence of malnutrition and the factors associated with it. The findings related to demographic variables showed that, the risk of being malnutrition in the under five children from the poor socio-economic status is almost four times than the children from rich socio-economic status and children from joint family were found protective against stunting than from nuclear family. It reveals the fact that malnutrition is common among under five children and also it is more prevalent among the poor socio economic category.

##### A. Objective-1

To evaluate the existing nutritional status of under five children in experimental and control group.

In experimental group the mean pre-test weight was  $10.84 \pm 1.02$  whereas in the control group the mean pretest weight was  $10.80 \pm 1.02$  revealing a difference of 0.4 revealing a difference of 0.13. National Family Health Survey (2005) conducted a study in Bihar to investigate the prevalence of malnutrition among under five children. It was concluded that 42.5% are underweight, 48% are stunted and 19.8% are wasted. It also revealed that the prevalence of underweight among children in India is amongst the highest in the world.

Gowtham. V. P. and Gurung. K. K, (2007) had done a cross-sectional study to determine the prevalence of under-nutrition, the results of the study showed that the prevalence of underweight, stunting and wasting was 27%, 37% and 11% respectively. This study supports the fact that prevalence of

underweight is common among under-five population and there was a need to take necessary steps to reduce its impact on the health of the children.

##### B. Objective-2

To evaluate the effectiveness of mixed cereals porridge on malnutrition among under five children in experimental group. In experimental group the mean pre-test weight was  $10.84 \pm 1.02$  whereas the mean post test weight was  $13.18 \pm 1$  revealing a difference of 2.34. However, in the control group the mean pretest weight was  $11.81 \pm 1.29$  and the post test weight was  $11.82 \pm 1.22$  revealing a difference of 0.01. These findings were supported by a study conducted by, Kasthoorba, et.al., (2008) to assess the effectiveness of mixed cereal porridge on malnourished under five children at Uttar Pradesh. 100 subjects were selected and 50 grams of mixed cereal porridge was given for a period of 8 weeks.

The findings of the study showed that there was a significant difference 0.21 in the weight of under five children after the intervention. The overall findings of the study showed that the oral supplementation of mixed cereals porridge was effective to the malnourished under five children and has brought minimal changes at the body weight.

##### C. Objective-3

To associate the nutritional status of under five children in experimental and control group with their selected demographic variables. There was no significant association between weight of under five children and their selected demographic variables in both experimental and control group ( $P > 0.05$ ) except age where significant association was found ( $p < 0.05$ ). Hence hypothesis (H2) was rejected related to demographic variables of children ( $P > 0.05$ ) except age of the children where it was accepted ( $P < 0.05$ ). As per National Family Health Survey (2003) reports, the education level of mother, occupation of father, monthly income and age also influences the nutritional status of the children, 54 This shows that the age, education of father, education of mother, occupation of father, occupation of mother and the monthly income has effects on the nutritional status of the malnourished under five children.

#### 5. Conclusion

A study was done evaluate the Effectiveness of selected intervention on Malnutrition among under five Children in selected villages, Barabanki Lucknow. The settings were Barabanki Lucknow. The samples were selected by convenience sampling technique and sample size was 60, 30 were assigned to experimental and 30 were assigned to control group. The results of the study showed that mixed cereal porridge was effective in improving the nutritional status of under-five malnourished children.

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