

# A COMPARATIVE STUDY TO ASSESS THE NUTRITIONAL STATUS BY PHYSICAL EXAMINATION OF CHILDREN AGED BETWEEN 3-5 YEARS IN URBAN AND RURAL AREAS, BARABANKI AND TO DEVELOP AN INFORMATION BOOKLET ON MALNUTRITION, ITS PREVENTION AND MANAGEMENT

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## ABSTRACT

The present study was undertaken to assess the nutritional status by physical examination of children aged between 3-5 years in urban and rural areas, regarding malnutrition, its prevention and management. The study aims are to assess nutritional status of urban and rural area children, To compare the nutritional status of urban and rural area children, To associate the nutritional status of urban and rural area children with their selected socio-demographic variables and To develop an information booklet on malnutrition, its prevention and management.

**MATERIAL AND METHODS** A comparative research design was used to assess the nutritional status by physical examination of children regarding malnutrition, its prevention and management in urban and rural areas, Barabanki, Uttar Pradesh by using convenient sampling technique with sample size 100 comprises of children aged between 3-5 years. Observation checklist was prepared to assess the nutritional status regarding malnutrition. The data was collected for a period of one month using observation and assessment technique. The data was analyzed by using the descriptive and inferential statistics. Descriptive statistics includes frequency, percentage, mean, standard deviation were used to assess the nutritional status of children regarding prevention and management of malnutrition. Inferential statistics includes Paired 't' test was used to compare the nutritional status of 3-5 years aged children in selected urban and rural areas

**RESULT:** There is no significant association between the head to foot examination of 3-5 year urban children with socio demographic variables like age of the child, gender of the child, birth order of the child, educational status of mother, occupation of mother, occupation of father, income of the family per month and source of information regarding nutrition and there is significant ( $p < 0.05$ ) association between the head to foot examination of 3-5 year children with socio demographic variables like with their religion.

There is no significant association between the head to foot examination of 3-5 year rural children with socio demographic variables like age of the child, gender of the child, birth order of the child, religion, educational status of mother, occupation of mother, occupation of father, and there is significant ( $p < 0.05$ ) association between the head to foot examination of 3-5 year children with socio demographic variables like with their income of the family per month and source of information regarding nutrition as the calculated 't' value is above the table value.

## CONCLUSION:

The study findings reveal that 92% of the children in rural area were suffering with grade-I and grade-II malnutrition when compared with urban area of Barabanki. Findings of the present study suggest that nurses working in the clinical setting and community must encourage the parents regarding preventive strategies to reduce the effect of malnutrition in Children.

## INTRODUCTION

Health is a common theme in most cultures in fact, all communities have their concepts of health, as part of their culture. In some cultures, health and harmony are considered equivalent. Food is an important and basic biological need of man. It is essential for life, growth and repair of the human body, regulation of body mechanisms and production of energy for work. The nutrition

of people on the global level is of great concern today particularly in developing nations. A fair section of the population does not get enough food to eat and their diet is deficient in calories and insufficient food to eat.

Nutrients are the building blocks that grow muscle, support bone density, encourage proper cell development, support immune defense, and develop brain function - all the functions that are necessary to grow your child into a healthy, strong adult. Proper nutrition influences brain development, behavior, and attention span.

Nutritional disorders may result from either deficiency or excess of any of the nutrients like protein, fat, carbohydrates, vitamin, minerals and salt. In India, the majority of problems are related to deficiency status rather than excesses, the most important reasons being poverty, ignorance and illiteracy. Malnutrition is a health problem especially in children under 5 years of age. Globally, there are 15% of world's populations, who are having problem of malnutrition according to FAO reports.

Good nutrition practices are essential for a child to develop healthy. Good Nutrition during childhood sets the tone and patterns for lifelong health and wellness. Proper nutrition is essential for building our bodies. It's the energy used to grow your child's body to adulthood and it's the fuel they need, both to physically get them from place to place, as well as to learn.

In the world, approximately 62 million people, all causes of death combined, die each year. One in twelve people worldwide is malnourished. The 2011 Global Hunger Index (GHI) Report ranked India 15th, amongst leading countries with hunger situation. It also places India amongst the three countries where the GHI between 1996 and 2011 went up from 22.9 to 23.7, while 78 out of the 81 developing countries studied, and succeeded in improving hunger condition..

During the clinical experience, investigator has observed that most of the children were admitted in hospital with malnutrition and most of the children were under five. In spite of so many health programme for children like ICDS, midday meal programmes still malnutrition is challenging problem for health personnel. So with view to study the existence of malnutrition, the investigator interested to identify the grades of malnutrition and help the mothers and educate them to identify early and also help the mothers how to prevent and manage the problem of malnutrition.

### PROBLEM STATEMENT

A comparative study to assess the nutritional status by physical examination of children aged between 3-5 years in urban and rural areas, Barabanki and to develop an information booklet on malnutrition, its prevention and management.

### OBJECTIVES OF THE STUDY:

- To assess nutritional status of urban and rural area children,
- To compare the nutritional status of urban and rural area children.
- To associate the nutritional status of urban and rural area children with their selected socio-demographic variables.
- To develop an information booklet on malnutrition, its prevention and management.

### HYPOTHESES:

H1 - There is a significant difference in the nutritional status between the rural areas i.e., Dharsania, Sadhemau and urban areas i.e., Shiv nagar, Gandhi nagar,.

H2 - There is a significant association between the nutritional status of the rural areas i.e., Dharsania, Sadhemau and urban areas i.e., Shiv nagar, Gandhi nagar children with selected Socio demographic variables.

### MATERIALS AND METHODS

**RESEARCH APPROACH:** Comparative Survey Approach

**RESEARCH DESIGN:** Descriptive Comparative Research design

### VARIABLES OF THE STUDY

**Independent variable:** Information booklet for mothers regarding prevention and management of malnutrition

**Dependent variable:** Improves knowledge of mother and nutritional status of children.

**Demographic variables:** Base line information of 3-5 years children such as age, gender, birth order, living area, religion, educational status of mother, occupation of mother, occupation of father, Income of the family per month and Source of information regarding nutrition.

### SETTING OF THE STUDY

The study was conducted in selected rural areas i.e., Dharsania, Sadhemau and selected urban areas i.e., Shiv nagar and Gandhi nagar, Barabanki.

**POPULATION:** 3-5 year children.

**SAMPLE:** 3-5 year children who are residing at selected rural areas i.e., Dharsania, Sadhemau and urban areas i.e., Shiv nagar, Gandhi nagar.

**SAMPLE SIZE:** 100 (50 rural ) (50 urban)

**SAMPLING TECHNIQUE:** Convenient sampling technique

### CRITERIA FOR SAMPLE SELECTION:

**Inclusive Criteria-** children

- Who are between 3-5 years of age
- Who are willing to participate in the study.
- Who are residing in rural areas i.e., Dharsania, Sadhemau and urban areas i.e., Shiv nagar, Gandhi nagar.
- Who are available at the time of data collection.

### EXCLUSIVE CRITERIA

- Child who are not residing in rural i.e., Dharsania, Sadhemau and urban areas i.e., Shiv nagar, Gandhi nagar.

**METHOD OF DATA COLLECTION:** Observation method and assessment of anthropometric measurements.

**TOOL FOR DATA COLLECTION:** check list

#### SCORE INTERPRETATION FOR KNOWLEDGE:

Grading	percentage
Normal	- above 90%
Grade I	- 75-89%
Grade II	- 61 -74%
Grade III	- below 60%

#### CONTENT VALIDITY

Tool was validated by experts from various fields like Medicine and Nursing. Suggestions given by experts were incorporated and tool was finalized.

#### RELIABILITY

The reliability is the degree of consistency or dependability with which an instrument measures an attribute. The obtained data was analyzed to find out the reliability of the tool was done by Split-half method. For knowledge the reliability (r) value is 0.9, which denotes the tool is reliable.

#### DATA COLLECTION PROCEDURE

The data was collected for a period of one month at selected rural area i.e., Dharsania, and selected urban area i.e., Shiv nagar, Barabanki. Formal permission was obtained, from sarpanch and ward member of at selected rural area i.e., Sadhemau, and selected urban area i.e., Gandhi nagar, Barabanki. Formal consent was obtained from parents and confidentiality of the response was assured. A brief introduction about self and the study was explained. The data related to the variables were collected. By observation and assessment of children aged between 3-5 years age regarding nutritional status. Information booklet was given on the day of data collection.

#### DATA ANALYSIS

The data analyzed using an appropriate descriptive and inferential statistics.

##### Descriptive statistics

- \* Socio demographic data was analyzed by using frequency and percentage distribution.
- \* Mean and standard deviation was used to assess the anthropometric measurements and head to foot assessment.

##### Inferential statistics

It includes correlation test to compare the nutritional status of 3-5 year children; chi square test was used to find out the association between nutritional statuses of 3-5 year children with their selected socio demographic variables.

#### FINDINGS AND RESULT

##### FIRST OBJECTIVE:

According to the children nutritional status by anthropometric measurements in urban area majority 32(64 %) were average weight, 09 (18 %) were above average weight and 09(18 %) below weight, regarding the Height majority 42(84 %) were average height, 07(14 %) were below average children, 01(02 %) were above average children, regarding the MUAC majority 28(56%) were below average children, 19(38 %) were above average children, 03(06%) were average children, regarding the BMI majority 23(46%) were above average children, 14(28 %) were below average children, 13(26%) were average children.

According to the children nutritional status by anthropometric measurements in rural area, majority 34(68 %) were average weight, 11(22 %) were below average weight and 05(10%) were above weight, regarding the Height majority 37(74%) were average height, 11(22%) were below average children, 02(04 %) were above average children, regarding the MUAC majority 22(44 %) were average children, 19(38%) were below average children, 09(18 %) were above average children, regarding the BMI majority 22(44 %) were above average, 15(30 %) were below average and 13(26 %) were having average BMI.

According to the children nutritional status by physical examination in urban area majority 30(60%) were having Grade-I Malnutrition, 15(30%) were having Grade-II Malnutrition and only 05(10 %) were having normal nutritional status.

According to the children nutritional status by physical examination in rural area majority 38(76 %) were having Grade-I Malnutrition, 08(16%) were having Grade-II Malnutrition and only 04(08%) were having normal nutritional status.

##### SECOND OBJECTIVE:

The comparison of anthropometric measurements between urban and rural area children aged between 3-5 years, in urban area weight, majority of children 32( 64 %) in urban area, 34(68%) in rural area were having average weight, only 09(18 %) in urban area were below and above average weight and only 05(10 %) in rural area were with above average weight. With regard to height, majority of children in urban area 84 %, 74 % in rural area were with average height and only 01(02%) in urban, 02(04 %) in rural area were with above average height.

The comparison of anthropometric measurements between urban and rural area children aged between 3-5 years, majority of children in urban area 28(56%), 22(44%) in rural area were with average Mid upper arm circumference. Only 03(06 %) with average mid upper arm circumference in urban area and 09(18 %) in rural area were with above average mid upper arm

circumference. With regard to BMI, majority of children in urban area 23(46 %), 22(44 %) in rural area were with above average BMI, and only 13(26 %) were with average BMI in urban and rural area children.

The comparison of physical examination between urban and rural area children aged between 3-5 years, in urban area majority 30(60 %) were having Grade-I Malnutrition and only 05(10 %) were having normal nutritional status. Physical examination in rural area majority 38(76 %) were having Grade-I Malnutrition and only 04(08 %) were having normal nutritional status. Hence H1 is accepted.

**THIRD OBJECTIVE: To associate the nutritional status of urban and rural area children with their selected socio-demographic variables.**

The result shows that there is no significant association between the head to foot examination of 3-5 year urban children with socio demographic variables like age of the child, gender of the child, birth order of the child, educational status of mother, occupation of mother, occupation of father, income of the family per month and source of information regarding nutrition, because the table value is more than calculated value and there is significant ( $p < 0.05$ ) association between the head to foot examination of 3-5 year children with socio demographic variables like with their religion because the calculated value is more than table value.

The data shows that there is no significant association between the head to foot examination of 3-5 year rural children with socio demographic variables like age of the child, gender of the child, birth order of the child, religion, educational status of mother, occupation of mother, occupation of father because the table value is more than calculated value and there is significant ( $p < 0.05$ ) association between the head to foot examination of 3-5 year children with socio demographic variables like with their income of the family per month and source of information regarding nutrition because the calculated value is more than table value. Hence H2 is accepted.

**CONCLUSION:**

The study findings reveal that 92% of the children in rural area were suffering with grade-I and grade-II malnutrition when compared with urban area of Barabanki. Findings of the present study suggest that nurses working in the clinical setting and community must encourage the parents regarding preventive strategies to reduce the effect of malnutrition in Children.

**RECOMMENDATIONS**

- A descriptive study to assess knowledge, attitude and practice of parents regarding prevention of malnutrition can be undertaken.
- Regular in-service Education Programmes can be conducted for staff nurses to refresh their knowledge regarding prevention and management of Malnutrition.
- Effective utilization of mass media should be done for propagating information about prevention and management of Malnutrition in children.

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**REFERENCES:**

1. Assuma Beevi. T.M.(2010).”Text book of pediatric nursing”(1th ed). New Delhi: Elsevier Publisher.
2. David E Carney DE, Meguid MM : “Current concepts in nutritional assessment archives of surgery” 2002; 137: 42-45.
3. Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M, Ezzati “Maternal & child under nutrition: global and regional exposures and health consequences.” Indian journal of paediatrics 2008, 371(9608):243-260.
4. Catharine mach aria,, “Department of community RCH services and its utilization,” RGUHS, Bangalore, journal of Indian paediatrics 2002, Volume : 11, Issue : 5, Page : 25-27
5. N. Khadaka, Milind Anil Mehta, Vijay Yashpal Bhatia, Buddhi Prakash Sharma, “A study of nutritional status in pre-school age group”, 2011 American journal of paediatrics, Volume : 21, Issue : 1, Page : 55-57
6. Priyanka chakrabarty, Milind Anil Mehta, Vijay Yashpal Bhatia, Buddhi Prakash Sharma, “A study of nutritional assessment in pediatric age group”, Indian Journal of nutrition, Year 2011, Volume 21, Issue 1, p. 55-57.
7. Rajaram , OO Oludiran, PFA Umebese, “Pattern and outcome of children admitted for malnutrition” in Benin City, mid-western Nigeria, Indian Journal of nutrition, Year 2003, Volume 42, Issue 2 , p. 189-193
8. Shibu lal, Gwen R. Rempel, Vinitha Ravindran, Linda Ogilvie, “Malnourished children in India: A grounded theory”, 24 June 2013, Indian journal of paediatrics P109-115.