



AN EXPLORATORY STUDY ON THE PREVALENCE AND FACTORS CONTRIBUTING TO MALNUTRITION AMONG CHILDREN (1 TO 5 YEARS) IN A SELECTED RURAL AREA OF DISTRICT SANGRUR, PUNJAB

*¹Parmjit Kaur and ²Dr. Parampal Kaur Cheema

¹Nursing Lecturer (Community Health Nursing), Life Guard Nursing Institute, Sangrur
²Principal, Swami Premanand College of Nursing Mukerian, Hoshiarpur

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ABSTRACT

Malnutrition has been defined as a pathological condition resulting from a relative or absolute deficiency or excess of one or more nutrients. Malnutrition continues to be a growing problem in most developing countries. It comprises of four forms – under-nutrition, over-nutrition, imbalance and specific deficiency. **Objectives:** To assess the prevalence of malnutrition among children. To assess factors contributing to malnutrition among children. To find out association of prevalence of malnutrition with factors contributing to malnutrition. To find out association of prevalence of malnutrition with selected demographic characteristics. To prepare and provide IEC material in the form of pamphlets regarding prevention of malnutrition. **Methodology:** An exploratory research design, total 300 children, Convenience sampling technique was adopted to recruit study sample and checklist is used to assess factors contributing to malnutrition. **Findings of the study:** Findings of the study depicts that among 300 children, 216 (72%) children had normal nutritional status and 84(28%) children were malnourished. In the malnourished children, 18(6%) were grade I, 23(7.67%) were grade II, 16(5.33%) were grade III and 27(9%) were grade IV malnourished. **Conclusion:** The study concluded that 28% of children were malnourished as per WHO child growth standards.

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INTRODUCTION

It is essential for life, growth and repair of human body, regulation of body mechanisms and production of energy. The above functions of food can be achieved only through adequate nutrition that should consist of essential nutrients and in the required proportion (Sohi Darshan, 2010). Nutrition may be defined as the science of food and its relationship to health. Good nutrition means maintaining a nutritional status that enables us to grow well and enjoy good health. Good nutrition helps to prevent acute and chronic illness, to develop physical and mental potential and to provide reserves for stress (Richard, 2000). Food consists of various organic and inorganic complexes known as nutrients. Any imbalance of nutrients either in excess or in deficiency can lead to malnutrition.

*Corresponding author: Parmjit Kaur,
Nursing Lecturer (Community Health Nursing), Life Guard Nursing Institute, Sangrur

Malnutrition has been defined as a pathological condition resulting from a relative or absolute deficiency or excess of one or more nutrients (Dorothy, 2001). Malnutrition continues to be a growing problem in most developing countries (Devi, 1994). It comprises of four forms – under-nutrition, over-nutrition, imbalance and specific deficiency. This study will focus only on under-nutrition and over-nutrition. Malnutrition increases the economic burden of a society because it leads to increased risk of death from infectious diseases, more severe infections (Chen, 1980), and higher case fatalities creating an additional psychological burden (Bardosono, 2007).

MATERIAL AND METHODS

Research Design: An exploratory research design was used to plan and organize the present study. Designing a research study involved the development of a plan or strategy that will guide in the analysis of Data.

Demographic variables: Age, no of siblings, no of siblings below five year, education of mother, occupation of mother, education of father, occupation of father, type of family, dietary habits, livestock in the house, housing facilities like type of house, source of drinking water, type of toilet facility, hand washing material used.

Research and description of the field of the study: The present study was conducted in the Civil Hospital, Sangrur, Punjab. It is Government hospital having bed strength of 100 beds. The study sample was selected from the practice area of community health nursing i.e. rural health centre, Bhawanigarh which is 10 km away from Civil Hospital. The total population covered by RHC is 34000. The field practice area is composed of 16 villages where home based comprehensible health care is provided. Then sample was selected from all these villages according to the inclusion criteria. In these areas research study was conducted among children (1-5 years). The purpose of selecting these areas was investigator's convenience, feasibility, proximity and expected co-operation from the family members in getting permission and conduction of the study.

Research Setting: The present study was conducted in selected rural field area of department community medicine Civil Hospital, Bhawanigarh, District Sangrur, Punjab.

Target Population: The target population was children in age group 1 to 5 years, residing in rural area under rural health centre of Civil Hospital, Sangrur.

Sample and sampling technique

Sample size: Total 300 children in age group 1 to 5 years from selected rural area of district Sangrur was taken as a sample.

Sampling Technique: Convenience sampling technique was adopted to recruit study sample.

Inclusion and Exclusion criteria

Inclusion Criteria

- Children in the age group of 1 to 5 years
- Mothers of children residing in the selected rural area of district Sangrur

Exclusion Criteria

- Child having any physical illness or disability.
- Child having any chronic disease.
- Child with any congenital anomalies.
- Subjects not willing to participate.

Selection and Development of research tool(s): The most important and indispensable part of conducting study is to collect the relevant data to answer the queries in research problem statement. Thus, an extensive literature review was done to gain insight through topic and also consultation with the experts was done. Besides this, experts from the nursing field, nursing research was consulted to construct appropriate tool for the purpose of data collection.

Description of research tool(s): Tool is divided into three parts:

Part A

Socio-biodemographic profile

- a) Height and weight of the child
- b) Socio-demographic profile

Part B

Checklist to assess factors contributing to malnutrition.

Part A

This part is divided into two parts:

First part consists of taking weight and height of the child, then computing weight for age, height for age and weight for height and comparing it with WHO child growth standards.

Second part consists of 14 items for obtaining personal information i.e. age, education of mother, education of father, occupation of mother, occupation of father, religion, dietary habits, type of family, number of siblings, no of under-five siblings, socio-economic scale (as per MUAP), type of house, source of drinking water, material used to wash hands after defecation.

Part B

This part consists of 14 items to assess the factors contributing to malnutrition. Items are rated as 'yes' or 'no' for the presence or absence of factors.

Validity of the Tool

It was determined by expert's opinion and suggestions on the relevance of items. A tool was given to experts from different specialties. The expert's suggestions were considered and modifications were made.

Reliability of the Tools

It was determined by test re-test method. Reliability coefficient was found to be $r=0.82$ for checklist. These values are very high. So, based upon statistical criteria, the tool was considered to be reliable, which was calculated using Pearson's correlation coefficient(r). Pilot study was conducted to ensure the reliability of the tool and feasibility of the study. A pilot study was conducted on 30 children in 1-5 years of age in selected rural area. Data was collected by interview schedule. The time taken by each subject was an average 10-15 minutes.

Data Collection Procedure: The investigator firstly introduced her to the subjects and explained about the purpose of gathering information, importance and nature of the study. Firstly, investigator chooses the area and then selected houses by convenience sampling technique. The researchers introduced herself to the subject(s) and then explained about the purpose of gathering information, importance and the nature of the study and take the verbal consent and make assure to maintain confidentiality about their information.

Technique of taking weight and height measurement: Height was taken using a measuring tape. Children were made to stand upright barefooted against a wall with heels, back and

head touching the wall and the chin held horizontally so that the tragus of the ear and the eye are in a straight line. Then the scale was adjusted and the height in cm was read. Weight of children was taken using digital portable weighing machine. The children were asked to stand upright with light clothing and barefooted on the weighing machine looking straight while the measurement was read. Measurements were compared with WHO child growth standards to identify malnutrition.

RESULTS AND DISCUSSION

23(27.3%) malnourished children belonged to the age-group of 1 and 2 years, same number of children 42(50%) were males and females and half 43(51.9%) children had one sibling. Similar study was conducted by Sengupta Paramita et al on 1450 children and findings indicate that 108(54%) malnourished children were males, 50 (25%) in the age –group of 48-59 months and 124(62%) had 1-2 siblings. 38(45.7%) mothers of malnourished children were educated upto elementary level, 57(66.7%) mothers were non-working. 104(34.6%) fathers of malnourished children were educated upto secondary level, 36(42.8%) fathers were having agriculture as their occupation. More than half of the children 45(54.3%) were from joint family and 47(58%) were from middle socio-economic status. In a similar study conducted by Sengupta Paramita et al reveals that 94(47%) mothers of malnourished children were educated upto high school and above, 117(58%) fathers were skilled labourers and 159(79.5%) malnourished children belonged to joint families. In the malnourished children, 18(6%) were grade I, 23(7.67%) were grade II, 16(5.335) were grade III and 27(9%) were grade IV malnourished. So by the above data it can be concluded that 28% of children were malnourished as per WHO child growth standards.

Conclusion

The present study was conducted among 300 children in the age-group of 1 to 5 years in a rural area, Pohir of District Sangrur and it has been concluded that the prevalence of malnutrition among children was 28%. 26.7% children were under-nourished and 1.3% were over-nourished.

More number of malnourished children was in age-group of 1 and 2 years, belonged to Sikh religion, born as a second child in the family, mother's had education upto elementary level and were non-working, labourer father and educated upto secondary level, middle socio-economic status, live in a semi-concrete houses and had tap water as the source of drinking water. Mother's education, occupation of father, number of siblings below the age of five years and socio-economic status had significant impact on malnutrition. Most occurring contributory factor of malnutrition were inadequate dietary intake followed by mother had birth interval of less than 24 months and mother is under-weight.

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