

“A Comparative Study to Assess the Prevalence of Malnutrition and its Related factors among Under Five Children in Selected Rural and Urban Areas of District Jalandhar, Punjab, 2019.”

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Abstract- Children are most vulnerable to malnutrition in developing countries because of low dietary intakes, lack of appropriate care, and inequitable distribution of food within the household. Malnutrition remains one of the most common causes of morbidity and mortality among children throughout the world. Investigator plan to do comparative research to assess the prevalence of malnutrition and its related factors among under five years children in selected rural and urban areas of district Jalandhar. The sample size will be approximately 200 and will be selected by purposive sampling technique. The pilot study is conducted 10% sample from urban areas and 10% sample from rural areas. Data is collected by using the assessment scale, analyzed by descriptive and inferential statistics. Conclusion and discussion are made according to the finding of the study.

Aim: The aim of the study is to compare the prevalence of malnutrition and identify the related factors among under five children in rural and urban areas of district Jalandhar, Punjab.

Conclusion: The result of the present study reveals that out of 100 children 62 (62%) of children were healthy, 23 (23%) children were suffering from mild malnutrition, 11 (11%) children were suffering from moderate malnutrition, and 4 (4%) children had severe malnutrition. whereas in urban areas, out of 100 children, 81 (81%) children were healthy, 10 (10%) children were suffering from mild malnutrition, 8 (8%) children were suffering from moderate malnutrition, and 1 (1%) child had severe malnutrition.

The prevalence of malnutrition is more common in rural areas as compare to the urban areas.

Index Terms- Prevalence, Malnutrition, Related factors, Under five children, Rural area, Urban area.

I. INTRODUCTION

“**H**ealth is wealth and let our under five children enjoy good health with good nutrition, better health with better nutrition and best health with best nutrition.”

Nutrition may be defined as science of food and relationship to health. it is concerned primarily with the part played by the nutrients in the body growth, development and maintenance¹. One cannot visualize good health without nutritious

food and balanced diet. Children are the precious possession of the family, community, and country. A child is precious and beautiful source of joy and happiness, focus of love and care, subject of dreams for the future. Children represent the wealth of the country. A nation is built on the bricks of today’s children. Children are an inheritance from god. They are like clay in the potter’s hand. Handled with love and care, they become something beautiful or else they break or discovered. So, the child’s health is the corner stone of a national progress¹

Children of today are tomorrow’s citizen; thus, it is extremely important to ensure good health for children. The first 5 years of life constitutes the most crucial span in life. At this stage life, the foundation is laid for mental, physical and social development. The growth of any country is depending on the availability of healthy human resource. Development of healthy child is influenced by many factors. Under five children are the most vulnerable groups who are prone to many infective disease and nutritional deficiencies. Proteins are very important for growth and development, wear and tear of tissue repair and maintenance, formation of immune bodies, enzymes and hormones. Proteins also act as sources of energy when consumed in excess of body need. Protein sources are basically classified as animal source (e.g.: cheese, milk, liver, fish, meat and eggs) plant sources (e.g.: pulses, nuts, beans and soya beans). Conventional sources (e.g.: oil seeds, cakes, sea weeds).²

Good nutrition is the basic component of growth and development for maintenance of health throughout life. “nutrition is defined as combination of dynamic process by which the consumed food is utilized for nourishment, structural and functional efficiency of every cell of the body.” Under five children require balanced nutrition to become healthy for national growth and economic development.³

Protein comes from the Greek word meaning “to take first place.” Proteins are the chief substances in the cells of the body, they are composed of carbon, hydrogen, oxygen and nitrogen. Some proteins also contain Sulphur, phosphorus and other elements. Proteins are made up to simpler substances called amino acids classified as essential and non-essential amino acids. It is essential for building of body tissues for growth, maintenance and repair.⁴

Nutrition in early childhood can have lifelong implications. It is important to develop healthy eating practices in childhood to

prevent or delay the development of lifestyle related diseases. Caregivers of this age must receive the best information and resources available. The health and nutrition of the children need protection in order to ensure sound foundation and secure the future of any society. In India, there are 53% of under five children in which 67% million – live without basic healthcare facilities. This means that India alone accounts for about one-third of all children in the world aged below five who don't have basic health care⁵.

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.⁶

Malnutrition is the most widespread condition affecting the health of children. Scarcity of suitable foods, lack of purchasing power of the family as well as traditional beliefs and taboos about what the baby should eat, often lead to an insufficient balanced diet, resulting in malnutrition. Malnutrition makes the child more susceptible to infection, recovery is slower and mortality is higher.⁷ Undernourished children do not grow to their full potential of physical and mental abilities. Malnutrition in infancy and child hood leads to stunted growth. It also manifests by clinical signs of micronutrient and vitamin deficiencies. Prevention and appropriate treatment of diarrhea, measles and other infections in infancy and early child hood are important to reduce malnutrition rates as infection and malnutrition often makes vicious cycle.⁸

The protein requirement depends upon the age, sex, physical, physiological and other factors. ICMR 1981 recommended 1.83 gm per kg of body weight of protein up to 1-3 years and 1.56 gm per kg of body weight of up to 4-5 years, i.e. 22 gm and 29 gm of total requirement respectively. For infants 2.3gm per kg up to 3 months, 1.8gm per kg up to 3-9 months, 1.5 gm up to 9-12 months is the daily recommended protein allowance. The mental and social development of the child is dependent on the mother. The mother is the first teacher of the child, and that is why the mother and child are treated as one unit.⁹

Weaning is gradual process started at 4-5 months of age. If supplemented by suitable foods rich in protein and other nutrient can improve the immunity, help in growth and development. By the age of one year, the child should receive solid foods consisting of cereals, pulses, vegetables and fruits.¹⁰

Protein energy malnutrition (PEM) has been identified as a major health and nutritional problem in India. In India 99% of malnutrition cases are mild to moderate type. Severe form of PEM is only one percent. The types of PEM are kwashiorkor and marasmus. Some children eat enough food, but it is the wrong kind Of food (i.e. Very less protein and less calories), these children will get kwashiorkor. Other children eat very little food (i.e., very less protein and very less calories). These children will get marasmus. So, marasmus is seen in children of "food gap" (deficient in both calories and proteins).¹¹

Recent data from the WHO, had reported that about 60% of all deaths, occurring among children aged less than five years in developing countries, could be attributed to malnutrition. It has been estimated that nearly 50.6 million under five children were

malnourished and almost 90% of these children were from developing countries.¹²

A vast majority of the children suffering from mild to moderate forms of malnutrition remain hidden in the community. PEM results from the interaction of several factors among which two are more or less directly responsible for the disease. First quantitatively insufficient and qualitatively inadequate dietary intake, second infections processes such as gastrointestinal, respiratory infections and other infectious diseases of childhood. Infections experienced by children during first year of life represent the major factor in protein energy malnutrition. In child hood infections especially, measles was traced in more than half of the children. Similar observation concerning of precipitating effect of infections processes such as measles, germs measles, whooping cough, primary tuberculosis and malaria have been seen.¹³

Infants and children under five are the most vulnerable group. They are seriously affected by deficiency of protein. Serious complications of advanced protein energy malnutrition (PEM) can happen leading to superadded overt and hidden infections like septicemia, pneumonia, diarrhea, pyoderma, scabies, urinary tract infection and tuberculosis infection. Mothers are the most wondrous care givers who nurture their kids. Thus, they play a prime role in providing nutrition. So, they should have adequate knowledge of protein's significance in diet of under five children.

The nurse plays an important role in educating the mothers of under five children about significance of protein in daily diet. Ongoing health education and reinforcement while monitoring to reduce protein deficiency is an important challenge for nurses. Education of mothers is the process of assistance to learn and incorporate healthy eating behaviors in everyday life. Providing sound and sincere advice regarding the measures to take adequate protein will provide health promotion positively.

II. MATERIAL AND METHOD

Study design and sample

A comparative research design was undertaken in the present study. Sample comprised 200 children were selected for the study 100 under five children from rural areas and 100 under five children from urban areas to assess the prevalence of malnutrition among under five children and its related factors. Purposive sampling technique was used to select the study sample.

Data collection and study tool

A tool is a vehicle that could obtain data pertinent to the study and at the same time adds to the body of general knowledge in the discipline. Extensive review of literature from books, journals, internet and expert's opinion by their professional and personal experience provided foundation for the construction of the tool. Socio-demographic variables were selected for obtaining personal information, Assessment scale and self-structured checklist was prepared for data collection according to objectives of the study.

SECTION-1

Finding related to distribution of Socio-demographic variables

Table-1 Frequency and percentage distribution of children according to socio-demographic variables in selected rural and urban areas.

S. No	Socio Demographic Variables	N=200			
		Frequency	Percentage	Frequency	Percentage
		Rural (n=100)		Urban (n=100)	
1) Age of the child (in years)					
a)	< 1 year	11	11%	6	6%
b)	1 to 2 years	19	19%	29	29%
c)	2 to 3 years	20	20%	19	19 %
d)	3 to 4 years	24	24%	15	15%
e)	4 to 5 years	26	26%	31	31%
2) Gender of child					
a)	Male	44	44%	53	53%
b)	Female	56	56%	47	47%
3) Birth weight of the child					
a)	< 2 kg	6	6%	1	1%
b)	2 - 2.5 kg	42	42%	35	35%
c)	2.6 - 3 kg	44	44%	49	49%
d)	> 3 kg	8	8%	15	15%
4) Qualification of father					
a)	No formal education	50	50%	12	12%
b)	Primary	30	30%	24	24%
c)	Secondary	17	17%	37	37%
d)	Graduate and above	3	3%	27	27%
5) Qualification of mother					
a)	No formal education	38	38%	11	11%
b)	Primary	40	40%	45	45%
c)	Secondary	19	19%	28	28%
d)	Graduate and above	3	3%	16	16%
6) Occupation of father					
a)	Private sector	60	60%	38	38%
b)	Government sector	10	10%	23	23%
c)	Unemployed	0	0%	0	0%
d)	Self-employed	30	30%	39	39%
7) Occupation of mother					
a)	House wife	77	77%	36	36%
b)	Private sector	0	0%	16	16%
c)	Government sector	2	2%	10	10%
d)	Self-employed	21	21%	38	38%
8) Monthly family income (in Rupees)					
a)	≤ 10000	70	70%	22	22%
b)	10001 – 20000	24	24%	52	52%
c)	20001 – 30000	4	4%	7	7%
d)	≥ 30001	2	2%	19	19%
9) Religion					
a)	Sikh	16	16%	25	25%
b)	Hindu	82	82%	75	75%
c)	Muslim	0	0%	0	0%
d)	Christian	2	2%	0	0%
10) Area of residence					
a)	Urban	0	0%	100	100%

b) Rural	100	100%	0	0%
11) Type of family				
a) Nuclear	30	30%	45	45%
b) Joint		64	64%	55
c) Extended	6	6%	0	0%
12) Dietary habit				
a) Vegetarian		47	47%	42
b) Non-vegetarian	53	53%	58	58%

Frequency and percentage distribution of prevalence of malnutrition among under five children in selected rural and urban areas.

GRADE	RURAL		URBAN	
	f	%	f	%
Healthy	62	62%	81	81%
Mild	23	23%	10	10%
Moderate	11	11%	8	8%
Severe	4	4%	1	1%

Comparison of prevalence of malnutrition among under five children in selected rural and urban areas of Jalandhar. Table Showing frequency percentage of Level of Score of rural and urban areas.

MALNUTRITION SCORE	RURAL (100)		URBAN (100)	
	f	%	f	%
HEALTHY (19-24)	62	62%	81	81%
MILD (13-18)	23	23%	10	10%
MODERATE (7-12)	11	11%	8	8%
SEVERE (0-6)	4	4%	1	1%

Maximum = 24

Minimum = 0

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