

## An exploratory study to assess the prevalence and degree of malnutrition among under five children

Arun Kumar Jindal<sup>1,\*</sup>, Tajinder Kaur<sup>2</sup>, Ravinder Kaur<sup>3</sup>

<sup>1</sup>Principal, <sup>2</sup>Associated Professor, <sup>3</sup>Msc Nursing Student, <sup>1-3</sup>Maharaja Agrasen College of Nursing MAMC Agroha Hisar, Haryana, India

\*Corresponding Author: Arun Kumar Jindal

Email: arunkjindal007@gmail.com

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### Abstract

An exploratory study was conducted to assess the prevalence and degree of malnutrition among under five children in slum area. Lack of basic amenities like safe drinking water, proper housing, drainage and excreta disposal make this population more vulnerable to infections which further compromises the nutrition of those who are living in the slums. Under five children of slum area was selected through convenient sampling technique. Measurement of weight by using the weighing scale was done. The value of weight were compared with growth chart (Indian academy of pediatrics) to find out degree of malnutrition. Analysis was done by using percentage, mean, standard deviation and 't' test. Result reveals that total 47% children found to be malnourished in which 22% children suffered with 1<sup>st</sup> degree malnutrition, 18% children with 2<sup>nd</sup> degree malnutrition, 5% children with 3<sup>rd</sup> degree malnutrition and 2% with 4<sup>th</sup> degree malnutrition.

**Keywords:** Slums, Malnutrition, Degree, Under Five Children.

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### Objectives

1. To assess the prevalence and degree of malnutrition among children.
2. To assess the degree of malnutrition among children with selected variables.
3. To find the relationship of degree of malnutrition with selected variables
4. To prepare a pamphlet on nutritional diet.

### Materials and Methods

An exploratory research approach were selected to conduct study on prevalence and degree of malnutrition among children at slum area, sunder Nagar, Hoshiarpur (Punjab) by using convenient sampling technique. The target population was under five children. The sample size was 100 children. Data was collected by using the weighing scale.

### Tool for Data Collection

#### Section 1

it Consist of demographic data which include variables such as age, family income, no. of siblings, type of family, type of diet, father's education, mother's education.

#### Section 2

It contains measurements of weight of children under five years by using weighing scale. The values of weight of children were compared with growth chart (Indian Academy of Pediatrics) to find out degree of malnutrition.

### Criterion Measurement

#### Classification according to indian academy of pediatrics.

The growth chart recommended by Indian Academy of pediatrics shows four degree of malnutrition Normal >80  
1<sup>st</sup> degree (grade 1) 70-80

2<sup>nd</sup> degree (grade 2) 60-70

3<sup>rd</sup> degree (grade 3) 50-60

4<sup>th</sup> degree (grade 4) <50

### Data Collection Procedure

A standardized tool was used to collect data to assess the prevalence and degree of malnutrition. Tool is recommended by Indian Academy of Pediatrics road to health chart in which weight was checked.

Before commencing the task of data collection written permission was obtained from selected hospitals. Purpose of the study was discussed with officials. With the help of health workers appointed by hospitals, the survey was conducted in the slum area. Door to Door survey was carried over. During the survey the children under five years of age were selected for the study by using convenient sampling technique. The data was collected by measuring the weight of children by weighing scale.

### Data Analysis

The analyzed data was organized according to the objective and presented under the following heading

#### Section 1

This section consist of demographic data

#### Section 2

It contains measurements of weight of children under five years by using weighing scale. The values of weight of children were compared with growth chart (Indian Academy of Pediatrics) to find out degree of malnutrition.

Percentage Distribution of Sample Characteristics

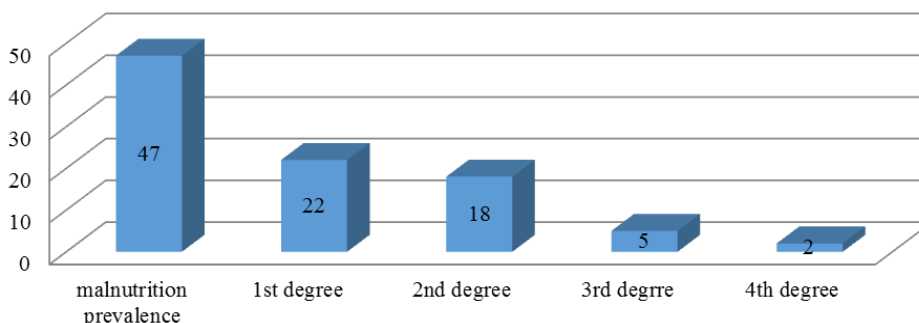
**Table 1: Frequency and percentage distribution N=100**

Characteristics	Frequency	Percentage
<b>Age(years)</b>		
0-1	17	17
1.1-2	28	28
2.1-3	21	21
3.1-4	16	16
4.1-5	18	18
<b>Sex</b>		
Male	60	60
Female	40	40
<b>Family Income (Monthly)</b>		
501-1000	2	2
1001-1500	53	53
1501-2000	33	33
2001-2500	6	6
2501-3000	6	6
<b>No. of siblings</b>		
One	18	18
Two	29	29
Three	24	24
Four	29	29
<b>Type of Family</b>		
Nuclear	15	15
Joint	85	85
<b>Type of Diet</b>		
Vegetarian	26	26
Non vegetarian	74	74
<b>Father's Education</b>		
Primary	52	52
Middle	35	35
Matric	10	10
10+2 & above	3	3
<b>Mother's Education</b>		
Primary	80	80
Middle	13	13
Matric	5	5
10+2 & above	2	2

Prevalence and degree of malnutrition among children

**Table 2: Percentage distribution of degree of malnutrition among children N=100**

	Prevalence	1 <sup>st</sup> Degree	2 <sup>nd</sup> Degree	3 <sup>rd</sup> Degree	4 <sup>th</sup> Degree
Total	N%	N%	N%	N%	N%
100	47 47	22 47	18 38	5 11	2 4.0



**Fig. 1: Prevalence and degree of malnutrition among children**

## Results

Result reveals that total 47% children found to be malnourished in which 22% children suffered with 1st degree malnutrition, 18% children with 2nd degree malnutrition, 5% children with 3rd degree malnutrition and 2% with 4th degree malnutrition.

Majority of male children were suffered with malnutrition, there number was 27, 25.9% were suffered with 2<sup>nd</sup> degree malnutrition and 18.5% with 3<sup>rd</sup> degree and 7.40% were suffered with 4<sup>th</sup> degree of malnutrition. 20 female children were suffered with malnutrition, 45% were suffered with 1<sup>st</sup> degree, 55% were suffered with 2<sup>nd</sup> degree and no female child was suffered with 3<sup>rd</sup> and 4<sup>th</sup> degree if malnutrition

The families whose family income was between 1001-2000 they have 14% of 1<sup>st</sup> degree, 66% of 2<sup>nd</sup> degree, 60% of 3<sup>rd</sup> degree and 1% of 4<sup>th</sup> degree children were suffered with malnutrition.

The children who have two siblings majority of them suffered with malnutrition. Their percentage were 36.3% of 1<sup>st</sup> degree, 28% were suffered with 2<sup>nd</sup> degree, 80% with 3<sup>rd</sup> degree and 1% with 4<sup>th</sup> degree malnutrition

The children who belongs to joint families, most of them were suffered with malnutrition. Their percentage was 95.5% with 1<sup>st</sup> degree, 94.5% with 2<sup>nd</sup> degree, 80% with 3<sup>rd</sup> degree, 50% with 4<sup>th</sup> degree of malnutrition.

Most of non-vegetarian children were suffered with the malnutrition. 77.3% were suffered with 1<sup>st</sup> degree, 72% suffered with 2<sup>nd</sup> degree, 60% suffered with 3<sup>rd</sup> degree and 1% suffered with 4<sup>th</sup> degree of malnutrition.

The highest mean score in the age group was 12.5 and least mean score was 2.99. The degree of malnutrition which was highly significant at  $P < 0.001$  at all age level, significant at  $P < 0.01$  in the age group of 1.1-2 years in 3<sup>rd</sup> and 4<sup>th</sup> degree of malnutrition. It depicts that there is impact of age on the malnutrition.

The highest mean score in the sex was 10.42 and least mean score was 2.45. The degree of malnutrition was significant at  $P < 0.05$  in both sexes. So it revealed that sex has close relation with degree of malnutrition.

The highest mean score of the family income was 11.16 and lowest mean score was 2.45. The degree of malnutrition was highly significant at  $P < 0.001$  level in the family income. Of 1500-2000 and significant at  $P < 0.01$  level in the family income of 2501-3000. Therefore it shows that family income has impact on degree of malnutrition

The highest mean score in the number of sibling was 11.5 and least mean score was 2.45. The degree of malnutrition was highly significant at  $P < 0.001$  in the no. of children having more than 3 siblings and only significant at  $P < 0.05$  in the number of one sibling.

The highest mean score in type of family was 10.49 and least mean score was 1.9. The degree of malnutrition was significant at  $P < 0.01$  and only significant at  $P < 0.05$  in both nuclear and joint family.

The highest mean score in type of diet was 10.8 and least mean score was 2.45. The degree of malnutrition was non-significant in both vegetarian and non-vegetarian.

Therefore it shows that type of diet has no impact on degree of malnutrition.

The highest mean score of father's education was 11 and lowest mean score was 1.9. The degree of malnutrition was highly significant at  $P < 0.001$  at the primary standard of education of the father and significant at  $P < 0.01$  at the 10+2 and above standard of education and only significant at  $P < 0.05$  at middle standard of education of fathers. It shows that there is effect of fathers education on degree of malnutrition

The highest mean score of mother's education was 13 and lowest mean score was 2.45. The degree of malnutrition was significant at  $P < 0.01$  at the primary standard of education and only significant at  $P < 0.05$  at the middle and 10+2 and above standard of education

## Discussion

The finding of the study have been discussed in accordance with the objective of the research. The analysis of data regarding the first objective reveals that out of 100 samples in the slum area under five years, 47 children are found to be malnourished. Under the second objective maximum male children i.e. 60 and 40% female children were suffered with malnutrition. Researcher have found that children belong to nuclear family, they have higher percentage of malnourished children in 3<sup>rd</sup> and 4<sup>th</sup> degree. According to family income the study showed that the families with income 1500-2000, they had more malnourished children than the other families. The child who had more than two siblings, they were suffered with malnutrition than the children who had one siblings. The study showed that the mother's having lower standard of education, they have 80% malnourished children than the mother having education 10+2 and above. According to 3<sup>rd</sup> objective the study showed that the selection of different variables in the study they had strongly impact on malnutrition. Especially age, sex, family income, no. of siblings, father's education and mother's education were directly proportion to degree of malnutrition.

**Conflict of Interest:** None.

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