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A Study on environmental factors associate with Malnourished Condition in rural areas of Lucknow District

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ABSTRACT
Malnutrition among under five- year children is an important concern for the health authorities in India. Infection and other environmental barriers were play a vital role in causing malnutrition and continues to be a primary cause of ill health and mortality among children. In many cases, family environment and surrounding sanitation and hygiene can be particularly attributed to malnourishment conditionFirst objective was to know the demographic profile of the study subject. Second objective was to associate environmental factors with malnutrition condition. The study is carried out for a period of 9 months. Across Sectional study deigned were used for collected data. Total 7 to analyze the nutritional status and food consumption pattern of children.

Keywords: Malnourished,Children, Underweight, Anthropometric measurement, Deficiency, Nutritional status.

I. INTRODUCTION

Malnutrition among under-five children is a major public health problem in India. This is reflected by the fact that the prevalence of under-weight children in India is among the highest in the world, and is nearly double that of Sub Saharan Africa. It is also observed that the malnutrition problem in India is a concentrated phenomenon that is, a relatively small number of states, districts, and villages account for a large share of the malnutrition burden — only 5 states and 50% of villages account for about 80% of the malnutrition burden approximately 2.3 million deaths among 6-60 malnutrition months aged children in developing countries are associated with malnutrition, which is about 41% of the total deaths in this age group. recent study, among children aged between 3 months and 3 years of age conducted in 130 districts through Demographic and Health Surveys in 53 countries over a period from 1986 to 2006 found that - variance in mild under-weight has a larger and more robust correlation with child mortality than the variance in severe under-weight The study concluded that the prevalence of mild under-weight deserves greater attention as a useful signal of changing public health conditions among preschool children in developing countries Therefore, it is important for the health system to detect malnutrition at an early stage for planning and implementing timing interventions at the community level .[1]

UNICEF in the year 2006 reported the causes of childhood malnutrition as insufficient diet, frequent infections, poor breastfeeding practices, delayed introduction of complementary foods and inadequate protein in the diet. Other factors that influence food intake include health status, food taboos, growth and personal choice related to diet. Malnutrition can also develop due to neglect, abnormal mealtimes, insufficient quantities of food and insufficient parental knowledge [2].

Three important indicators used in estimating malnutrition are stunning (low height for age), wasting (low weight for height), and underweight (low weight for age). According to a UNICEF report in 2014, the prevalence of underweight, stunning, and wasting in the world was 15%, 25%, and 8%, respectively. The statistics for Iran, according to the latest national study (Demographic and Health Survey, 2010), were 4.08%, 6.83%, and 4%, respectively.In 2012, the World Health Assembly approved a resolution on a comprehensive maternal and child nutrition plan, including six global nutritional goals for 2025. The goals included a 40% reduction of the global number of children under five who are stunted, a 50% reduction of anemia in women of reproductive age, a 30% reduction of low birth weight, no

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increase in childhood overweight, an increase in the rate of exclusive breastfeeding in the first six months up to at least 50%, and finally, reduction and maintenance of childhood wasting to less than 5% Worldwide reports on stunting show that the number of children with a short stature during reduced from 255 million to 159 million from 1990 to 2014 . In developing countries, it is estimated that the prevalence of nutritional stunting in children will decrease from 29.8% in 2000 to 16.3% in 2020 [3].

Death in children constitute more than 34% of total deaths in India. Seven out of ten of these deaths are due to respiratory infection, diarrhea and malnutrition. There is high under five morbidity and mortality in India. Protein energy malnutrition is major contributory factor in majority of these childhood morbidities and mortalities.[4].

Globally, more than three million children under five year of age die each year from environmental related causes and condition. This makes the environment one of the most critical contributors to the global toll of more than ten million child deaths annually as well as a very important factors in the health and well-being of there mothers. Acute respiratory infection annually kills an estimated 1.6 million children under the age of five. As much as 60 percent of acute respiratory infections worldwide are related to environmental condition. Diarrhoeal diseases claim the lives of nearly 1.5 million children every year. 80 to 90 percent of these diarrhoea cases are related to environmental condition, in particular, contamination water and inadequate sanitation. In India children living in families who accessed drinking water from a safe source were less likely to die as compared to those who accessed drinking water from an unsafe source. Similarly, children living in families with access to an improved toilet were less likely to die as compared to those who do not have such an access. A study to access nutritional status of under five-year children and environmental factors influencing the nutritional status was planned in rural area of Ambala district, Haryana [5]

II. MATERIAL AND METHOD

The present study was conducted theself-constructedquestionnaire was toused tocollect the information regarding general profile, anthropometric measurement status and dietary intake.

Area of the study/Local of the study:

The present study was carried out in Indra Nager and south city area of Lucknow, Utter Pradesh.

Period of study:

The present study was complete during the extent of August 2021- May 2022. The total length of the study was divided into

1) August 2021: Plan of the study
2) December 2021: Data collection & Analysis
3) May 2022: Documentation

Study design:

A study design is the architecture of any study and a description of how the study was collected. The present study was carried out by Cross Sectional Study.

Sampling:

Any research work has sampling procedure to conduct the research work. Sampling consists of sample (which is representative of the whole population) and sampling technique (step by step procedure of find out the sample from the total population).

Study subject:

The present study was conducted among the malnourish children of age group under five year of locality of Indra Nagar and South City in Lucknow city Utter Pradesh.

Sampling size:

This sample has done in the Lucknow district of India. The random sampling used to decide the total number of samples :70. Based on probability proportion to the children size. Because of single investigator sample size limit up to70 in February. However, processor is same.

Sample techniques:

The present study was selected by using multi stage Random Sampling.

Tools and Techniques:

A tool is a device or computer application that enables us to do something. A technique is a process or procedure that we follow. Tools and techniques in research are the statistical methods of collection, analysis, interpretation and organization of data. Statistics provides numerous tools and techniques to analyse the data and interpret the results of the analysis.

Tools:

Predesigned and pretested questionnaire was used as a tool for the present study. In first part of the questionnaire general information of the respondents and type of malnourish children they are recorded and the second part consisted of the socioeconomic statusin children. And third part consisted of the specific information in children to control the malnourish condition.

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Techniques:

The present study was done by using structured interview method. The questionnaire was filled by malnourish children of the selected locality belonging to under five year of age group. The questionnaire had a set of 20 questions. The questionnaire consisted of statements aimed to elicit different dimensions of respondent's for knowing the malnourish children and how they are controlling the malnutrition by different practices.

Data Analysis:

In this study, descriptive statistics such as graphs, percentages were used to illustrate the response of malnourish children knowledge regarding prevailing practices for malnutritionlevel control. The results were presented in graphs and percentages.

III. RESULT AND DISCUSSION:

Anthropometric survey

Nutritional status of the children was assessed by anthropometric measurements. Under nutrition that is wasting and stunted were identified according to water low, s classification. Nutritional status of the selectedby measuring body heights (cm)and weight (kg). Arm and head circumference were also measured.

Interpretation of Indicators

$$\text{Weight/height (\%)} = \frac{\text{weight of child x 100}}{\text{Weight of normal child at same height}}$$

$$\text{Height/age (\%)} = \frac{\text{Height of child x 100}}{\text{Height of normal child at same height}}$$

Water Low Classification	Weight for Height (wasting)	Height for Age (stunting)
Normal	>90	> 95
Mild	80-90	90-95
Moderate	70-80	85-90
Severe	< 70	< 85

Height and weight measurement

Height each of subject was measured in a standing position to the nearest 0.1 cm using non stretchable steel tape. A weighing machine was used to measured body weight to the nearest of 0.5 kg. The individual was kept with minimum clothing and without shoes.

Distribution of the sample according to their nutritional status

ATTRIBUTES		FREQUENCY (%)
WEIGHT FOR AGE (STUNTED)	Normal	14
	Mild	10
	Moderate	14
	Severe	2
	Total	40

Attribute		Frequency (%)
Height for Age (Wasting)	Normal	11
	Mild	7

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	Moderate	9
	Severe	5
	Total	40

Distribution of the sample according to their nutritional status.

Attributes		Frequency (%)
	Normal	18
Weight for Height (Stunting)	Mild	12
	Moderate	13
	Severe	7
	Total	50

Attributes		Frequency
	Normal	18
	Mild	14
Height for Age (Wasted)	Moderate	12
	Severe	6
	Total	50

According to nutritional status of height for age (stunted) found that 32% of children was normal, 22% children was mild, 27 % student was moderate and 9% children was severe. Same as nutritional status of weight for height (wasted) found that 29% of student was normal, 21% student was mild, 21 % student was moderate and 11% student were severe. So major finding was shows that wasted children.

Age and Sex Wise distribution of study population

Age (in Months)	Male No.	Female No.	Total No.
1-6 m0nth	3	2	5
1 Year	8	10	18
2 Year	5	12	17
3Year	6	4	10
4 Year	10	10	20
5 Year	9	11	20
Total	41	49	90

The community based study revealed that there were 49 female children and 41 male children. Maximum number of children belonged to the age group 0-5year children.

Distribution of Children according to environmental &Sanitation practices adopted by family

Environment $ sanitation variables (n=90)		No.
	Kuccha	15
Type of House	Pukka	50
	Kuccha/Pukka	25
	Tap water	65

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	Tanker	0
Source of water supply	Well	0
	Hand Pump	20
	Other	5
	Boiling	7
Water Purification	Filtration	30
	None	53
Presence of Flies	Yes	80
	No	10
Hand Washing	Yes	67
	No	23
	Closed	43
Type of Latrine	Within house	47
	Community	0
	Open	0
Type of Drainage	Open	17
	Closed	73

Majority of children were living in Pukka house 50. The source of water supply was seen to be tap water in 65 of families. None of the children's families were seen to draw water from wells 0. Maximum no. of families 53 were not using any kind of water purification method. 7 of families were using boiling as water purification method and almost equal number 30 used filtration. 43 were using closed type of latrines and majority 47 of these were within house. Houseflies were found to be present in 80 of household and 67 of families were washing their hands regularly.

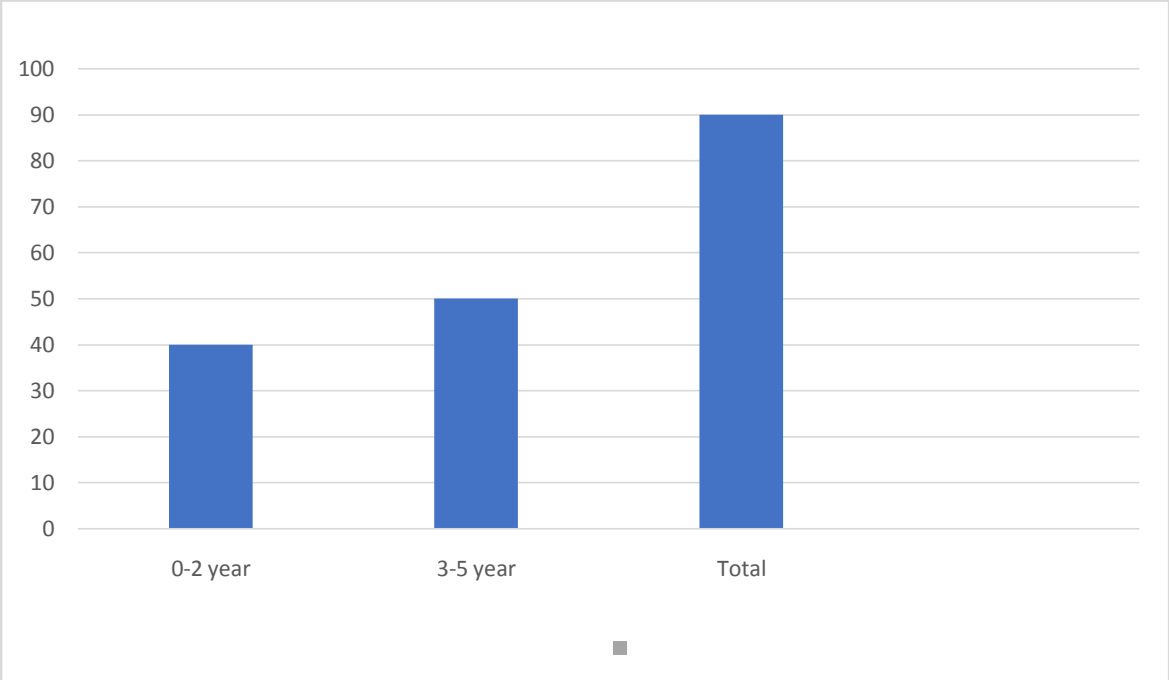

Table – 1 Distribution of respondent according to age frequency

IV. CONCLUSION

Open defecation, unsafe water and living in kuccha houses are related with undernutrition in children. Proper sanitation of the drinking water should be promoted in the community to prevent the water born diseases in the children. Universal access to safe drinking water must be ensured by government and population must be educatedto use water from such sources only or people should be made aware of the methods of purification of water at household level. Open defecation must be discouraged and local should come forward to

motivate people to use sanitary latrines so as to contribution to national ongoing Swachh Bharat Abhiyan and make the country clean and free from preventable diseases. Regular growth monitoring of under 5 children must be ensured for timely management of undernutrition. Sum up all these observation among 0-5year children on anthropometric measurement of the children reveled that out of 90 children category according to nutritional status of height for age (stunted) found that 29% of children was normal, 21 % children were mild, 21 children were moderate, 11children were severe. Same as nutritionalstatus of weight for height (wasted) found that 32% children were normal, 22% children were mild, 27% children were moderate and 9%children were severe.

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