A STUDY TO ASSESS THE PREVALENCE OF MALNUTRITION IN CHILDREN OF ONE TO FIVE YEARS OF AGE IN SELECTED SLUM AREAS OF PETLAD TOWN.

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Abstract :

Malnutrition is the major problem of children in India. It can be prevent by early detention of malnourished child's Symptoms by proper assessment of child's health and proper nutrition by correct diet plan. This study aimed to assess malnutrition ration in 1-5 year of children from slum area of Petlad district of Gujarat. Quantitative research approach and Descriptive Survey research design were uses in the study. Total 380 sample of children were selected as sample of study based on simple random sampling method . Tool consistent of two parts socioeconomic variable and measurement of height, weight and MUAC by standard method. A study was conducted from 1 January 2020 to 28 February 2020. Analysis was done by using demographic data of the sample like age, gender,religion,diet type of family, number of Sibling, educational level of child. The According to weight for age 41.8% of the children had normal weight, 1.10% were obese, 12.90% had risk of weight problem, 35.30% wereunderweight and 8.90% severely underweight. As per height for age 49.70% of children had normal height, 7.40% were gigantic, 27.90% were stunted and 15% were severely stunted. According to weight for height 56.30% of children had normal weight, 1.60% were obese, 5.50% were overweight, 15.50% had risk of overweight, 11.60% were wasted and 9.50% of children were severely wasted. As per MUAC 37.10% of the children were normal, 36.80% of children were mild malnourished, 21.90% children were moderate malnourished, and 4.20% of children were severe malnourished.

Keyword : Malnutrition, Assess, Prevalence, slum area.

I. INTRODUCTION

"Children are the world's most valuable resources and its best hope for the future" -John F Kennedy.[1]
Child is valuable to whole nation especially to parents and family members. Children are the source of happiness to the family. Hence the child should not suffer from any disease. A report by Indian Council of Medical Research (ICMR), Public Health Foundation of India (PHFI) and National Institute of Nutrition (NIN) revealed that 2 of 3 child deaths in India are due to malnutrition.[2]

There are many causes of malnutrition like poverty, lack of access to food, lack of transportation, insufficient financial resources, lack of portable water, poor sanitation increases vulnerability of infectious and water borne diseases, which are causes of

Malnutrition. [3]

There are various signs and symptoms of malnutrition like lack of appetite, tiredness, irritability, an inability to concentrate, increased sensitivity to cold, depression, loss offat, muscle mass and body tissue, higher risk of getting sick and taking longer to heal, longer healing time for wounds, higher risk of complications post-surgery, eventually a person may also experience breathing difficulty and heart failure. [4]

Hence it is very necessary to identify the prevalence rate of malnutrition and promote the health status of a child and hence to provide health education to them regarding its prevent.

II.NEED OF THE STUDY

Malnutrition is the main cause of morbidity and mortality in infants and under 5 yearsof age, it accounts for at least half of all childhood death worldwide. Also it is one of the major cause of related deaths. [5]

Malnourished children are affected in numerous ways. It is difficult for them to attain optimum size as adult (and so may have less physical capacity for work), their brains are affected (resulting in lower IQ) and they are at greater risk of infection. Malnutrition also impacts on education attainment and economic productivity. [6]

Therefore by conducting this study the early detection of malnourished children will be possible which will help for initiating early treatment by referring them to Child malnutrition treatment center thus preventing complication in future of the growing child. Furthermore health education was provided by the investigators to the parents which will help to prevent malnutrition in children.

It's our personal experience when posted in community posting we have observed that children's are suffering severe infections due to weak immune system and which is leading to diseases and improper growth and development due to lack of quantity and quality of food and leading to malnourished child.

So, it's our interest to find out the prevalence rate of malnourished child. And after knowing the number of children suffering from malnutrition further we can approach to the governmental schemes likeICDS, balwadi programs etc. So that they will be more concerned to those group of children.

III.REVIEW OF LITERATURE

I.   Literature review of socio demographic factors affecting malnutrition

Krishnaveni, Narendran Meghana, Prakash , Mr Narayanamurthy conducted an exploratory study in urban slums in Mysuru and minus from august 9 to October 31, 2017. The aim of the study was to determine socio-demographic factors effecting under nutrition in under five children of slum areas. 94 mothers were randomly selected and interviewed about their antenatal and perinatal care. Anthropometric examination of 64, 1–5 years children was done. Focus group discussion done among 22 mothers and details of diet given to children were discussed. The results revealed that under nutrition was seen in 30% of under five children. Stunting in 34% and wasting in 14%. Stunting associated with antenatal weight gain (P 0.02) and birth weight (P 0.04). Wasting associated with age of mother at pregnancy and birth weight. 16% of mothers delivered low birth weight babies and 17% of them stopped breast feeding before 1 year.[7]

ii.   Literature review related to prevalence rate of malutrition

SG Sethy, Dhaneswari Jena, Parsuram Jena, Srabani Pradhan, Tapan Biswas. A community based cross-

sectional study was conducted from October 2015 September 2016 in urban slum area of Berhampur city. Objectives of present study were to find out prevalence of under nutrition and its severity among the study population and to identify socio-demographic factors associated with malnutrition. Data were collected from 300 mothers of children aged 6-59 months using pre-tested semi structured questionnaires and measuring weight, height and MUAC of the children. Analysis was done using SPSS version-20, Chi-square values and proportions were calculated. Results revealed 69% of 300 children were having under nutrition in the form of underweight (55.3%), wasting (75%) and stunting (42%). Maximum number of underweight children belongs to age group 37-60 months (52.6%) followed by other two age groups 21.3% were severely wasted.[8]

iii.   Literature review related to prevalence rate and factors associated of malnutrition

Chetan N Popat et al (2014) conducted a cross-sectional study to measure the prevalence of malnutrition and factors associated with malnutrition among under 5 years of children of an urban slum of Vadodara city.The aim of the study was to know the prevalence of malnutrition and its factors. A sample of 395 children of 0-5years of age were enrolled and interview technique was used. The findings reveals prevalence of underweight, stunting and wasting was 32.41%, 46.1% and 17.2% respectively. Mother's literacy, low-birth weight in previous 15 days were significantly associated with malnutrition. [9]

IV.RESEARCH METHODOLOGY

A Quantitative research approach, Descriptive research survey design was adopted to assess the present study was conducted in the selected slum areas of Petlad Town. Ethical consideration was taken from the institution ethical committee to conduct the study. Gopalpura area was selected for pilot study.After pilot study was conducted reliability was found using Cronbach's alpha and its reliability was 0.685 and this showed that the tool is reliable. Data collection was done from 28th January 2020 to 1st February 2020. For conducting research in different slum areas of Petlad permission was taken from child development project officer areas were Khodiyarpura, Bilakhi-mill ki chali, Vaghri nivas, Laxmi nivas, Bhoi vas and nur talavdi for final study.Total 380 samples were selected using simple random technique,inclusion and exclusion criteria.The tool sociodemographic data was validated by 7 expert and the instrument used for the assessment of the child using weight scale, infantometer, stadiometer and shakir's tape was found reliable after doing test re test method. Then these data was plotted in corresponding WHO growth charts. After data collection the data was tabulated in master sheet and analysis was done using differential and inferential statistics and resulted by was plotted through graphs.The result was reflected in the form of table and graphs.

Problem statement: A Study to assess the prevalence of malnutrition in children of one to five years of age in selected slum areas of Petlad Town.

Objectives of the study:

1. To assess the prevalence of malnutrition among children of one to five years of age of selected slum areas of Petlad town.

2. To find out the association between grades of malnutrition and selecteddemographic variables.

Inclusion criteria:

1. Children's who are 1-5 years of age.

2. Children's who are present at the time of data collection.

3. Children's who are residing in Petlad town.

Exclusion criteria:

1. Children's who were not willing to participate at time of data collection.

2. Children who were not available at the time of data collection.

V. RESULT AND INTERPRETATIONS

The investigator collected the data for analysis and interpretation. First using multiple choice questions socio demographic variables was collected followed by measurement of child's weight, height and mid-arm circumference by using weight scale, Infantometer, Stadiometer and shakir's tape by a standard method. Then these data was plotted in corresponding WHO growth charts. Thus this data was helpful to differentiate normal child from various degree of malnourished child.

Table1:Frequencyandpercentagedistributionofdemographicdataofthesamples.N=380

SR.NO	DEMOGRAPHIC DATA	FREQUENCY	PERCENTAGE (%)
1	AGEOFCHILD		
a	1year	57	15
b	2 year	52	13.69
c	3 year	123	32.37
d	4year	88	23.15
e	5year	60	15.79
2	GENDEROF CHILD		
a	Male	204	53.68
b	Female	176	46.32
3	TYPEOFTHE FAMILYOF CHILD		
a	Nuclearfamily	126	33.16
b	Jointfamily	254	66.84
4	RELIGIONOF THECHILD		
a	Hindu	299	78.68
b	Muslim	75	19.74
c	Christian	5	1.32
d	Other	1	0.26
5	NUMBEROF SIBLINGS OF CHILD		
a	Zero	70	18.42
b	One	190	50
c	Two	101	26.57
d	Three	13	3.42
e	Four or more	6	1.57
6	EDUCATION LEVELOF		

	RESPONDENT		
a	Illiterate	62	16.31
b	Primary school	197	51.84
c	High school	112	29.47
d	Degree	9	2.36
7	TYPEOFFOOD		
a	Vegetarian	209	55
b	NonVegetarian	53	13.94
	Mixed	118	31.05
8	FAMILY INCOME		
a	Less than5000	150	39.47
b	6000-10000	197	51.84
c	11000-15000	31	8.16
d	More than15000	2	0.53

In the above table 32.9% lived in a nuclear family while 66.8% lives in joint family. Majority, 78.7% were Hindu, 19.5% were Muslim, 1.3% Christian and 0.3% were from other religion. 18.2% had no sibling, 49.5% had one siblings, 27.1% had two siblings, 3.4% had three siblings and 1.6% had four or more siblings. 16.6% of respondents were illiterate and 83.1% were literate. 55.8% followed vegetarian typeof diet, 14.2% followed non vegetarian and 29.7% consumes mixed type of diet. 39.2% had income less than 5000/-, 51.8% had income ranging from 5000 to 10000/-, 8.7% had income more than 10000/-. 44.4% were underweight and 9% were severely underweight. 43% were stunted and 15% were severely stunted, 21.1% were wasted and 9.5% were severely wasted. 36.7% were mild malnourished, 21.9% were moderate malnourished, and 4.2% were severely malnourished.

Table 2: Findings of Prevalence of malnutrition in children of one to five years of age in selected slum areas of Petlad town

CATEGORY	FREQUENCY	PERCENTAGE (%)
WEIGHT FOR AGE		
Normal	159	41.80
Obese	4	1.10
Risk of weight problem	49	12.90
Underweight	134	35.30
Severely underweight	34	8.90
HEIGHT FOR AGE		
Normal	189	49.70
Gigantic	28	7.40
Stunted	106	27.90
Severely stunted	57	15
WEIGHT FOR HEIGHT		
Normal	214	56.30
Obese	6	1.60
Overweight	21	5.50
Risk of overweight	59	15.50
Wasted	44	11.60
Severely wasted	36	9.50
MID UPPER ARM CIRCUMFERENCE		
Normal	141	37.10
Mild malnourished	140	36.80
Moderate malnourished	83	21.90
Severe malnourished	16	4.20

The above table shows According to weight for age 41.8% of the children had normal weight, 1.10% were obese, 12.90% had risk of weight problem, 35.30% wereunderweight and 8.90% severely underweight. As per height for age 49.70% of children had normal height, 7.40% were gigantic, 27.90% were stunted and 15% were severely stunted. According to weight for height 56.30% of children had normal weight, 1.60% were obese, 5.50% wereoverweight, 15.50% had risk of overweight, 11.60% were wasted and 9.50% of children were severely wasted. As per MUAC 37.10% of the children were normal, 36.80% of children were mild malnourished, 21.90% children were moderate malnourished, and 4.20% of children were severe malnourished.

Findings related to association between malnutrition and selected demographic variables.

By the ANOVA test the p - value of number of siblings and type of food are less than 0.05. Thus it has a significant association with grades of malnutrition Children having more than three siblings and those having no siblings at all have a higher chance of malnutrition, than those having one or two siblings show a lower chance of malnutrition. Children consuming only vegetarian type of diet have high risk of malnutrition, than the children consuming non vegetarian type of diet or mixedtype of diet.

VI. Conclusion

The result of study conducted that 35.30% under weight and and 8.90 severe severely under weight. 27.90 % stunted and 15 % severly stunted. 21.90% moderate to severe Malnourished and 4.20 % severly malnourished.According to study 32.37 comes under 3 year of age group and 53.68 % boys are come majority in that. 66.68% children lives within joint family. 78.68 % child from hindu religion. 50% children has one sibling. Therefore there is need to make awareness related to child proper growth and development and Nessesarily nutrition for that and resources of proper nutrition as well early sign and symptoms of malnutrition in child. They should also aware about government scheme and required knowledge related to important nutrition that helps child in proper growth and development.

VII. Recommendation:

The following recommendations are made on the basis of the findings of the children study:

• A similar study can be replicated in large samples and in all cities of Gujarat

State or other states so that findings can be generalized for a large population.

• A descriptive study can be conducted to assess knowledge of mothers regarding the nutrition provided by them to their children.

• A study can be conducted to determine the existing role of nursing, teachersand other family member's personnel regarding education of the community regarding Protein Energy Malnutrition.

• A comparative study can be carried out between urban and rural populations to identify the difference in terms of knowledge and economic status regarding malnutrition.

VIII. Ethical Clearance: The ethical clearance obtained from our university ethical

committee of Bhaikaka University.

IX. References

1.https://foreignpolicyblogs.com/2008/01/11/%E2%80%9Cchildren-are-the-worlds-most-valuable-resource-and-its-best-hope-for-the-future%E2%80%9D-john-fitzgerald-kennedy/amp/

2.2 of 3 child deaths in India due to malnutrition : Report. (n.d). Down to Earth.Latest news, opinion, analysis on environment & science issues. India, SouthAsia.https://www.downtoearth.org.in/news/health/2-of-3-child-deaths-in-india-due-to-malnutrition-report-66792

3.Causes.(n.d).ActionAgainstHunger.https://www.actionagainsthunger.in/hunger/underlying-causes-malnutrition

4.Children:reducingmortality.(2019,September19).WorldHealthOrganization(WHO).

https://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality

5.Wadhwani,N.FracassiP.(2019,September14).Motherandchildnutrition.

https://motherchildnutrition.org/malnutrition/about-malnutrition/impact-of-malnutrition.html

6. E.B.R.Nursing resaerchand statistics.EMMESSmedicalpublishers.pg 126

  7. Krishnaveni, Y.S., Narendran, M., & Prakash, B. (2019). A study of Socio   Demographic Factors Effecting under nutrition in Under Five children of slum in Mysuru - An Exploratory study. Indian Journal of Public Health Research & Development,10(5),48-52.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7043173/

8. Prasot, R. M., Verma, S. K., Kashyap, S., & Kanaujiya, M. K. (2014). An epidemiological study of Protein Energy Malnutrition (PEM) among 1-6 years children in rural Lucknow, Uttar Pradesh, India. IOSR J Dental Med Sci, 13(3), 10-4.

  http://www.ijpediatrics.com/index.php/ijcp/article/download/1372/1084

9. Damor Raman, D., Pithadia Pradeep, R., Lodhiya Kaushik, K., Mehta Jitesh, P, & Yadav Sudha, B. (2013). A study on assessment of nutritional andimmunization status of under-five children in urban slums of Jamnagar

city,   Gujarat. Healthline, 4,35-9.
https://pdfs.semanticscholar.org/0268/8c2e9a7d9491325f2b069772197b1 02f862b.pdf