Health Profile Of 0-5 Years Children in Rural Field Practice Area of M.G.M. Medical College & LSK Hospital

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ABSTRACT

Background: The general objective of the study has to prepare health profile& at risk of children in the age group of (0-5 years) in the service of Rural Area of Kishanganj District.Children constitute the most vulnerable section of the community. The health status of children serves as sensitive indicator of overall health of entire community. The major causes of deaths in the age group 0-5 years are preventable. At Risk group is a group of individuals in whom the frequency of risk factors is more than the other groups. It is therefore necessary to identify particularly those 'At Risk' and provide them with efficient paediatric services, because it is these 'At Risk' babies, which contribute so largely to perinatal, neonatal and infant mortality **Methods:** A community based cross sectional study was carried out in a rural area of Kishanganj district during period of January 2018 to November 2019 to identify prevalence of At Risk under five children and associated demographic, socioeconomic and environmental factors. Sample size taken was 350. By systematic sampling method every 15th house was selected for the study. **Results:** In present study the most frequently seen risk factor was weight below 70% of expected weight for age. It was found in 165 (47.1%) of children as seen in table 1. Followed by birth weight less than 2500 grams seen in 35.7% children, Introduction of bottle feeding before 6 months seen in 32% children, delay in giving supplementary weaning food seen in 26% children, birth spacing less than 2 years seen in 26.3 % of children. **Conclusion:** The nutritional status of children below six years in rural areas is yet to be improved as one out of ten children are malnutrition. This condition needs to be changed by the better implementation of maternal and child health programmes.

Key words: health profile, nutritional status, at risk.

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Introduction:

India is home to largest child population in the world with around 157.86 million children, constituting 15.42 percent of India's population, who are below the age of 6 years. This fact sheet provides information on key indicators and trends for Kishanganj. NFHS-4 fieldwork for Bihar was conducted from 16 March 2015 to 8 August 2015 by Academy of Management Studies (AMS). In Kishanganj, information was gathered from 26,558 households, 65801 women, and 69551 men. The fact sheet shows information for rural areas and the district as a whole because Kishanganj has more than 26558 rural households, which provides a sufficiently large sample to produce reliable estimates of most indicators for rural areas[1].

Children are in a constant phase of development. Their body is in a phase of constant wear-tear and repair, their brain is developing and bones are growing. These growing children require constant supplementation of calories, proteins and micronutrient to keep the pace of increased demands of

the body, since childhood is the most vulnerable phase in the life of human being. Nutritional inadequate will result in the hampering of the development of the body. If this nutritional inadequacy is continued for a long periods of time it results in the growth faltering manifested in the form of low weight, small height and low IQ. Future of the country is determined by the growing generation of the country. It is the health status of children of any country that represents the health status of people of that country. Since this growing generation is going to be failure productive citizens, they should be healthy enough to make use of the full potential of theirproductive age. Scientific evidence has shown that of beyond the age of 2-3 years, the effects of chronic malnutrition are irreversible.[2]

For proper development of children, nutrition plays a crucial factor in the early years of life[2]. Under nutrition is mainly responsible for dietary inadequacy in relation to children's needs. The highest rate of under – nutrition in the world is seen in Asia (National Institute of Nutrition, 2003). About half of under-five deaths occur in only five countries: India, Nigeria, Democratic Republic of the Congo, Pakistan and China. India (22%) and Nigeria (11%) together account for a third of all under-five deaths. Over 70% of under-five deaths occur within the first year of life. The proportion of under-five deaths that occur within the first month of life (the neonatal period) has increased about 10% since 1990 to more than 40%. Almost 30% of neonatal deaths occur in India. Globally, the four major killers of children under five are pneumonia (18%), diarrhoeal diseases (15%), preterm birth complications (12%) and birth asphyxia (9%). Undernutrition is an underlying cause in more than a third of under-five deaths.[3]

Methods:

Study design: Community based, cross-sectional study.

Study period: January 2018 to November 2019.

Study area: The study was carried out at RHTC area of a Tertiary Care Hospital, Kishanganj.

Study population: Children under-five years of age.

*Sample size:***350**

The sample size was estimated as follows Sample size: $n = 4pq/ d^2$

n = sample size

p = prevalence

q = 100 – prevalence

d = absolute point precision 5%

So, the sample size would be n = 4x62x35/25

n = 347

For better coverage it was decided to round up and take a sample size of 350.

The study was carried out at rural area, which is an adopted area under administrative control of tertiary care hospital of MGM Medical College. The population of the area was 1,35352 and under five populations was 30,178 .Based on the prevalence of „At Risk" 65% and absolute precision of 5%, using the formula $4pq/ d^2$ sample size of 364 was calculated. For better coverage sample size of 350 was taken

The „At Risk" factors included in the study were:

- Weight below 65% of expected weight for age.
- Introduction of bottle feeding before 6 months.
- Delay in giving supplementary weaning food.
- Birth order 4 orabove.
- Spacing of children <2yrs.
- Mid-arm circumference <12.5 cms (1-5yrs)
- History of deaths of >2 siblings below age of 12 months
- Death of either or bothparents.
- Mother working outside for >8 hrs a day

Results:

Table 1: 'At Risk' factors (n=350)

	'At Risk' factor"	No of Children	Percentage
1	Weight below 70% of expected weight for age	165	47.1
2	Introduction of bottle feeding before 6 months	112	32.0
3	Delay in giving supplementary weaning food	92	26.3
4	Birth weight of less than 2500 grams.	125	35.7
5	Birth order 4 or above.	25	7.1
6	Spacing of children <2 yrs	85	24.3
7	Mid-arm circumference <12.5 cms (1-5 yrs)	52	14.9
8	History of deaths of >2 siblings below age 12 months	3	0.9
9	Death of either or both parents.	5	10.0
10	Mother working outside for >8hrs a day	60	17.1

Table 2: Type of family with 'At Risk' children (n=350).

Type of family	Frequency	Percentage (%)	'At Risk' children	Percentage (%)
Three generation	40	11.4	38	10.9
Joint	112	32.0	65	18.5
Nuclear	198	56.6	98	28.0
Total	350	100	201	57.4
i-square Value: 6.4982,p Value: 0.03				

Table 3: Distribution of housing and ventilation with 'At Risk' children (n=350).

Variables	Children surveyed	'At Risk' children		Chi-Square	P value
Housing					
Kucha	102	90	38.8		
Kuchapucca	153	110	47.4	15.755	<0.001
Pucca	95	32	13.8		
Total	350	232	100		
Ventilation					
Unsatisfactory	135	92	46.9		
Satisfactory	215	104	43.1	3.621	0.05
Total	350	196	100		

Significant association between education status of mother and father with 'At Risk' children and it was seen that there was decrease in the number of „„At Risk‟‟ children with increase in the level education of parents.

Significant association was found between type of family and 'At Risk' children. The association of type of family (3 generation and joint family combined vs. nuclear family) and 'At Risk' children was calculated using chi square. (**Chi-square Value: 6.4982, p Value: 0.03**).

A significant association was found between housing, and ventilation with 'At Risk' children using chi square test. Test of association showed a p value <0.001 for all three variables.

Housing and 'At Risk' children showed definite trend that suggests that as the quality of housing increases the number of 'At Risk' children decrease.

Table: 4. Nutritional status of children's

Age in Year	Nutritional status of children's (n=350)					
	Male (n= 182)			Female (n=168)		
	Obese	Normal	Below Normal	Obese	Normal	Below Normal
0 – 1	06	20	07	02	25	08
1 – 2	03	19	06	02	40	09
2 – 3	02	20	07	03	15	06
3 – 4	03	33	08	03	18	08
4 – 5	02	41	05	02	22	05
Total	16	133	33	12	120	36

Present the signs and symptoms of nutritional deficiency observed among the selected children. 72.2 percent of the children were healthy and free from any clinical signs and deficiency. 1.6 percent of the children showed poor musculature with gross musculature symptoms wasting. 1.9 percent of the children showed dry or rough skin. Discoloration of hair shows that 3.1 percent and Red or raw tongue was observed in 2.5 percent of children. 2.3 percent of children had the pigeon chest. All these clinical deficiency signs and symptoms directly reflect the nutritional inadequacy of the food served in the selected service institution. To improve the health status of children, anganwadi has to play an important role. With dietary intervention, the health condition of the children could be improved.

Discussion:

A community based cross sectional study was carried out in a rural area of kishanganj from January 2018 to November 2019. The purpose of study was Risk Factor of 0-5 years children in rural field practice area of M.G.M. Medical College & LSK Hospital

In present study the most frequently seen risk factor was weight below 70% of expected weight for age. It was found in 165 (47.1%) of children as seen in table 1. Followed by birth weight less than 2500 grams seen in 35.7% children, Introduction of bottle feeding before 6 months seen in 32% children, delay in giving supplementary weaning food seen in 26% children, birth spacing less than 2 years seen in 26.3 % of children. Aswar et al and Bhasin et al also found weight for age less than 70% as the most common risk factor in their respective studies i.e. 39% and 40.5% respectively.[4,5]

Bhat et al inhis study found 60.45% of the children were malnourished.[12] Similar finding was seen in studies by Sharma et al, Biswas et al which is higher than the present study.[6,7] Singh et al studied the prevalence of high risk children under five in village near Delhi and found that birth interval less than two years and malnutrition were most frequent risk factors.[8]

Significant association between education status of mother and father with 'At Risk' children and it was seen that there was decrease in the number of 'At Risk' children with increase in the level education of parents.

Significant association was found between type of family and 'At Risk' children. The association of type of family (3 generation and joint family combined vs. nuclear family) and 'At Risk' children was calculated using chi square. (**Chi-square Value:** 6.4982, **p Value:** 0.03).

Luthra et al in her study found that under nutrition was significantly correlated with nuclear family and iJha et al in his study observed that SES, illiteracy, age, nuclear family were significantly associated with LBW.[9,10]

Conclusion:

The first six years of life is called as the foundation years. Good stimulation and proper nutrition during these periods are essential for developing them into healthy individuals. The study focus on the nutritional profile of children in the age group of (0-5 years) in the service villages of Kishanganj .The nutritional status of children below two years in rural areas is yet to be improved as one out of ten children are malnutrition. This condition needs to be changed by the better implementation of maternal and child health programmes. And Special provisions of health care facilities for under five children, need based training to the health care providers and necessary information, education & communication campaigns are need of the hour to bring down infant morbidity and mortality.

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