

**ORIGINAL RESEARCH ARTICLE****“FACTORS INFLUENCING MALNUTRITION AMONG THE CHILDREN OF UNDER 5 YEARS”****Shanti Bajracharya^{1*}, Anupa Subedi¹,**¹Nepalese Army Institute of Health Sciences, College of Nursing, Sanobharyang, Kathmandu Nepal.

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ABSTRACT

Objectives: Childhood is the time of active growth in terms of physical size, mental, emotional and psychological development. Nutritional status is the proxy indicator for assessing the health status of the entire population and one of the major predictors of child survival. Despite the various efforts, malnutrition among children is remaining as one of the major public health problems in Nepal. **Objective:** The objective of this study was to assess the factors influencing malnutrition among the mother of the children aged 6 to 59 months. **Method:** A descriptive exploratory study using non-probability purposive sampling method was conducted with 79 paired of mother with children, residing in Itahari ward number 2. Data were collected by interview technique using semi-structured questionnaires and analysis was done by using SPSS version 20 using descriptive and inferential statistics. **Results:** The mean age of the child was 32 months and standard deviation was 17.05. The prevalence of underweight, wasting and stunting was found to be 16.4%, 11.3 % and 7.6% respectively. Likewise, 17.06 % of the children were found below -2 S.D on the basis of BMI per age of the children. Furthermore, it was found that there was significant association between educational status of mother with the malnutrition (underweight) as p-value was <0.05 . **Conclusion:** Malnutrition is the major health problem in under 5 children. The prevalence of malnutrition can be decreased by improving the caretaker's educational level through different awareness programmes based on the factors responsible for that.

INTRODUCTION

Malnutrition is define as “a state in which the physical function of an individual is impaired to the point where he or she can no longer maintain adequate bodily performance process such as growth, pregnancy, lactation, physical work and resisting and recovering from disease.”¹ The indicators of malnutrition are stunting, wasting and underweight.² One hundred sixty one million children under five years old are too short for their age (stunting), 51 million children do not weigh enough for their height (underweight). Nearly half of all deaths of children under five are still related to malnutrition lacking sufficient calories.³

In Nepal, 41% of children under five are stunted, 11% were wasted and 29% are underweight. Wasting is more significant in Terai region.⁴ The primary causes of malnutrition are not always the lack of

food. Inadequate knowledge of proper child care practices, parental illiteracy, economic and political factors, climatic conditions, culture and religious food preference and simply lack of adequate food.⁵ Malnutrition affects the children in many ways, predisposing them to different diseases, psychosocial mal-development and congenital deficiencies.⁶ Despite the availability of nutritional product and good climate opportunities for agriculture product, most of the children suffer from malnutrition due to the behavioral and cultural practices in Terai district.⁷

The main aim of the study was to assess the factors influencing Malnutrition among children aged 6 to 59 months with the specific objective were to determine the prevalence of malnutrition among children aged 6 to 59 months, to obtain

anthropometric measurement like height and weight of the children, to identify the factors influencing malnutrition and to find out the association of between selective variables like socio-demographic, environmental factors, mother characteristics, child characteristics, child caring practices among the mother of children aged 6- 59 months with the prevalence of malnutrition.

METHODOLOGY

Descriptive exploratory study was done to assess the factors influencing malnutrition among the mother of children aged 6 to 59 months. The area of study was Itahari ward number 2 which is 3 km away from Itahari city, located in Sunsari district. Total there were 26 wards. So, for the selection of the ward, simple random sampling technique by lottery method was used. Total population was approximately 14,668 of which under 5 population was approximately 5,575. So, the sampling size was 79 paired of mothers with their children.

Non- probability purposive sampling technique was used for data collection using interview technique. A semi-structured questionnaire was developed which was divided into three categories. Part I consisted of Socio- demographic data, Part II consisted of anthropometric measurement (weight and height) of the child and Part III consisted of questions related to factors influencing malnutrition. Pretesting of the instrument was done in Paediatric OPD of Shree Birendra Hospital, Chaunni. No any modifications on the instrument had to be done as the pretested tools were clear.

Ethical approval was taken from the institutional research committee. Administrative approval was obtained from the concerned authorities. Before collecting the data, verbal informed consent was taken and data was collected by the researcher herself. Those who were willing to participate were included in the study with the mother having the younger child to prevent from recall bias. Content validity was maintained by consulting with the research expertise and made necessary changes as per suggestions. Anonymity was maintained by using code number. Confidentiality was maintained by using the information only for study purpose. Privacy was maintained by conducting interview

in the separate room. Data were checked for its completeness and accuracy. Total period of data collection was 4 weeks. The obtained data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) version 20. The data was analyzed by using descriptive method i.e. frequency, percentage, mean and standard deviation and inferential statistics i.e chi-square test was used.

RESULTS

TABLE 1 : Socio-Demographic Characteristics of the Respondents n=79

Variables	Frequency	Percentage (%)
Religion		
Hindu	79	100.0
Ethnicity		
Brahmin	26	32.9
Chhetri	19	24.1
Janajati	28	35.4
Dalit	6	7.6
Types of family		
Nuclear	30	38
Joint	24	30.4
Extended	25	31.6
Number of children		
One	35	44.3
Two	35	44.3
Three	8	10.1
Five	1	1.3
Income		
Insufficient for day to day expenditure	9	11.4
Sufficient for day to day expenditure	55	69.6
More than sufficient for day to day expenditure	15	19.0

Table 1 shows that all of the respondents (100%) were Hindu. Regarding ethnicity, majority (35.4%) of the respondents were Janajati. Regarding the type of family, (38%) of the respondents belonged to nuclear family which is followed by (31.6%) extended family and (30.4 %) joint family. Concerning the number of

children, equal percent (44.3%) of the respondents had one child and two children respectively. Similarly, majority (69.6 %) of the respondents belonged to the family having household income sufficient for day to day expenditure.

TABLE 2: Socio- Demographic Characteristics of the Respondents

Variables	Father	Mother
Age of parents(in years) (n=79)	F (%)	F (%)
10 to 20	1(1.3)	5 (6.3)
21 to 30	34(43.0)	61(77.2)
31 to 40	35(44.3)	13 (16.5)
41 and above	9(11.4)	-
Occupation(n=79)		
House manager	- -	43 (54.4)
Agriculture	2(2.6)	2(2.6)
Business	11(13.9)	5(6.3)
Services	31(39.0)	20(25.3)
Labor	24(30.6)	9(11.4)
Others	11 (13.9)	
Education status (n=79)		
Cannot read and write	5(6.3)	5 (6.3)
Can read and write	74(93.7)	74(93.7)
Can read and write, (n=74)		
Can read and write only	12(16.2)	9(12.2)
Primary level	5(6.8)	6(8.2)
Secondary level	14(19.0)	21(28.3)
Higher secondary level	21(28.2)	26(35.1)
Bachelor and above	22(29.8)	12(16.2)

Above table reveals that highest proportion (44.3%) of the father were from age group 31 to 40 and (77.2%) of the mothers were from age group of 21 to 30 years. Concerning occupation, majority of the child's father (39.0%) were engaged in services and majority (54.4%) of the mothers were house manager. Regarding education, (29.8%) of the father had achieved the bachelor and above level of education and the higher proportion (35.1%) of the mother had achieved higher secondary level education.

TABLE 3: Socio-Demographic Characteristics of the Child
n = 79

Variables	Frequency	Percent- age
Sex		
Male	38	48.1
Female	41	51.9
Age of the child (in months)		
6-12	15	19.0
13 -24	15	19.0
25 -36	19	24.0
37 -48	15	19.0
49 -59	15	19.0
Mean age=32		
Standard Deviation =17.05		

Regarding the sex, the number of female child were more (51.9%) and the higher percentage (24%) of the children were between 25 to 36 months. The mean age was 32 and standard deviation was 17.05 respectively.

TABLE 4: Post-natal Characteristics of the Mother

Variables	Frequency	Percentage
Initiation of breast feeding(n =79)		
Within 1 hour	29	36.7
After 1 hour	50	63.3
Colostrum Feeding (n =79)		
Yes	77	97.5
No	2	2.5

Complications during postnatal period (mother and child) (n =79)

Yes	21	26.6
No	58	73.4
If yes, Mother (n= 8)		
Infection of wound	4	50
Engorged breast	2	25
Postpartum hemorrhage	1	12.5
Hypertension	1	12.5
Baby (n= 13)		
Poor feeding	7	54
Jaundice	3	23
Fever	3	23

Regarding post-natal characteristics, majority (63.3%) of the mother had initiated breastfeeding after 1 hour of birth. Most of the mother (97.5) had done colostrum feeding. About (26.6%) of the cases experiences complication. Regarding complication among baby, (54%) of them had poor feeding followed by jaundice (23%) and fever (23%) and among mothers, higher percentage (50%) had experienced infection of wound, followed by engorged breast (25%), postpartum hemorrhage (12.5%) and hypertension (12.5%).

TABLE 5: Child Caring Practices

Variables	Frequency	Percentage
Exclusively breastfeeding (n =79)		
Yes	49	62.0
No	30	38.0
Immunization status (n =79)		
Completed	62	78.5
Completed based on age(1 year)	16	20.2
Not immunized	1	1.3
Deworming (n=64)		
Yes	47	72.3
No	17	27.7
*Supplementary feeding		
Cow's milk	19	63.3
Lactogen	9	30
Any other supplementary	4	13.3

*Multiple Response

Above shows that about (62 %) of the children were exclusively breastfed up to 6 months. Majority of the child (78.5%) were completely immunized. Concerning deworming. (72.3%) responded "Yes". Regarding

supplementary feeding, majority (63.3%) children were fed with cow's milk, followed by lactogen feeding (30%) and (13.3 %) of other foods such as biscuits, litto and jaulo.

TABLE 6: Prevalence of Malnutrition among Children

n= 26

Variables	Underweight	Stunting	Wasting	BMI
	(< 2 S.D)	(< 2 S.D)	(< 2 S.D)	(< 2 S.D)
	f (%)	f (%)	f(%)	f (%)
Male	6 (6.5)	3(3.8)	4(5.0)	6(7.6)
Female	7(8.9)	3(3.8)	5(6.3)	8(10.0)
Total	13 (16.4)	6(7.6)	9(11.3)	16(17.6%)

This table shows that the prevalence of underweight, stunting and wasting among children of 6 to 59 months were (16.4%), (7.6%) and (11.3%) respectively. About (17.6%) of the children were found below < -2 S.D.

TABLE 7: Association of Selected variables with Underweight

n = 79					
Variables		Underweight children		chi-square test	p -value
		Yes	No		
Age (mother)	<30 years	10(12.7%)	56(70.8%)	0.496	0.481
	>31years	3(3.8%)	10(12.7%)		
Educational status (mother)	Illiterate	4(5%)	1(1.2%)	15.678	0.000
	Literate	9(11.4%)	65(82.4%)		
Types of family	Nuclear	6(7.6%)	24(30.4%)	0.442	0.506
	Joint	7(8.8%)	42(53.2%)		
Occupation (mother)	House manager	10(12.6%)	33(42.%)	3.174	0.075
	Others	3(3.4%)	33(42%)		
p < 0.05 is statistically significant and > 0.05 is statistically insignificant					

Regarding the association between different variables with underweight, it was found that there was no significant difference between age of mother, types of family and occupation of mother with underweight as p value was >0.05. But there found significant association between education status of the mother with underweight as the p value was <0.05.

Discussion

Regarding socio-demographic data, all of the

respondents (100%) were Hindu and in ethnicity, majority (35.4%) of the respondents were Janajati. Relating the type of family, (38%) of the respondents belonged to nuclear family. Concerning the number of children, equal percent (44.3%) of the respondents had one child and two children. Similarly, majority (69.6 %) of the respondents belonged to the family having household income sufficient for day to day expenditure.

The highest proportion (44.3%) of the father were from age group 31 to 40 and (77.2%) of the mothers

were from age group of 21 to 30 years. Concerning occupation, majority of the child's father (39.0%) were engaged in services and majority (54.4%) of the mothers were house manager. Regarding education, (29.8%) of the father had achieved the bachelor and above level of education and the higher proportion (35.1%) of the mother had achieved higher secondary level education.

Regarding the sex of the child, the number of female child were more (51.9%) and the higher percentage (24%) of the children were between 25 to 36 months. The mean age was 32 and standard deviation was 17.05 respectively.

Regarding postnatal factors, (63.3%) of the mothers had breastfeeding after 1 hour of birth. Most of the mother (97.5%) had fed the colostrum. About 26.6% of the cases experience complication. Regarding complication of the baby, (54%) of them had poor feeding followed by (23%) jaundice and (23%) fever and among mothers, higher percentage (50%) had experienced infection of wound, followed by engorged breast (25%), postpartum hemorrhage (12.5%) and hypertension (12.5%).

About (62%) of the children were exclusively breastfed up to 6 months. Majority of the child (78.5%) were completely immunized. Concerning deworming, (72.3%) responded "Yes". Regarding supplementary feeding, majority (63.3%) of the children were fed with cow's milk, followed by lactogen feeding (30%) and (13.3 %) of other foods such as biscuits, litto and jaulo.

The prevalence of underweight, wasting and stunting among children of 6 to 59 months were (16.4%), (11.3%) and (7.6%) which was found consistent with the study conducted by Niraula, Barnwal (2013).⁸ About (17.6 %) of the children were found below < 2 S.D which was found almost consistent with the study done by Bhandari & Chhetri (2013).⁹

Regarding the association between different variables with underweight, there found no significant difference between age of mother, types of family and occupation of mother with underweight as p value were (0.481), (0.506) and (0.075) respectively but significant association was found between education status of the mother with

underweight, as the p value was <0.05.

CONCLUSION

Malnutrition being the major health problem among children of under five. Because of malnutrition, it can affect the child's development physically, mentally, socially, psychologically. It can be concluded that education of the mother tends to influence the prevalence of underweight among children. If the mother is aware of the child's nutritional value, then there is less chance of prevalence of malnutrition among children which can significantly decrease the child's morbidity and mortality. So, the prevalence of malnutrition can be decreased through different educational programmes to the primary caretakers.

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