Giri Samikcha
Assistant Lecturer, M.Sc.
Nursing, Faculty Member,
Department of Nursing,
Sikkim Manipal College of
Nursing, Sikkim Manipal
University, Gangtok, Sikkim,
India

Tamang Reshma
Head of Department, M.Sc.
Nursing, Faculty Member,
Department of Nursing, of
Child Health Nursing,
Professor, Sikkim Manipal
College of Nursing, Sikkim
Manipal University, Gangtok,
Sikkim, India

Devi Thoibi Moirangthem
Professor, M.Sc. Nursing,
faculty Member, Department
of Nursing, Faculty of
Community Health Nursing,
Sikkim Manipal College of
Nursing, Sikkim Manipal
University, Gangtok, Sikkim,
India

Corresponding Author:
Giri Samikcha
Assistant Lecturer, M.Sc.
Nursing, Faculty Member,
Department of Nursing,
Sikkim Manipal College of
Nursing, Sikkim Manipal
University, Gangtok Sikkim,
India

Nutritional status of under five children among Rural and Urban community of East Sikkim

Giri Samikcha, Tamang Reshma and Devi Thoibi Moirangthem

DOI: https://doi.org/10.22271/allresearch.2022.v8.i6f.9896

Abstract
Context: Nutrition plays a vital role in growth and development of children. Inadequate nutrition may lead to malnutrition, growth retardation, reduced work capacity and poor mental and social development Malnutrition refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients. Overall, under nutrition represents the single largest killer of under-five children, being responsible for 3.1 million child deaths each year (45% of the total 4. under 5 years' deaths)
Aims & Objectives: A descriptive, comparative study was conducted with the objectives to assess the nutritional status of under five children: to compare the nutritional status of under five children among rural and urban community and to see the association between the demographic Performa for rural and urban community
Methods: The study periods were one year. A total of 150 under five from rural and urban community comprise of the study population. 75 children were from each community. Non-probability purposive sampling was used. Data entry and statistical analysis was performed with the help of SPSS version 2.0. Height –for –age, weight-for-age, and weight-for-height was done using WHO z-Score and mid upper arm circumference was analyse using UNICEF mid upper arm circumference grading
Results: Finding shows that the nutritional status of under-five was found for weight for age in rural community were 62% were Normal, 25.3% were moderately undernourished, 12% were severely under nourished where as 67% were normal, 18.7% were moderately and 5.3% were under nourished. For height for age on rural community were 53% were normal 37.3% were moderately stunting and 9.3% were severe stunting and in urban community 56% were normal, 36% were moderately stunting and 8% were severe stunting. For weight for height on rural community were 53% were normal 37.3% were moderately wasting and 9.3% were severe wasting and in urban community 56% were normal, 36% were moderately wasting and 8% were severe wasting by WHO Z score. For Mid upper arm circumference 78.6% in urban and 72% in rural community were well nourished, 18.7% and 22.7% were moderately under nourished and 2.7% were in rural and 5.3% in urban community were severally acute malnourished and while comparing the nutritional status, we can conclude that the mean score for WAZ (μ=14.22), HAZ (μ=93.09) and MUAC (μ=13.44) for urban and WAZ (μ=13.38), HAZ (μ=90.55) AND MUAC (μ=13.23) for rural community respective standard deviation and with obtained t-value which is not significant. There is no significance difference between rural and urban under-five children with respect to nutritional indicator. However, the nutritional status of Under-five among urban community are certainly better then rural community in comparison with mean score.
Conclusions: The major conclusion of the study drawn on the basis of the finding was that the majority of the children from both the communities were normal for their weight for age, height for age, weight for height and mid upper arm circumference, also recognized that there was a difference between nutritional status of children living in rural and urban community.

Keywords: Nutritional status, weight for age, height for age, weight for height, mid upper arm circumference

Introduction

Nutrition plays a vital role in growth and development of children. Inadequate nutrition may lead to malnutrition, growth retardation, reduced work capacity and poor mental and social development [1]. The World Health Organization considers that poor nutrition is the single most important threat to the world's health [2]. Overall, under nutrition represents the single largest killer of under-five children, being responsible for 3.1 million child deaths each year (45% of the total 4. under 5 years' deaths) [3]. Globally, on 2019: 47 million children under five were wasted of which 14.3 million were severely wasted. This translates into a prevalence of 6.9 per cent and 2.1 per cent, respectively.

In Indian scenario: India is home to the largest number of malnourished children in the world, a report (WHO) advocating that the country needs to frame policies with a focus on reducing health and social inequities [4].

According to study done by Monoarul H.MD *et al*. its show that moderate to severe underweight, stunted were 28.8%, 25.6% and 14.7% study subjects [5].

Stunting among children below the age of five ranges from 24 percent in East Sikkim to 42.3 percent in West Sikkim, East and North Sikkim have a moderate prevalence of stunting, while South and West Sikkim have high and very high prevalence respectively. Wasting ranges from 11.9 percent in East Sikkim to 19.3 percent in North Sikkim. All four districts of Sikkim are categorized as having high and very high prevalence of wasting. Severe wasting prevalence across the districts of Sikkim, ranging from 5.1 percent in West Sikkim to 7.9 percent in South Sikkim [6].

In Sikkim, reported underweight is lower compared to other states and regions of India. However, lower rate (male: 2.4 %; female: 6.4 %) is still a warning sign and requires monitoring according to WHO [7].

Methodology

Research Approach: In this study Quantitative Approach was used.

Research Design: In this study, Descriptive comparative design was used

Study setting: Study was conducted in selected Rural (samdong) and urban (Tadong) community of East Sikkim.

Sample: The study was conducted among the under five children selected urban and rural community of east Sikkim

Sample Size: In this study total sample size was 150 (75 each rural and urban community)

Sampling Technique: In this study purposive sampling technique was used.

Tool: The socio demographic variables and Nutritional assessment tool by WHO (World health Organization) and UNICEF.

Ethical consideration: The Ethical permission was taken from institutional ethics committee. The permission to conduct the study community was taken from the panchayat for Rural and councillor for Urban community The subjects or the subject's attendants were explained regarding the assessment and informed consent was taken. The confidentiality of the patients was maintained.

Data Collection: Data was collected from the the Under five children of selected rural and urban community of east Sikkim. The study participants were selected according to the inclusion and exclusion criteria. All the information about the study was provided to the patient and the patient's relatives before taking informed consent. As per the criteria, assessment was done for both the groups. The nutritional assessment was done for both the under five children residing in urban and rural community.

Results
Section I

Table 1: Frequency and percentage distribution of subjects according to their sample characteristics for Urban and Rural community N=150

Community	Urban		Rural	
Demographic Variables	Frequency	percentage	Frequency	Percentage
1. Age in years of child				
1.1) 1-2 years	20	26.7	25	33.3
1.2) 3-4 years	48	64	39	52
1.3) 4 and above	7	9.3	11	14.7
2. Gender				
2.1) Male	36	48	39	52
2.2) Female	39	52	36	48
3. Religion				
3.1) Hinduism	35	46.6	36	48
3.2) Christianity	20	26.7	21	28
3.3) Buddhism	20	26.7	18	24
4. Education of the child				
4.1) No formal education	13	17.3	12	16
4.2) ICDS	10	13.3	22	29.3
4.3) Play school	30	40	25	33.3
4.4) Pre- primary school	22	29.4	16	21.4
5. Occupation of the mother				
5.1) Professional	4	5.3	6	8
5.2) skilled worker	24	32	25	33.3
5.3) Unskilled worker	35	46.7	34	45.4
5.4) Unemployed	12	16	10	13.3
6. Occupation of the Father				
6.1) Professional	19	24	18	24
6.2) skilled worker	29	38.6	29	38.7
6.3) Unskilled worker	26	34.7	26	34.6
6.4) Unemployed	2	2.7	2	2.7
7. Monthly income				
7.1) <10000	4	5.3	4	5.3

7.2) 10001-20000	10	13.3	10	13.3
7.3) 20001-30000	31	41.4	31	41.4
7.4) >31001	30	40	30	40
8. Type of family				
8.1) Nuclear family	30	40	32	42.7
8.2) Joint family	35	46.7	33	44
8.3) Extended family	10	13.3	10	13.3
8.4) If other, please specify	0	0	0	0
9. Habitation				
9.1) Urban	75	100	75	100
9.2) Rural	0	0	0	0
10. Birth place				
10.1) Home delivery	10	13.3	13	17.3
10.2) Hospital delivery	65	86.7	62	82.7
11. Mode of delivery				
11.1) Normal vaginal delivery	43	56	36	48
11.2) Lower segment caesarean Section	33	44	39	52
12. Birth order				
12.1) 1st child	20	26.7	23	3.7
12.2) 2nd child	33	44	29	38.6
12.3) 3rd child	19	25.3	18	24
12.4) 4th&above child	3	4	5	6.7
13. Is your child being Immunized				
13.1) Yes	75	100	75	100
13.2) No	0	0	0	0
14. Availability of vaccination card				
14.1) Yes	75	100	75	100
14.2) No	0	0	0	0

Section II: Description of assessing nutritional status of under-five among rural and urban community

Fig 1: Distribution of nutritional status of under five children according to their weight for age in urban and rural community

The data represented in Fig1 shows that Majority of the children 57(76%) in urban community and 47(62.7%) in rural community were in normal category, 14(18.7%) in urban community and 19 (25.3%) in rural community falls under moderately undernourished and 4(5.3%) in urban community and 9(12%) in rural community were severely under nourished, none of the children were above normal for weight for age.
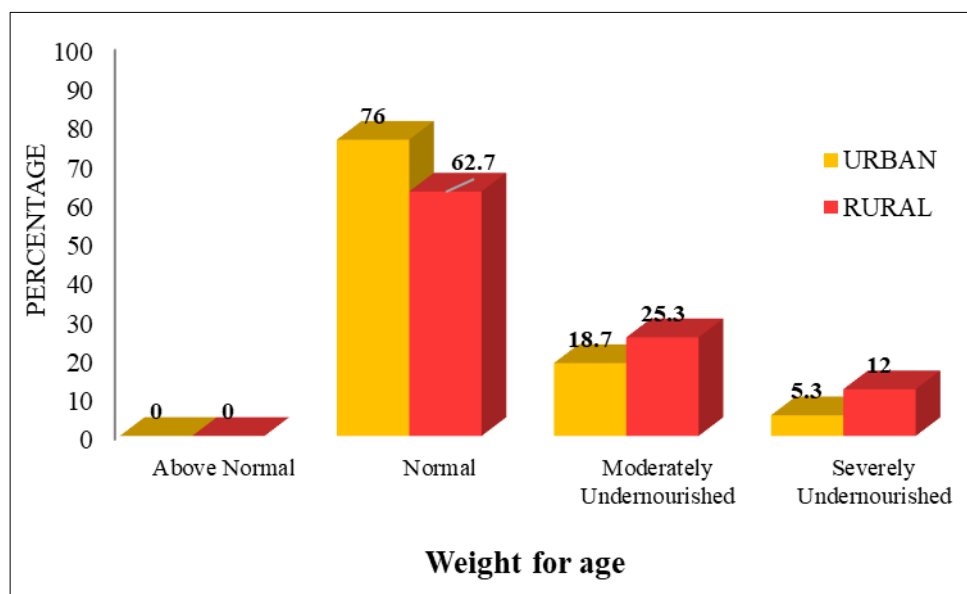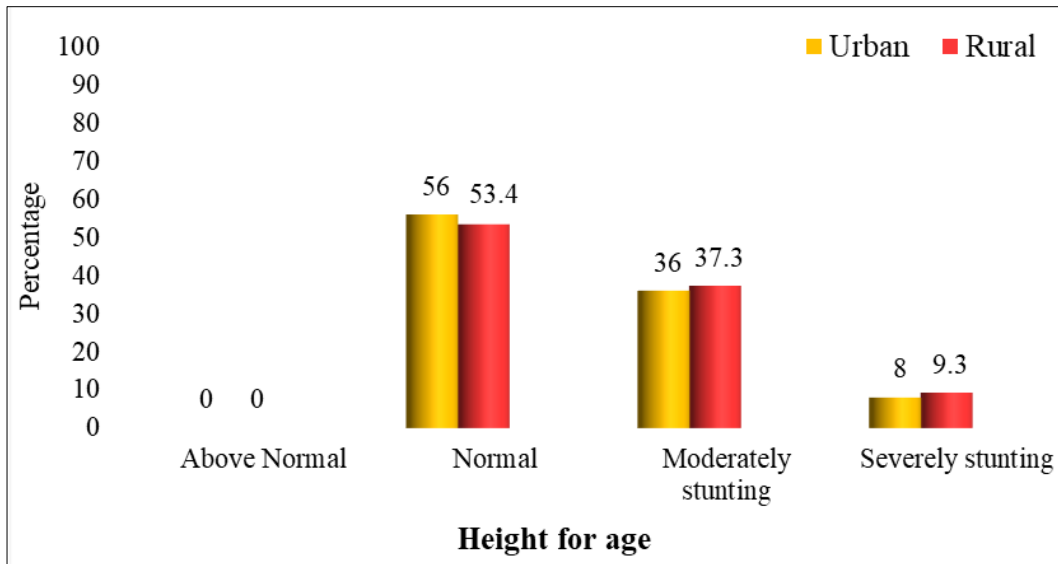
Fig 2: Distribution of nutritional status of under five children according to their height for age in urban and rural community

The data represented in Fig: 2 shows that Majority of the children 42(56%) in urban community and 40(53.4%) in rural community were in normal category, 27(36%) in urban community and 38 (37.3%) in rural community falls under moderately stunting and 6(8%) in urban community and 7(9.3%) in rural community were severely stunting, none of the children were above normal for Height for age

Fig 3: Distribution of nutritional status of under five children according to their weight for height in urban and rural community

The data represented in Fig.3 shows that Majority of the children 42(56%) in urban community and 40(53.4%) in rural community were in normal category, 27(36%) in urban community and 38 (37.3%) in rural community falls under moderately wasting and 6(8%) in urban community and 7(9.3%) in rural community were severely wasting, none of the children were above normal for weight for height.
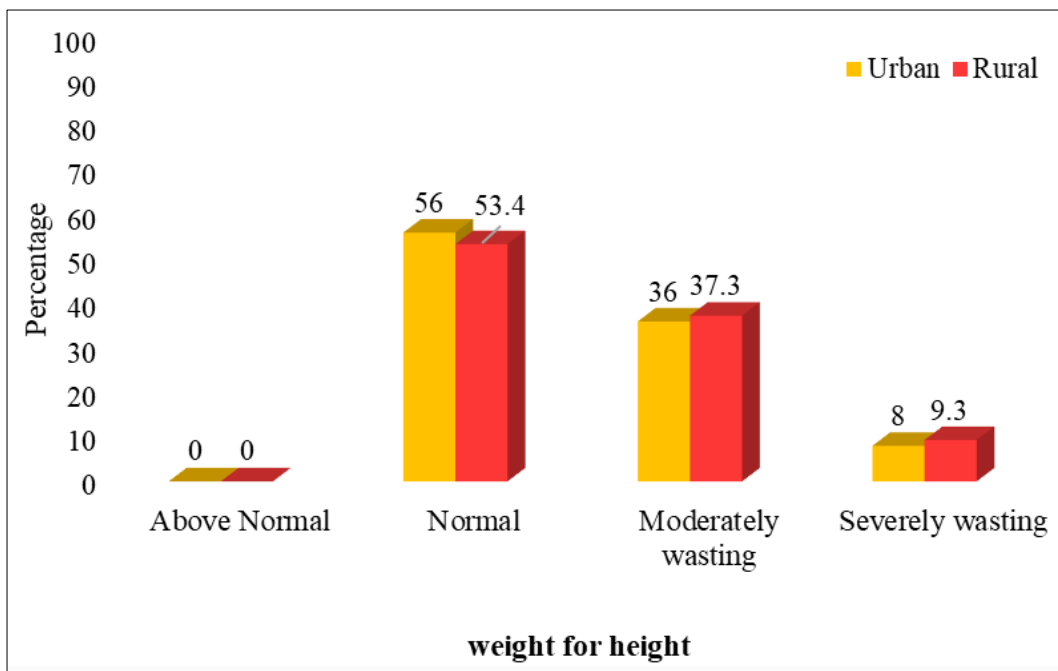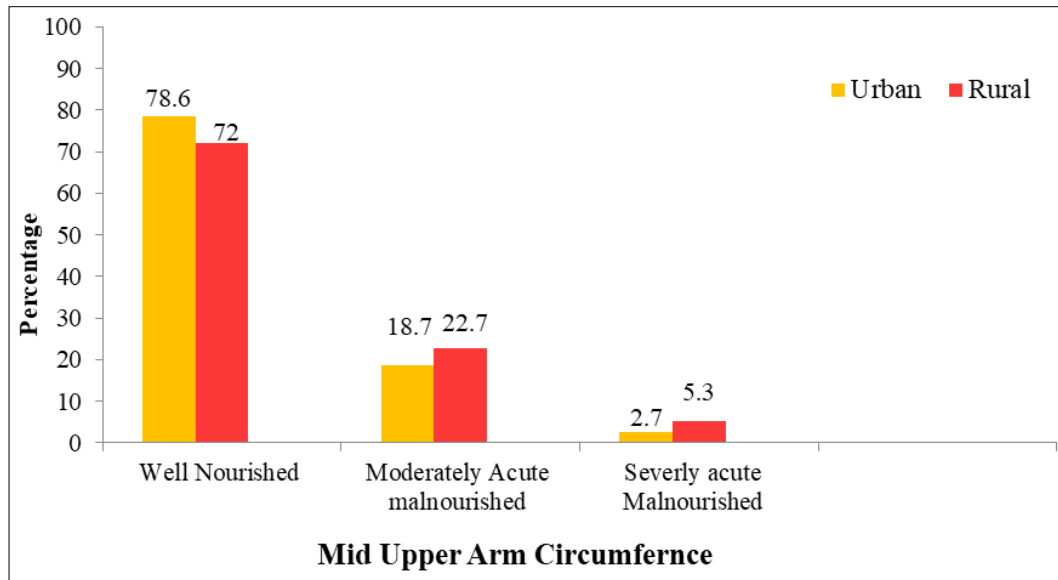
Fig 4: Distribution of nutritional status of under five children according to their mid upper arm circumference in urban and rural community

The data represented in Fig 4 shows that Majority of children 59(76%) in Urban Community and 54(72%) were well nourished category, 14(18.7%) in urban community and 17(22.7%) in rural community were moderately acute malnourished and 2(2.7%) in urban community and 4(5.3%) in rural community were severely acute malnourished.

Section III: Description of comparing nutritional status of under-five children among Rural and Urban community of East Sikkim N-150
n=75

Table 2: Comparison of nutritional status of under five children according to their weight for age in urban and rural community

Weight for age	Mean	SD	Mean D	t value	df	p value
Urban	14.22	2.667	0.837	1.986	148	0.249^{NS}
Rural	13.38	2.494				

df 148=1.9761
^{NS} = Not Significant.
$p< 0.05$

The data represented on table no 2 shows that the mean number of Weight is greater (μ=14.22) in urban community where as the mean number of weight for rural community is lesser (μ= 13.38). Since, the tabulated t-value (1.9761 at 0.05 level of significance) is greater than calculated t-value,

this implies that there is no significant difference between the weight of urban and rural community. So in comparison the weight of urban community is well maintained as compared to rural community.

Table 3: Comparison of nutritional status of under five children according to their height for age in urban and rural community N-150 n=75

Height for age	Mean	SD	Mean D	t value	df	p value
Urban	93.09	10.36	2.54	1.495	148	0.137^{NS}
Rural	90.55	10.47				

df 148=1.9761
^{NS} = Not Significant.
$p< 0.05$

The data represented on table no:3 shows that the mean number of height is greater (μ=93.09) in urban community where as the mean number of height for rural community is lesser (μ= 90.55). Since, the tabulated t-value (1.9761 at 0.05 level of significance) is greater than calculated t-value,

this implies that there is a no significant difference between the height of rural and urban community of under-five children. So, in comparison the height of urban community is well maintained as compared to rural community.

Table 4: Comparison of nutritional status of under five children according to their mid upper arm circumference in urban and rural community N-150 n=75

Mid upper arm circumference	Mean	SD	Mean D	t value	df	p value
Urban	13.44	1.099	0.203	1.180	148	0.240^{NS}
Rural	13.23	1.003				

df 148=1.9761
^{NS} = Not Significant
$p< 0.05$

The data represented on table no:4 shows that the mean number of MUAC is greater (μ=13.44) in urban community where as the mean number of MUAC for rural community is lesser (μ= 13.23). Since, the tabulated t- value (1.9761 at 0.05 level of significance) is greater than calculated t-value, this implies that there is a no significant difference between the MUAC of rural and urban community, So in comparison the Mid upper arm circumference of urban community is well maintained as compare to rural community

Section IV: Description for association of nutritional status of under-five with selected variables.

Table 5: Association between Height of under five children with selected demographic variables in urban community using Chi square n=75

Demographic Variable	Below median	Above median	χ^2	df	P value
Age in years					
1-2 year	11	9	3.492	2	0.174^{NS}
3-4 years	21	27			
4 and above	1	6			
Gender					
Male	16	20	1.006	1	0.941^{NS}
Female	17	22			
Religion					
Hinduism	18	17	1.571	2	0.456^{NS}
Christianity	7	13			
Buddhism	8	12			
Education of child					
No formal education	3	10	12.30	3	**0.006***
ICDS	9	1			
Play school	14	16			
Pre-primary school	7	15			
Occupation of mother					
Profession	3	1	6.224	3	0.101^{NS}
Skilled worker	13	11			
Unskilled worker	15	20			
Unemployed	2	10			
Occupation of father					
Profession	5	13	7.843	3	**0.049***
Skilled worker	10	19			
Unskilled worker	17	9			
Unemployed	1	1			
Monthly income					
< 10000	1	3	4.525	3	0.210^{NS}
10001-20000	4	6			
20001-30000	18	13			
>30000	10	20			
Type of family					
Nuclear family	14	16	0.460	2	0.795^{NS}
Joint family	14	21			
Extended family	5	5			
Birth order					
1st child	10	10	1.890	3	0.596^{NS}
2nd child	16	17			
3rd child	6	13			
4th child	1	2			

$p < 0.05^{NS}$ = Not Significant.

Table no: 5 shows that the obtained chi square value was significant at 0.05 level of significance. There was significant association between height and education of children, occupation of father. But for the other variables such as age, gender, religion, occupation of the mother, monthly income, type of family, birth order was not found statistically significant association with the height of under-five children residing in urban community.

Table 6: Association between Weights of under five children with selected demographic variables in urban community n=75

Demographic Variable	Below median	Above median	χ^2	df	P value
Age in years					
1-2 year	11	9			
3-4 years	18	30	3.929	2	0.140^{NS}
4 and above	1	6			
Gender					
Male	15	21			
Female	15	24	0.080	1	0.777^{NS}
Religion					

Hinduism	16	19			
Christianity	7	13	0.893	2	0.640[NS]
Buddhism	7	13			
Education of child					
No formal education			12.72	3	**0.005***
ICDS	9	1			
Play school	11	19			
Pre-primary school	7	15	3	10	
Occupation of mother					
Profession	3	1			
Skilled worker	13	11	7.247	3	0.064[NS]
Unskilled worker	12	23			
Unemployed	2	10			
Occupation of father					
Profession	5	13			
Skilled worker	9	20	5.566	3	0.135[NS]
Unskilled worker	15	11			
Unemployed	1	1			
Monthly income					
< 10000	1	3			
10001-20000	4	6	5.441	3	0.142[NS]
20001-30000	17	14			
>30000	8	22			
Type of family					
Nuclear family	13	17			
Joint family	12	23	1.032	32	0.597[NS]
Extended family	5	5			
Birth order					
1st child	9	11			
2nd child	15	18	2.155	3	0.541[NS]
3rd child	5	14			
4th child	1	2			

$p< 0.05$[NS] = Not Significant.

Table 6. Shows that the obtained chi square value was significant at 0.05 level of significance. There was significant association between Weight and education of children, but for the other variables such as age, gender, religion, occupation of the mother, monthly income, type of family, birth order, occupation of father was not found statistically significant association with the weight of under-five children residing in urban community.

Table 7: Association between mid-upper arm circumferences of under five children with selected demographic variables in urban community n=75

Demographic Variable	Below median	Above median	χ^2	df	P value
Age in years					
1-2 year	14	6			
3-4 years	28	20	1.746	2	0.418[NS]
4 and above	3	4			
Gender					
Male	22	14	0.036	1	0.850[NS]
Female	23	16			
Religion					
Hinduism	21	14			
Christianity	11	9	0.417	2	0.812[NS]
Buddhism	3	7			
Education of child					
No formal education	5	8			
ICDS	10	0	11.67	3	**0.009***
Play school	20	10			
Pre-primary school	10	12			
Occupation of mother					
Profession	4	0			
Skilled worker	16	8	12.97	3	**0.005***
Unskilled worker	23	12			
Unemployed	2	10			
Occupation of father					
Profession	8	10			
Skilled worker	16	13	5.282	3	0.152[NS]
Unskilled worker	20	6			

Unemployed	1	1			
Monthly income					
< 10000	1	3			
10001-20000	6	4	4.151	3	0.246^NS
20001-30000	22	9			
>30000	16	14			
Type of family					
Nuclear family	19	11			
Joint family	17	18	5.794	2	0.055^NS
Extended family	9	1			
Birth order					
1st child	13	7			
2nd child	17	16	1.815	3	0.612^NS
3rd child	13	6			
4th child	2	1			

$p < 0.05^{NS}$ = Not Significant.

Table 7: shows that the obtained chi square value was significant at 0.05 level of significance. There was significant association between MUAC and education of children, occupation of mother but for the other variables such as age, gender, religion, monthly income, type of family, birth order, occupation of father was not found statistically significant association with the MUAC of under-five children residing in urban community.

Table 8: Association between height of under five children with selected demographic variables in rural community n=75

Demographic Variable	Below median	Above median	$\chi 2$	df	P value
Age in years					
1-2 year	12	13			
3-4 year	14	25	4.804	2	0.091^NS
4 and above	8	3			
Gender					
Male	15	24	1.548	1	0.213^NS
Female	19	17			
Religion					
Hinduism	19	17			
Christianity	8	13	1.551	2	0.461^NS
Buddhism	7	11			
Education of child					
No formal education	3	9			
ICDS	13	9	5.411	3	0.144^NS
Play school	13	12			
Pre-primary school	5	11			
Occupation of mother					
Profession	3	3			
Skilled worker	15	10	5.049	3	0.168^NS
Unskilled worker	14	20			
Unemployed	2	8			
Occupation of father					
Profession	6	12			
Skilled worker	10	19	6.659	3	0.084^NS
Unskilled worker	17	9			
Unemployed	1	1			
Monthly income					
< 10000	1	3			
10001-20000	4	6	5.710	3	0.127^NS
20001-30000	19	12			
>30000	10	20			
Type of family					
Nuclear family	17	15			
Joint family	12	21	1.943	2	0.378^NS
Extended family	5	5			
Birth order					
1st child	10	13			
2nd child	14	15	0.869	3	0.833^NS
3rd child	7	11			
4th child	3	2			

$p < 0.05^{NS}$ = Not Significant.

Table8: Shows that the obtained chi square value was not significant at 0.05 level of significance. There was no significant association between height and age, gender, religion, monthly income, type of family, birth order, and education of children, occupation of mother, and occupation of father of under-five children of rural community.

Table 9: Association between Weight of under five children with selected demographic variables in rural community n=75

Demographic Variable	Below median	Above median	χ2	df	P value
Age in years					
1-2 year	12	13			
3-4 year	14	25	4.804	2	0.091^NS
4 and above	8	3			
Gender					
Male	15	24			
Female	19	17	1.548	1	0.213^NS
Religion					
Hinduism	19	17			
Christianity	8	13	1.551	2	0.461^NS
Buddhism	7	11			
Education of child					
No formal education	3	9			
ICDS	13	9	5.411	3	0.144^NS
Play school	13	12			
Pre-primary school	5	11			
Occupation of mother					
Profession	3	3			
Skilled worker	15	10	5.049	3	0.168^NS
Unskilled worker	14	20			
Unemployed	2	8			
Occupation of father					
Profession	6	12			
Skilled worker	10	19	6.659	3	0.084^NS
Unskilled worker	17	9			
Unemployed	1	1			
Monthly income					
< 10000	1	3			
10001-20000	4	6	5.710	3	0.127^NS
20001-30000	19	12			
>30000	10	20			
Type of family					
Nuclear family	17	15			
Joint family	12	21			
Extended family	5	5			
Birth order					
1st child	10	13			
2nd child	14	15	0.869	3	0.833^NS
3rd child	7	11			
4th child	3	2			

$p < 0.05^{NS}$ = Not Significant.

Table 9: Shows that the obtained chi square value was not significant at 0.05 level of significance There was no significant association between weight and age, gender, religion, monthly income, type of family, birth order, education of children, occupation of mother, occupation of father of under-five children of rural community.

Table 10: Association between mid-upper arm circumference of under five children with selected demographic variables in rural community n=75

Demographic Variable	Below median	Above median	χ2	df	P value
Age in years					
1-2 years	16	9			
3- 4 years	22	17	1.076	2	0.584^NS
4 and above	8	3			
Gender					
Male	23	16			
Female	23	13	0.191	1	0.662^NS
Religion					
Hinduism	22	14			
Christianity	13	8	1.004	2	0.798^NS
Buddhism	11	7			

Education of child					
No formal education	5	7			
ICDS	16	6	3,411	3	0.333NS
Play school	16	9			
Pre-primary school	9	7			
Occupation of mother					
Profession	6	0			
Skilled worker	18	7	12.27	3	0.006*
Unskilled worker	20	14			
Unemployed	2	8			
Occupation of father					
Profession	8	10			
Skilled worker	16	13	6.879	3	0.076NS
Unskilled worker	21	5			
Unemployed	1	1			
Monthly income					
< 10000	2	2			
10001-20000	6	4	2.247	3	0.523NS
20001-30000	22	9			
>30000	16	14			
Type of family					
Nuclear family	21	11			
Joint family	16	17	6.011	2	**0.049***
Extended family	9	1			
Birth order					
1st child	12	11			
2nd child	17	12	2.538	3	0.468NS
3rd child	13	5			
4th child	4	1			

$p< 0.05$NS = Not Significant.

Table 10 Shows that the obtained chi square value was significant at 0.05 level of significance There was significant association between MUAC and type of family, but for the other variables such as age, gender, religion, monthly income, birth order, occupation of father, education of children, occupation of mother was not found statistically significant association with the MUAC of under-five children residing in urban community.

Discussion
Assessing the nutritional status of under-five in rural and urban community
Weight for age Majority of the children 57(76%) in urban community and 47(62.7%) in rural community were found Normal category, 14(18.7%) in urban community and 19 (25.3%) in rural community falls under Moderately undernourished and 4(5.3%) in urban community and 9(12%) in rural community were Severely undernourished, none of the children were above normal category for weight for age. Height For Age.Majority of the children 42(56%) in urban community and 40(53.4%) in rural community were in normal category, 27(36%) in urban community and 38 (37.3%) in rural community falls under moderately stunting and 6(8%) in urban community and 7(9.3%) in rural community were severely stunting, none of the children were above normal for Height for age. Weight for height Majority of the children 42(56%) in urban community and 40(53.4%) in rural community were in normal category,27(36%) in urban community and 38 (37.3%) in rural community falls under moderately wasting and 6(8%) in urban community and 7(9.3%) in rural community were severely wasting, none of the children were above normal for Height for age. Mid upper arm circumference, Majority of children 59(76%) in Urban Community and 54(72%) in rural community were well nourished, 14(18.7%) in urban

community and 17(22.7%) in rural community were moderately acute malnourished and 2(2.7%) in urban community and 4(5.3%) in rural community were severely acute malnourished.

The findings of the study is supported by another study conducted by Islam Md *et al*. [8] A descriptive cross-sectional study on Nutritional Status of Rural and Urban Under-Five Children in Tangail District, Bangladesh on 144 under-five children from rural (n=72) and urban (n=72) community by, probability purposive sampling techniques. The findings of the study are similar with the findings of the study of shows that for WHZ in rural area that 1.39% children were severely wasted, 1.39% were moderately wasted, 22.23% were mildly wasted and there were no severe overweight but in urban areas 25%, 2.78% and 1.38% were mild overweight, moderate overweight and severe overweight respectively. For WAZ, the results also stated that, the children from rural area were underweight (38.8% mildly underweight and 25% moderately underweight) rather than overweight but inverse results were found for urban children. For HAZ, the prevalence of moderately stunting among rural children (44.45%) was higher than urban children (2.78%).

Comparison the nutritional status of under-five among rural and urban community
The present study, while comparing the nutritional status, we can conclude that the mean score for WAZ (μ=14.22), HAZ (μ=93.09) and MUAC (μ=13.44) for urban and WAZ (μ=13.38), HAZ (μ=90.55) AND MUAC (μ=13.23) for rural community respective standard deviation and with obtained t-value which is not significant. There is no significance difference between rural and urban under-five children with respect to nutritional indicator. However the nutritional status of under-five among urban community are

certainly better then rural community in comparison with mean score.

The findings of the study is supported by another study conducted by R.Waghode *et al*. "a comparative study if nutritional status among under five among rural and urban slums in Pune" The study done by R.Waghode *et al*. [9] was found to be similar, where prevalence of moderate wasting, Severe stunting, and severe underweight was higher in children from rural slums while prevalence of severe wasting was similar in both the populations. Mid-upper-arm circumference revealed that 2.5% children in rural slums were severely malnourished which was not detected among urban children, more over percentage of children at risk of malnutrition was also found comparatively more in rural population.

Recommendations

- Community based nutrition program should be established to tackle the problem of malnutrition at community level depending on the severity of malnutrition identified in this study.
- The study did not describe the cause-and-effect relationship between dependent and independent variables as the study is comparative study design. So, longitudinal study might give better information on cause-and-effect relationship between different variables.
- There is more need for more attention on feeding and hygiene practices in order to reduce the problem of malnutrition.
- Furthermore, further studies can be done to see unexplored variables such as dietary diversity, seasonal factors and household food security which were not included in this study.
- Nutrition surveillance should be done continuously and special attention should be given to vulnerable groups such as poorest and the most severely malnourished children.

References

1. Awasthi N, Kumar AP. Nutritional status of hill primary school children. Ind J. Nutr Dietetics. 1999;36:453-459.
2. Manna PK, De D, Bera TK, Chatterjee K, Ghosh D. Anthropometric assessment of physical growth and nutritional status among school children of North Bengal. Anthropologist. 2011;13(4):299-305.
3. https://www.who.int/nutrition/double-burden-malnutrition/en/ ASSESS ON 7 JUNE
4. https://economictimes.indiatimes.com/https://economictimes.indiatimes.com/news/politics-and-nation/malnutrition-behind-69-per-cent-deaths-among-children-below-5-years-in-india-unicef report/articleshow/71618288.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst ASSESS ON 7TH JUNE 2020.
5. https://www.who.int/nutrition/double-burden-malnutrition/en/ ASSESS ON 7 JUNE 2020.
6. https://www.livemint.com/politics/policy/where-are-india-s-unhealthiest-children-11571740234787.htm
7. https://www.intechopen.com/books/perspective-of-recent-advances-in-acute-diarrhea/childhood-malnutrition-in-india
8. Islam Md. Serajul, Jothi Jakia, Islam Monirul, Huq Dr. Obidul AK. Nutritional Status of Rural and Urban Under-Five Children in Tangail District, Bangladesh. International Journal of Innovation and Applied Studies. 2014;8:841-848.
9. Waghode Rupali, Jasti Pratima, Ghooi Ravindra. Comparative Study of Nutritional Status of Preschool Children of Rural Area and Urban Slum. Indian Journal of Public Health Research & Development. 2017;8:628. 10.5958/0976-5506.2017.00407.7.