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Nutritional condition, dietary and activity patterns of Primary School Childrens in Eravurpattu Division

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ABSTRACT

Normally the level of nutrition status of School children in Sri Lanka is not favorable. The Situation is worst in the areas affected by ethnic conflict. Main objectives of this research were studying the current nutritional conditions and contributory factors that have been forced for this situation and remedial measures which could be adopted to correct the situation then we selected primary schools Childrens are from five schools in affected areas. They are Karadiyanaru Maha Vidthiyalayam, Ellupattichenai ambal Vidthiyalayam, Pankudavale Roman Catholic Vidthiyalayam, Kiththul Srikrishna Vidthiyalayam, Pullumalai Roman Catholic Vidthiyalayam. Were selected for this study and multi stage sampling method was used. Samples were randomly selected for areas and Data's were collected in the form of interview schedule and dietary survey questionnaires. To find out the relationship between contributory factors and nutritional conditions, regression analysis method was used. Survey findings reported that there was a positive relationship between nutrition conditions and food consumption, income, and good sanitation practices. There was a negative relationship between nutritional conditions, infections diseases and body mass index among the dependents of the family. In case of food consumption (Calorie intake) and infectious diseases, there was a negative relationships between these two factors. Further considering the matter of age limits some differences were observed between standard weight and the normal weights of the targeted group. Having compared with standard values, it was found that 38% of school children were stunted, 42.24% were under weight. 20% were wasted there for it can be concluded that the nutritional status of school children in the selected school is poor. Thus immediate attention should be paid to correct the situation.

Keywords: Nutritional Status, Anthropometric measurements, infection, value, stunted, wasted, sampling, sanitation, survey, consumption, diseases, body mass index, analyzing, factors, calories

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1. Introduction

Sri Lanka has achieved a good health states, still a number of nutritional problem are in existence, especially with children and also the prevalence of Wasting, stunting and underweight and numerous discovers are considerably high among them. According to the nutritional survey data, one out of every eight children in the world has not reached to the standard height or weight for age.

In considering the nutrition status in the Eastern Province, especially with relation to the condition in Eravurpattu division, the nutrition status of school children in the areas affected by terrorism is determined by the factors like, poor infrastructure facilities including health service, low precipitate income (poverty, nutritional and manmade disasters such as flood, droughts. This condition is proved by the survey carried out on the Rapid food and livelihood security

assessment for our holds by care International Sri Lanka in 2019 According to this survey finding 22.3% school children in affected area were wasted and 29.6% were stunted .

2. Materials and Methods

This chapter describes the materials / instruments used in the study and criteria followed in data collection in the field survey (all measurement takes to instruments).

3. Results and Discussion

3.1 Health status of the children

3.1.1 Anthropometric characteristics

In order to estimate the health status following anthropometric parameters are taken into accounts viz height, weight, mid upper arm circumference, waist, hip circumferences were measured. The anthropometric characteristics of the surveyed population are presented in table1.

Table1: Anthropometric characteristics by school basis

Parameter		Karadipattu	Pullumalai	Elupattichena	Kithul	Panukavale
		N= 30	N = 30	N = 30	N=30	N = 30
Weight	M	30.72 ±4.61	31.48 ±7.27	26.73 ±2.3	28.52 ±6.05	26.03 ±3.13
	F	29.72 ±5.78	29.52 ±4.61	28.66 ±4.6	29.52 ±4.61	29.57 ±3.79
Height	M	142.83 ±7.2	141.23 ±7.05	135.68 ±5.546	137.4 ±5.09	136.776 ±7.52
	F	137.92 ±6.1	141.188 ±7.38	141.36 ±7.6	141.188 ±7.38	139.411 ±7.821
MAC	M	17.71 ±1.75	19.06 ±2.63	17.86 ±0.9	18.03 ±2.11	17 ±.821
	F	17.55 ±1.33	18± 1.4	17.86 ±1.44	18± 1.4	17.61 ±1.635
Waist	M	61.095 ±5.42	64.13 ±6.36	57.2 ±2.5	58.33 ±6.11	56.238 ±3.348
	F	57.55 ±6.94	63.27 ±4.28	54.33 ±3.25	63.27 ±4.28	56.11 ±7.14

In Eravurpattu division the average weight of the school children is 29.20±3.32 in female children. The average height of the children is 139.78±7.098. The average MUAC in student is 17.91±.84. The average waist circumferences in student is 59.43±6.12.

3.1.2 Body mass index (BMI)

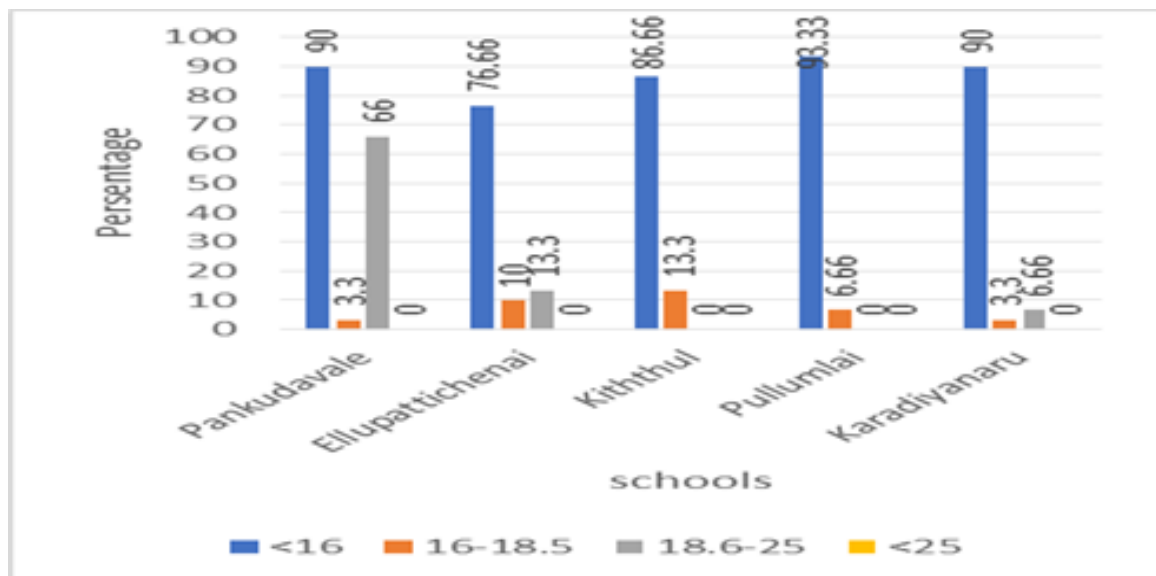
BMI of children calculated by anthropometric measurements is given below (Table 2). If the BMI value is less than 16.0 it is defined as the status of severe chronic energy deficiency. If the BMI value is between 16.0- 18.5 we call that situation of moderate chronic energy deficiency. The ideal situation is between 18.5 and 25.0. If the BMI >25.0 it is called as over nourished.

Table 2: Body mass indexes of children

BMI	Number of children
<16	130
16.0 - 18.5	13
18.5 – 25	07
>25.0	-
Total	150

But according to these data's 86.6 of children are in severe malnutrition and 8.9 are in moderate malnutrition and only 8.32 are ideal condition.

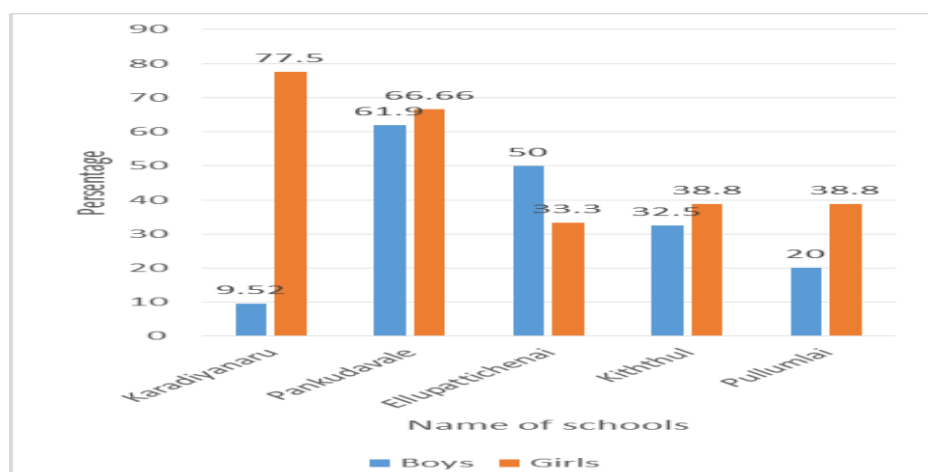
Nobody is in the category of over nutrition (Figure 1).

**Figure 1. Status of BMI in school wise**

3.1.3 Stunting

This parameter indicates that weight of a child in relation with height. This index used to measure acute malnutrition at the survey. In relation to the

stunting condition it is also found distributed throughout the entire age limit and was not specific for a particular age limit.

**Figure 2. Prevalence of stunting in school wise**

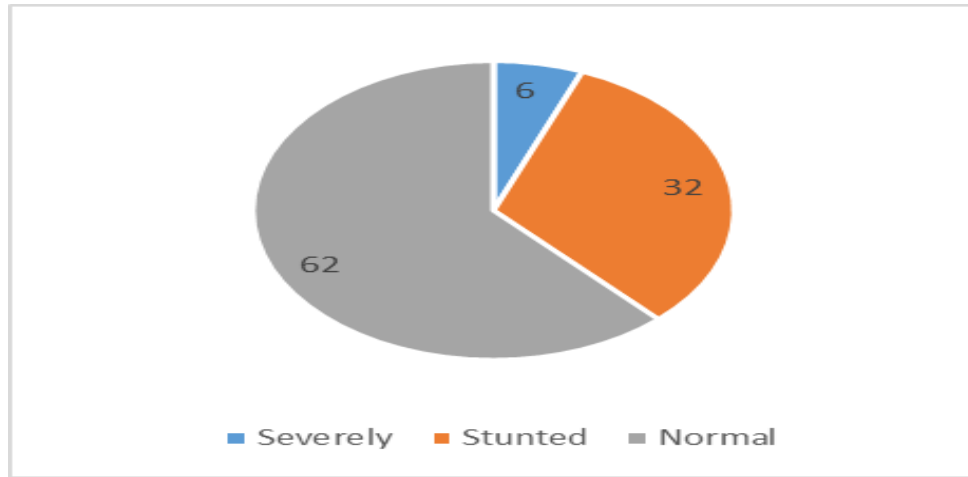


Figure 3. Percentage of stunting in Eravurpattu division. Z score -2 SD to +2 SD - Normal condition 62%; Z score < -2 SD – stunted 32%; Z score < -3 SD – Severely stunted 6%

Summarized stunting can be shown by pie diagram given above (Fig 3) stunting reflects past nutritional history of a child rather his current nutritional intake

Percentage of wasting is significantly high and distributed throughout all age and also it is not specific for a particular age limit. The percentage of wasting students can be displayed as follow

3.1.4 Wasting

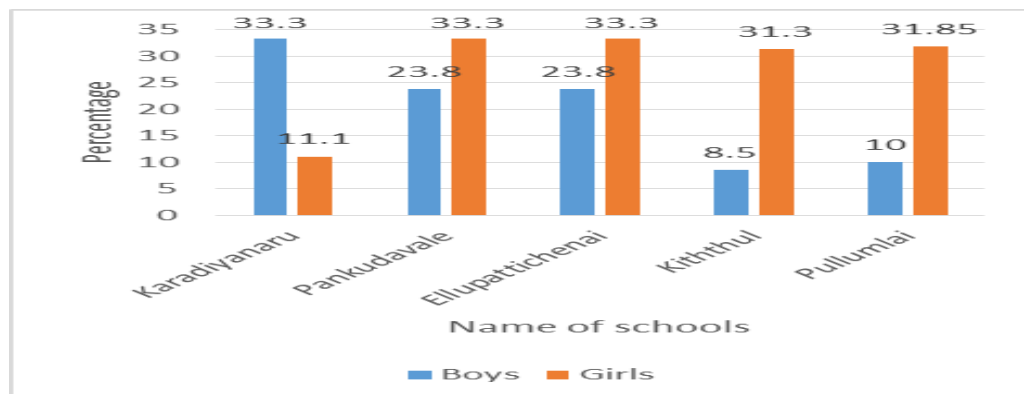


Figure 4. Prevalence of wasting in school wise

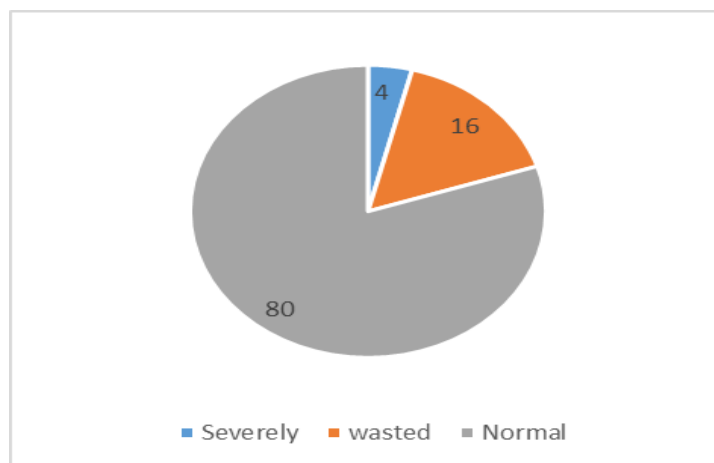


Figure 5. Prevalence of wasting in Eravurpattu division. Z score -2 SD to +2 SD - Normal condition 80%; Z score < -2 SD – wasted 16%; Z score < -3 SD – Severely wasted 4%

This parameter indicates that weight of a child in relation with height. It reveals whether a child is thin not but does not discriminate between two children of the same height and weight. This

index used to measure accurate malnutrition at the survey time.

3.1.5 Mid Upper Arm Circumference

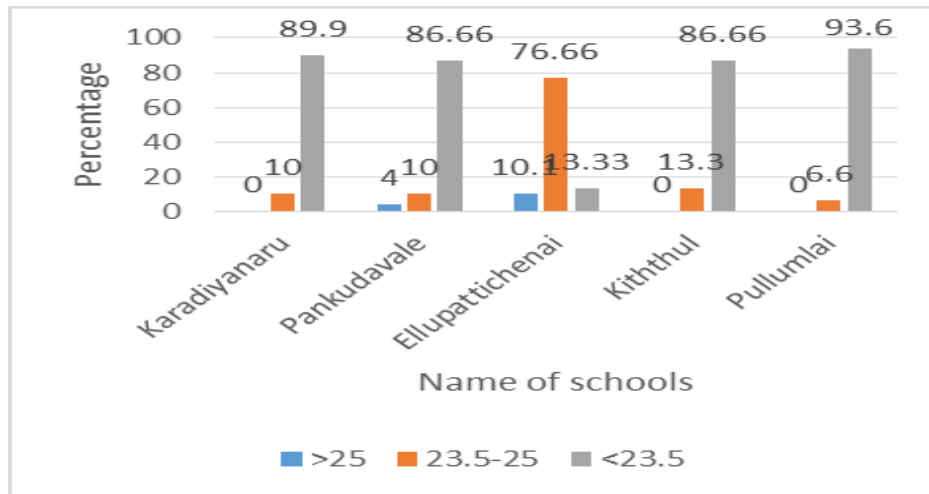


Figure 6. Prevalence of Mid upper arm Circumference in School wise

It is showing except Kiththul School other four schools mid upper arm circumference average up to 86.66 percentages.

By this the BMI is likely to ± 20 is 2 % (3 in 150) and the BMI is likely to be ± 18.5 and < 20 is 11.33 % (17 in 100) and the BMI may be < 18.5 is 86.6 % (130 in 180)

3.1.6 Waist Hip ratio

It shows that 45.36% of boys have their waist/Hip ratio more than 0.9; risk for diseases, 64.15% of girls have their waist/hip ratio more than 0.8; risk for diseases.

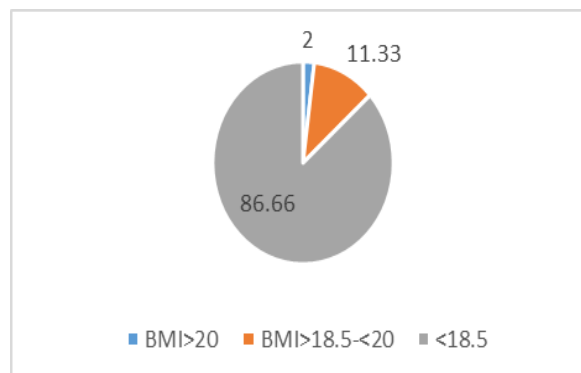


Figure 7. Prevalence of mid arm circumference in Eravurpattu division

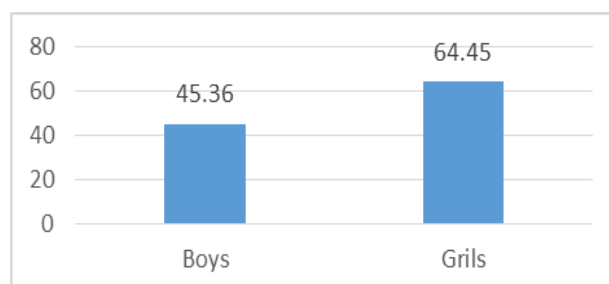


Figure 8. Prevalence of Risk by Waist Hip Ratio in Eravurpattu Division

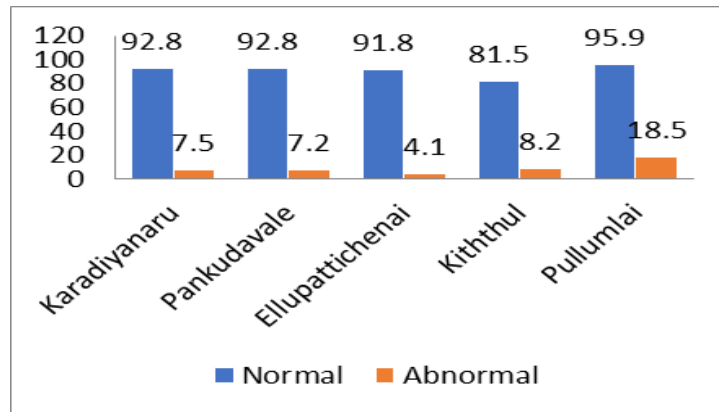


Figure 9. Waist/Hip Ratios in Boys

According the figure 9 showing percentage waist/hip ratios of boys but showing figure five schools are good average percentages more than 90.96.

This figure showing waits hip ratios percentage comparing of five schools girls. Kiththul and Pullumalai abnormal percentage are high but other three schools normal average percentage more than 80%.

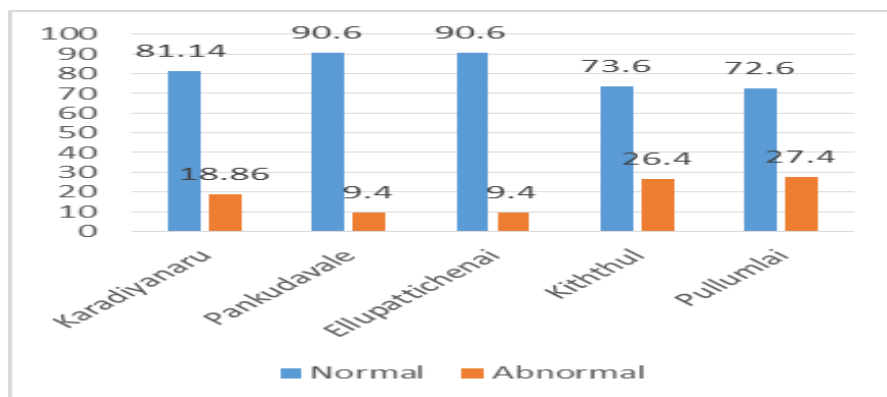


Figure 10. Percentage distribution of Waist: Hip ratios in Girls

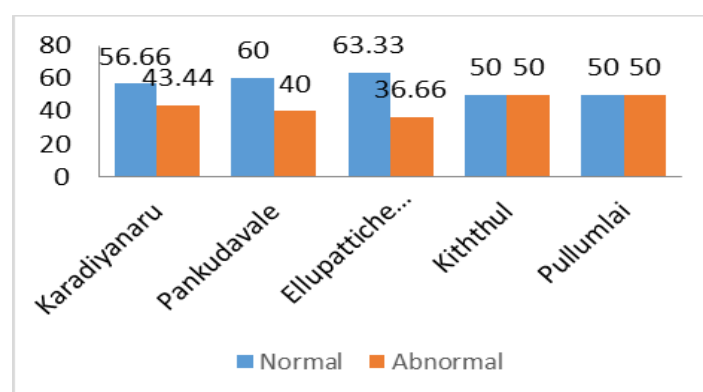


Figure 11. Prevalence of risk by waist: Height ratio in School Wise

It is showing percentages distribution waist height ratios Kiththul and Pullumalai 50, 50 percentages but other three schools are normal ratios more than 56% What are the another factors involving health status of children.

3.2 What are the another factors involving health status of children

According to this project, several contributory factors, those are mainly leads to the nutritional status of school children in the selected area.

They are Family income, Food consumption, Educational Level, Family dependence / Family size, Sanitation practices and hygienic condition, Infections disease, Food consumption

3.2.1 Food consumption

It is showing distribution of calorie intake in students. But these situations are created not sufficient calories for five schools students.

3.2.2 Family income

Distribution of occupation/family income highly effected to nutrient value/status of students. Research studding area most of people are farmers and labours some are government staffs, small venders and fishery.

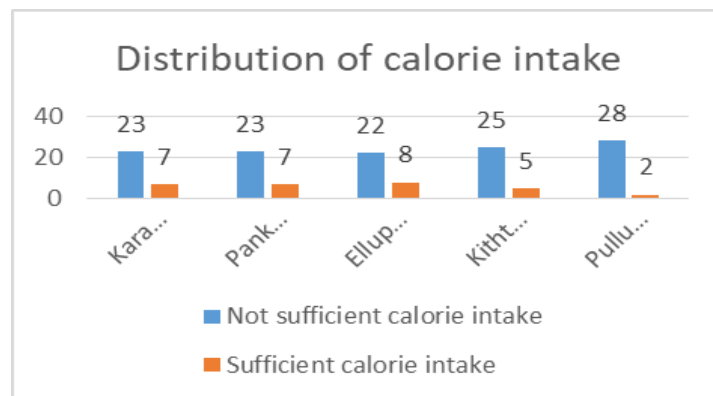


Figure: 12 Distribution of Calorie intakes in school wise

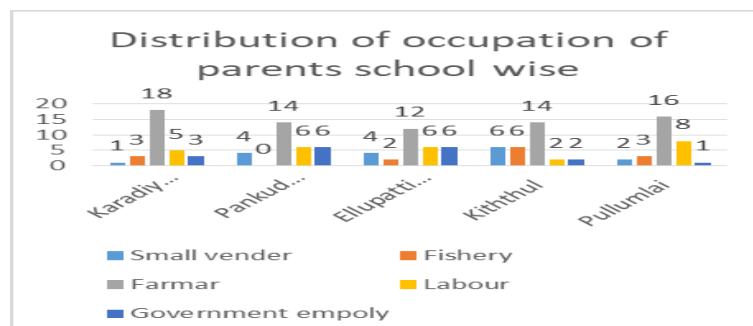


Figure 13. Distribution of occupation of parents of the children (children's' school wise)

3.2.3 Infectious Diseases

It was considered some common infections disease among school children. During the particular period it was observed that infections disease spread throughout the area. Common infectious diseases identify which deteriorate nutritional status of school children are of follows.

Diarrhea, Worm disease, Cough and fever, Children guinea, Mussels, Typhoid Tuberculosis. The major reasons for spreading of infectious diseases were poor sanitary facilities and personal hygiene these factors occurred due to Ignorance, less attention for

children, Poor food habits and health practices, inadequate guidance of the village level, Poor knowledge for prevention and to eradicate those problems, Poor infrastructure facilities. Likewise, there were a lot of reasons and causes for the spreading of above infections.

3.2.4 Relationship between factors Affecting nutrition status

Monthly family income and BMI value

In relation with these figures, data and information it is finally going to assess how the

contributory factors affect the nutritional status of the school children.

3.2.5 Number of family members and BMI

This figure also shows a negative relationship between body mass index and family size. When size of the family widens the amount of food consumptions is reduced and it affects the growth. This leads to the reduction of the body mass index value.

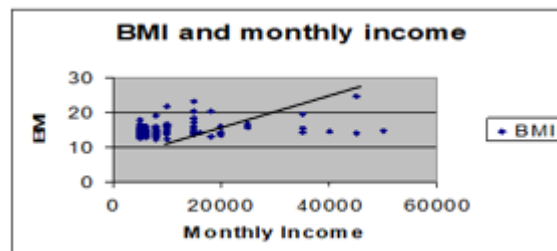


Figure 14 Relationship between Monthly family income and BMI value $R^2 = 0.067$

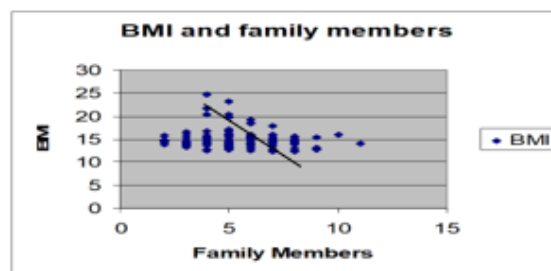


Figure 15 Relationship between family dependents and BMI $R^2 = 0.024$

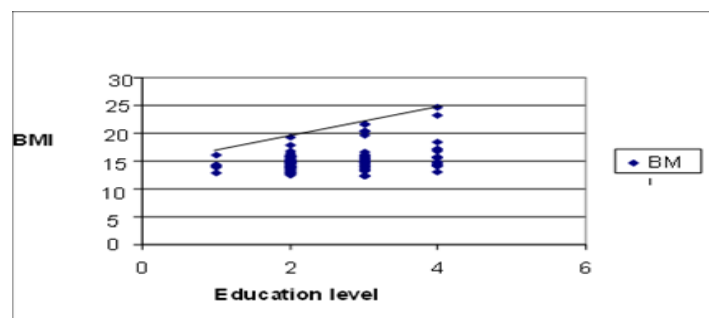


Figure 16. Relationship between Education level of parents and BMI $R^2 = 0.094$

4.0 CONCLUSION AND RECOMMENDATION

Conclusion

The first objective of this investigation was to find out the current nutrition status of the school children in Eravurpattu division affected areas in Batticaloa District.

3.2.6 Education level of parents and BMI value

This figure also shows a positive relationship between body mass index and the education of parents. The following organization and their following activities are being carried out in school of Batticaloa districts Eravurpattu division.

Nutrition Status was assessed by anthropometrics measurement and the children's nutrition status was categorized as, underweight, standing wasting; body mass index value, waist/Hip ratio and weight/ Height ratio were also used to assess the Nutrition status.

Results indicated the nutrition status as follows * underweight –42.24* Stunting –38% * wasting – 20%

According to the data from research survey obtained from the country profile, the island wide nutritional statuses of the Children are as follows.

Under Weight – 31%, Stunting -18.5%, wasting -19%

According to the assessments and evaluation of the Body mass index nutrition status can be recognized as sever, moderate, normal and over nourished. After considering all the above categories finally, it can be concluded that 81.77% of the primary school children of these affected area is undernourished and only 19.3% of them are well nourished.

When considering the Family income, Food consumption pattern, educational level, family size, Sanitation practices and infectious diseases, family size and infectious diseases were higher and all the other factors were lower comparing with the other areas. It can be suggested that, the above conditions has contributed to the malnutrition of the school children of the affected areas.

The second objective of this investigation was to identity the contributory factors of the nutrition status in the school children.

Following factors were identified. Family income, Food conscription pattern Educational level, Family size, Sanitation practices, Infectious diseases

The relationship between above factors and the with nutrition status were found as follows;

There is a positive correlation between food consumption and body mass index.

There is a positive correlation between Monthly family income and body mass index.

There is a negative correlation between family size and body mass index.

Recommendations

Improving cultivation of vegetable and in addition to paddy cultivation, improving home

gardening, improving livestock Production, Improving nutrition education

Involvement of nongovernmental organization and the government, Improve the infrastructure.

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