

**NUTRITIONAL KNOWLEDGE OF
SCHOOL CHILDREN**

By

Naduni Dushanthi Karalliyadda

**Thesis submitted to the University of Sri Jayewardenepura for
the award of the Degree of Master of Science in
Food Science & Technology**

DECLARATION

The work described in this thesis was carried out by me under the supervision of Prof. Authur Bamunuarachchi and Dr. K.K.D.S. Ranaweera, and a report on this thesis has not been submitted to any university for another degree

24-11-06

Date

Naduni Dushanthi Karalliyadda

Naduni Dushanthi Karalliyadda

We, Prof. Authur Bamunuarachchi and Dr. K.K.D.S. Ranaweera jointly certify that the above statement made by the candidate is true and that thesis suitable for submission to the University for the purpose of evaluation.



Signature

Supervisor

Prof. Authur Bamunuarachchi

FORMER HEAD/DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

UNIVERSITY OF SRI JAYEWARDENEPURA

SRI LANKA



Signature

Supervisor

Dr. K.K.D.S. Ranaweera

HEAD/DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

UNIVERSITY OF SRI JAYEWARDENEPURA

SRI LANKA

TABLE OF CONTENTS

List of figures	v
List of Tables	vi
Acknowledgement	vii
Abstract	viii
Chapter - 1	
Introduction	
1.1 General	1
1.2 Is nutritional knowledge related to food behaviours	3
1.3 Maternal nutritional knowledge and child nutritional status	4
1.4 Poor Nutrition Knowledge	6
1.4.1 Food classifications	7
1.5 Significance and need of the survey	7
1.6 Objectives of the survey	8
1.7 Specific Objectives	8
Chapter - 2	
1.8 Literature Review	9
1.9.School Children and adolescent	12
2.0 Nutrients for the Growing Years	13

2.1 Protein	17
2.2 Lipids	18
2.3 Carbohydrate	20
2.4 Vitamins	21
2.5 Minerals	23
2.6 Fibre	24
2.7. Vegetables	25
2.8 Fruits	28
2.9 Water	28

Chapter - 3

Experimental

3.1. Study area	30
3.2 Design of the study	30
3.3 Period of study	30
3.4 Study Population	30
3.5 Sample Size Calculation	30
3.6 Sampling Procedure	30
3.6.1 Importance of sampling	31
3.6.2. Stratified Random Sampling	31
3.7. Study Instrument	31

3.8 Method of Data Collection	31
3.9.Data Entry and Analysis	32
Chapter - 4	
Results	
4.0 Find whether the knowledge varying with different categories	42
4.01.Gender	42
4.02.Age-School	46
4.03.Age-Total no of Children	54
4.1 Finding the knowledge in consumption of nutritions	55
4.2 Influencing factors	61
4.3 Nutritional value of the favourite meal	63
4.4 Meal time variation	65
4.5Variation of parents education level	67
4.6Variation of parents income	70
4.7 Variation of parents income with no of children	73
4.8 Variation of expenditure on food	75
4.9 Variation of expenditure on food vs income	78
Chapter - 5	
Discussion	80

Chapter - 6

Conclusion

85

References

88

Annexure - 1	89
Annexure - 2	90
Annexure - 3	91
Annexure - 4	92
Annexure - 5	93
Annexure - 6	94
Annexure - 7	95
Annexure - 8	96
Annexure - 9	97
Annexure - 10	98
Annexure - 11	99
Annexure - 12	100
Annexure - 13	101

LIST OF FIGURES

Figure-1-2	Gender of respondents	34-35
Figure 3-4	Variation of consumption of nutritions against gender	45-46
Figure 5-13	Knowledge variation with age	48-54
Figure 14-22	knowledge in consumption of nutritions	62-67
Figure 23-25	Influencing factors	68-69
Figure 26-28	Nutritional value of the favourite meal	70-71
Figure 29-31	Meal time variation	72-73
Figure 32-34	Variation of parents education level	74-75
Figure 35-37	Variation of parents income	75-77
Figure 38-40	Variation of parents income with no of children	77-79
Figure 41-43	Variation of expenditure on food	79-80
Figure 44-46	Variation of expenditure on food vs income	81-82

LIST OF TABLES

Table-1	A pattern for daily food choices	15
Table-2	Energy and some nutrients supplied by 100g edible portion of Vegetables	26
Table-3	Interested to have knowledge on nutrition	36
Table-4	Sources of gathering knowledge on nutrition	36
Table-5	Suggestions to improve Nutritional Knowledge	37
Table-6	Knowledge on general statement	38
Table-7	Knowledge on general statement	39
Table-8	Knowledge on general statement	41

ACKNOWLEDGEMENT

I wish to express my sincere thanks and heart felt gratitude to my supervisors Prof.Arthur Bamunuarachchi and Dr.K.K.D.S Ranaweera,Head/Department of Food Science and Technology of University of Sri Jayawardenepura .

Also I thankful to Mr and Mrs.Wijerathne who given me the fullest support to complete this thesis.

I would like to thank Miss Purnima of Industrial Technological Institute,for her guidance and assistance given to me in several ways in during the period of this survey.

I wish to express my sincere gratitude with deep appreciation to my dearest parents,my husband and my relatives for their fullest cooperation given to me to pursue this study.There are numerous others whose name though not mentioned to whom thanks are due

STUDY OF NUTRITIONAL KNOWLEDGE OF SCHOOL CHILDREN

Naduni Dushanthi Karalliyadda

ABSTRACT

This study conducted to assess the knowledge on nutrition of school children in three different schools. Selected sample consist of two Government Schools and a one International School.

School meals can make an important contribution to the energy intake of school children. Though the school children were consuming food this survey was carried out to find out whether they were knowledgable in nutritions.

In addition, it focused on gender, age group, type of school, total no of children, general, knowledge on each nutrient. In addition to that selected sample had a relationship between parents income with no of children , variation of expenditure on food vs income, Nutritional value of the favourite meal and the influencing factors for selecting a meal.

The sample population divided according to schools and standard comprehensive close-ended questionnaires administered to collect the data required. The data collected within two months. The collected data was analyzed using Chi-square Distribution Procedure. This survey revealed that the knowledge on nutrition does not varied with gender, age, total no of children But varies with the type of school.

There is no difference in knowledge between females and males. According to Chi square method (χ^2_{cal})=0.8, degrees of freedom=1.

There is no difference in knowledge between different age groups and total no of children.. But knowledge is different among the schools.

Wokshops were the best source of gathering knowledge on nutrition. Whereas the most of them suggested Video/Films were the best method of improving knowledge on nutrition.

Although sample population had knowledge about nutrition ,unfortunately following week points notified.Knowledge on Protein deficiency 37.30%, Knowledge on Vitamin B₁₂ 35.19%.;36.57% were known about Processing of fruits, whereas37.45% were known about a Vegatarian diet.

Furthermore 79.32% were known about Proteins, 77.90% identified,Carbohydrates, 61.63% were known about Fibre,while 62.85% were known about Uses of Fibre, 68.15% were known about Minerals,59.88% about Vitamins,51.09% about Iron, 49.01%known on Processing of rice, 59.89% known about Parboiled rice , 42.55% were known about Processed food.Furthermore 64.64% were known about Processing of green leaves. 55.14% identified uses of water for the human body, 51.01% were known about Milk, 76.37% were known about fruits,73.76% identified Cholesterol, 53.55% were known about lipidsWhereas 65.01% were known about fish..In addition to that, while 70.24% known about Vegetables.64.44% identified about a balanced diet

CHAPTER-1

INTRODUCTION

1.1 What is nutrition?

The council on Food and Nutrition of the American Medical Association defines nutrition as “The science of food, the nutrients and the substances therein, their action, interaction, and balance in relation to health and disease, and the process by which the organism ingests, digests, absorbs, transport, utilizes, and excretes food substances.”

(Wickramanayaka-Nutrition and Dietetics)

Food provides both the energy and the materials needed to build and maintain all body cells. Nutrients are the nourishing substances we must obtain from food. These essential substances are vital for growth and maintenance from infancy to adulthood. For a nutrient to be considered essential, two characteristics are needed. First its omission from the diet must lead to a decline in certain aspects of human health, such as function of the nervous system. Second, if the omitted nutrient is restored to the diet before permanent damage occurs, those aspects of human health hampered by its absence should regain normal function.

Carbohydrate, proteins, lipids, vitamins, minerals and water make up six classes of nutrients found in food. Nutrients can be further sorted into three groups (1) those that primarily provide us with energy—Carbohydrates, proteins, lipids, (2) those that are important for growth, development, and maintenance—proteins, lipids, vitamins, minerals, water (3) those that act to keep body functions running smoothly—proteins, lipids, vitamins, minerals and water. Some overlap exists between these groupings. The energy yielding nutrients make up a major portion of most food.

A food may be defined as any substance which, when taken in to the body enables an organism to grow and maintain health. The term food, therefore includes all solid and

liquid foods ,water and substances dissolved there in.Food carries out these functions in three ways.

1.by supplying material for the production of energy.

2.by supplying material for building up of new tissue and for repair of tissue.

3.by subblying substances which enable and even stimulate the body to produce energy and to grow.

(Wickramanayaka-Nutrition and Dietetics)

Nutrition also involves the study of man in relation to his food:his food beliefs and practices and the influence of social,religious and economic factors on his eating pattern which,in turn ,may affect his health and wellbeing .

Studies done in developing countries suggested that lack of knowledge about food is the major cause for malnutrition and food related diseases rather than the availability of foods.

Poor knowledge on nutrition ,low literacy rate,taboos,cultural practices,religion believing and myths lead to malnutrition.

In Sri Lanka as in other developing countries ,malnutrition and ill health are associated with a cluster of related and often coexistent factors.such as limited resources for the basic needs.of food and shelter,poor environment where infections and vector –borne diseases are widespread ,poor access to safe water ,large family size and a low level of education (especially of the female).

These factors act synergistically in the progression and perpetuation of undernutrition.

Undernutrition.could have a lasting effect on family development.It can result in inefficiency and low productivity.Low productivity leads to low income and economically and socially deprived households or community.