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A Descriptive Study to Assess the Growth and Nutritional Status of Pre-school Children in View to Develop Guidelines Regarding Diet in Selected Anganwadis at Tarn Taran District

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Abstract

Pre-school children belong to the age group of 3–5 years. Children are the future of our society and mothers are the guardians of future. Hence, to ensure sound foundation and secure future of any society, health and nutrition of children needs protection. Children in pre-school stage require most attention as this is a period of rapid growth and development. Aim of the present study was to assess the growth and nutritional status of pre-school children. The target population for the study was selected from Anganwadis at Tarn Taran. Descriptive research design was used for the study. The population was selected by nonprobability convenient sampling technique. The total number of samples under the study was 100 pre-school children. The data were collected by taking anthropometric measurements. The overall results showed that the growth of pre-school children; weight for height, 65% having normal level; height for age, 31% having normal; nutritional status of pre-school children, normal weight of child, 24%; mid arm circumference of pre-school children- normal level, 80%, so there is a need to improve growth and nutritional status of pre-school children.

Keywords: growth, nutritional status, preschool children

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INTRODUCTION

Growth is an essential feature of life of a child that distinguishes him or her from an adult growth refers to an increase in the physical size of the whole or any of its parts. It results because in the child's body. Development refers to a progressive increase in skills and capacity to function. It causes a qualitative change in child's functioning. Growth assessment best defines the health and nutritional status of children because disturbances in health and nutrition, can affect child health and growth of child. The parameters of growth generally used are: weight, height, and chest circumference.[1–3]

The effects of malnutrition on the community are both direct and indirect. The direct effects are the occurrence of frank and subclinical nutritional deficiency diseases such as Kwashiorkor, Marasmus, vitamin and mineral deficiency disorders. The indirect effects are a high morbidity and mortality among young children, retardation of physical and mental growth and development, lowered vitality of the people leading to lowered productivity, permanent disability and reduced life expectancy.[1]

Anthropometry is one of the useful techniques to assess the growth and nutritional status of pre-school children. Physical measurement like body weight,

height, and mid arm circumference and nutritional status of pre-school children.[2] Nutrition plays an important role in promotion and maintenance of health and in prevention of human diseases. The relation of nutrition to health may be viewed from its role in growth and development, in specific deficiency diseases, in providing resistance to infections.[3] Good nutrition is of prime important in the attainment of normal growth and development and in the maintenance of health throughout life. Nutrition is the basis of good health a balanced diet is utmost importance in achieving normal Growth.

NEED FOR THE STUDY

The rapid growth occurs during infancy which is influenced by a long period of gradual growth during childhood. This affects his food behavior and eating patterns, some of which may be considered problems issues. With careful understanding, these problems can be over come easily. However due to poor eating habits, children particularly pre-schooled are more easily prone to deficiencies like PEM, anemia, and vitamin A deficiency. The growth is somewhat slackened during 2nd year (gains 10 cm height 2–2.5 kg weight) due to developing muscles. In pre-school stage 3–6 years growth continues in spurts Annual height gain 6–7 cm and weight gain 1.5–2 kg.[4]

Nutritional need for pre-school have complete independence at meal time with imitative behavior. Nutritional habits are developed that become part of the child's time practices. Meal time promotes socialization and provides opportunity to learn appropriate meal time behavior, language skills, and understanding of family rituals.

Children require all types of food material taken by adults but in the smaller quantities with all nutritive values as for the balanced diet. There are some causes for insufficient eating like unhappy atmosphere and meal time, over eating between meals, excessive parental expectation, inadequate variety of food, tooth decay, physical illness, fatigue, and emotional disturbances.[5] The future of the society depends upon the quality of life of its weight, height and mid arm circumference are considered as the most sensitive.

OBJECTIVES

(1) To assess the growth of the preschool children.
(2) To assess the nutritional status of pre-school children.
(3) To determine the association between growth and nutritional status of pre-school children.
(4) To find out the association of growth and nutritional status with their selected demographic variables.
(5) To develop guidelines regarding nutritional diet.

RESEARCH METHODOLOGY

The research design descriptive selected for this study. The study was conducted in selected Anganwadis in Tarn Taran district. The sample size comprises of 100 pre-school children. Present study nonprobability convenient sampling technique was used. The standardized tool used for collect the sample.

Research Design

A descriptive study design was used for the study.

Research Setting

The study was conducted in selected Anganwadis centers in Tarn Taran district.

Target Population

Population for the study consists of pre-school children in Anganwadis.

Sample Size

Sample size consists of 100 pre-school children.

Sampling Technique

The sampling technique will be nonprobability convenient sampling techniques.

Part I: This part of the tool consists of related to demographic data and consists of 6 items.

Part II: This part of the tool consists of items related to standardized tool for assessment of the anthropometric measurement.

RESULTS

Table 1. *Section 1 – Demographic Characteristics of Pre-school Children. Frequency and Percentage of Demographic Variables of Pre-school Children. N=100.*

Demographic characteristics	Frequency (f)	Percentage (%)
Age		
a. 3 years	26	26
b. 4 years	38	38
c. 5 years	36	36
Gender		
a. Male	44	44
b. Female	56	56
Birth order	19	19
a. 1st child	29	29
b. 2nd child	31	31
c. 3rd child		
d. More than 3rd	21	21
Food habit		
a. Vegetarian	56	56
b. Non-vegetarian	44	44
Occupation		
a. Private job	8	8
b. Employed	20	20
c. Farmer	28	28
d. Laborer	44	44
Socio-economic status	0	0
a. Upper class	13	13
b. Upper middle	21	21
c. Lower middle	22	22
d. Upper lower		
e. Lower	44	44

Table 1 depicts classification of subjects according to age, gender, birth order, food habit occupation and socio-economic status.

The results indicate that higher percentage of subjects (38%) belong to the age group 4 years. About 36% were belonging to 5 years age group followed by (26%) were falling in the age group of 3 years respectively. findings also shows that female had more malnutrition than male that is 56% of female and 44% of male.

It can be seen from the findings that vast majority of the children's birth order (31%) of 3rd birth of children's, while (29%) were 2nd birth order of child Further, birth order were falling from (21%) of more than 3rd birth order and (19%) of 1st birth order of children respectively.

The results indicate that (56%) of the children food habit is vegetarian and (46%) were non vegetarian food habit. Result indicate that children's family occupation belongs to laborer (44%) (26%) children's family occupation is farming,(20%) were employed children and (8%) of children were private employed.

Socio-economic status of a family also effects the growth and nutritional status of children. In the present findings, lower class was shown maximum parents were having (44%) in others upper lower, lower middle, upper middle, upper class. Percentage level fell from (22%), (21%), (13%) and (0%) respectively.

Objective 1

To assess the growth of preschool children

Table 2. *Section 2 – Analysis of Growth Status Weight for Height (Wasting %) of Preschool Children.*

Area	Maximum value	Minimum value	Range	Mean	Median	SD

Weight for height (wasting %)	136.5	60.97	75.53	95.39	93.215	11.178

Table 2 depicts that according to Waterlow classification (weight for height wasting in %) shows that the maximum value of weight is 136.5, the minimum value is 60.97, range difference is 75.53 between maximum and minimum value. Mean is 95.39, median is 93.215, and the standard deviation is 11.178.

Table 3. *Section 3 – Frequency and Distribution of Weight for Height (Wasting%) of Pre-school Children. N=100.*

Area	Score level	Frequency (n)	Percentage (%)
Weight for height (wasting)	Normal (>90)	65	65
	Mild impairment(80–90)	31	31
	Moderate impairment (70–80)	3	3
	Severe impairment (<70)	1	1

Table 3 depicts that according to Waterlow classification, under the 65% having normal level of nutritional status of preschool children and 31% mild malnutrition and in moderate malnutrition 3% and in severe malnutrition is 1%.

Table 4. *Section 4 – Analysis of Growth Height for Age (Stunting%) of Pre-school Children. N=100.*

Area	Maximum value	Minimum value	Mean	median	SD	Range
Height for age (%)	101.74	76.78	91.93	93.81	5.883	24.96

Table 4 depicts that the distribution of height for maximum value 101.74 and minimum value 76.78 obtained value mean score was 91.93 and median 93.81 with standard deviation 5.883 and range between 24.96.

Table 5. *Section 5 – Frequency and Distribution of Growth Height for Age (Stunting%) of Pre-school Children. N=100.*

Area	Criteria (%)	Frequency (n)	Percentage (%)
Height for age (stunting%)	Normal (>95)	31	31
	Mild impairment(87.5–95)	41	41
	Moderate impairment (80–87.5)	24	24
	Severe impairment(<80)	4	31

Table 5 depicts that according to Waterlow classification, under the 31% having normal level of nutritional status of preschool children and 41% mild malnutrition and in moderate malnutrition 24% and in severe malnutrition is 4%.

Objective 2

To assess the nutritional status of preschool children

Table 6 depicts that nutritional status of pre-school children maximum value is 115.85%, minimum value is 60.3%, range between maximum and minimum value is 55.55.

The mean of weight is 83.52%, median is 84.885%, and the standard deviation is 8.896.

Table 6. *Section 6 – Analysis of Weight.*

Area	Maximum value	Minimum value	Range	Mean	Median	SD
Weight (%)	115.85	60.3	55.55	83.52	84.885	8.896

Table 7. *Section 7 – Frequency and Distribution of Weight. N=100.*

Area	Criteria (%)	Frequency (n)	Percentage (%)
Weight (%)	Normal (90–110)	24	24
	1st degree malnutrition (75–89)	60	60
	2nd degree (60–74)	16	16
	3rd degree (60)	0	0

Table 7 depicts that weight of pre-school children normal level is 24% weight of pre-school children, under 1st degree of malnutrition 60% of children exists, under the 2nd degree of malnutrition is 16% of children, and in the 3rd degree malnutrition is 0%.

Table 8. *Section 8 – Analysis of Mid-arm Circumference.*

Area	Maximum value	Minimum value	Range	Mean	Median	SD
Mid arm circumference (cm)	17	11	6	14.24	14	1.129

Table 8 depicts that nutritional status of pre-school children, the mid arm circumference maximum value is 17 cm and minimum value is 11 cm, range between minimum and maximum value is 6, the mean of mid arm circumference is 14.24, median is 14, and standard deviation is 1.129.

Table 9. *Section 9 – Frequency and Distribution of Mid-arm Circumference.*

Area	Criteria (cm)	Frequency(n)	Percentage(%)
Mid arm circumference	Normal (13.5 or more)	80	80
	Mild to moderate (12.5–13.5)	13	13
	Severe(below 12)	7	7

Table 9 depicts that according to the standardized tape assessing the mid arm circumference of preschool children in the normal level 80% of children and mild to moderate 13% of children and in severe impairment identified 7% of children.

Objective 3

To determine the association between growth and nutritional status of pre-school children

Table 10. *Section 10 – Correlation between Growth and Nutritional Status.*

Correlations		Weight for height	Height for age	Weight in %	Mid arm circumference in CM
Weight for height (wasting in %)	Pearson correlation				
	P value				
	N				
Height for age (in %)	Pearson correlation	–0.282			
	P value	0.005			
	N	100			
Weight in %	Pearson correlation	0.045	0.318		
	P value	0.658	0.001		
	N	100	100		
Mid-arm circumference in CM	Pearson correlation	–0.091	–0.108	–0.120	
	P value	0.370	0.287	0.235	
	N	100	100	100	

Pearson correlation coefficient at 5% significance level with df = 98 table value = 0.197

Table 10 depicts that association between growth and nutritional status correlation coefficient with height for age (stunting %) with weight for height (wasting %) P value 0.005, weight (%) with weight for height P value 0.658, weight with height for age P value 0.001, as well as mid arm circumference compare with weight for height P value (0.370), height for age (0.287), weight (0.287), respectively.

Significance level height for age with weight for height is not significant at the table value 0.197, weight with weight for height there is significance, weight with height for age there is not significance, and as well mid arm circumference there is significant.

IMPLICATIONS

The implications of findings have been discussed in relation to nursing service, nursing administration nursing education, and nursing research.

(a) Nursing service

1. The research findings can be used to inform the decisions, actions and interrelated with school children.
2. The research findings can be used for discussing the implications and relevance of research findings with children.

(b) Nursing administration

Nurse as an administrator plays an important role in educations the professionals such as mass health education measures in the hospital.

1. The nurse administrator should formulate policies, protocols, system of care in collaboration with the multidisciplinary team.
2. Nurse administrator should be Encourage to attend the health program related to growth and nutritional status.

(c) Nursing education

This study can be useful in nursing education through following ways.

1. The research work can be used in community health nursing to teach nursing students regarding Nutrition education program, Intake well balanced diet, periodic assessment, education regarding birth spacing, education regarding immunization, implementation of nutritional prophylaxis program.

(d) Nursing research

1. The research findings can be used by the new students in their research work.
2. The research work will help to attend research presentation at professional conference.

RECOMMENDATIONS

On the basis of the study that had been conducted certain suggestions are given for further studies.

(1) A similar study can be undertaken on large sample for better generalization.

(2) A similar study can be under taken by adopting other interventional strategy to improve awareness, knowledge regarding nutritive values and importance of food among school children.

(3) A comparative study can be conducted by comparing the male and female children to assess the growth and nutritional status.

(4) A longitudinal study on physical growth and nutritional status should be conducted.

(5) Regular weight and height measurements should be taken in the school so that a regular check can be

kept on the development of the children.

(6) Based on the need of the children of a particular school intervention program should be developed and implemented.

(7) Special attention should be paid to children at appropriate age.

(8) Awareness program regarding affordable but nutritious foods should be introduced by the government through community participation, involvement of NGO'S and other sectors.

(9) Day meal program should be initiated in schools like provision of milk or other energy and protein rich foods.

(10) Awareness should provide to family members and Anganwadi workers how to prevent occurrence of problem in future.

(11) The menu should be revised from time to time because it sustains Interest in children.

(12) Dietary education should focuses specifically on appropriate weaning.

CONCLUSIONS

Growth and nutritional status is mostly effect on the health status of the children's. The major goal of nursing practice is to improve the growth and nutritional status of children's and to promote the health of the children's. The present study was done to assess the growth and nutritional status of pre-school children at selected Anganwadis Centers at Tarn Taran, district, on the basis of the study the following conclusions were made. The growth of pre-school children weight for height (wasting) 65% having normal level of nutritional status of pre-school children and 31% mild malnutrition and in moderate malnutrition 3% and in severe malnutrition is 1%. The results shows that height for age (stunting) the 31% having normal level of nutritional status of pre-school children and 41% mild malnutrition and in moderate malnutrition 24% and in severe malnutrition is 4%.

The nutritional status of pre-school children normal level is 24% weight of pre-school children, under 1st degree of malnutrition 60% of children exists, under the 2nd degree of malnutrition is 16% of children, and in the 3rd degree malnutrition is 0%. Mid-arm circumference of pre-school children in the normal level 80% of children and mild to moderate 13% of children and in severe impairment identified 7% of children.

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