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Assessment of Dietary Habits of Pre-School Children and its Effect on Physical Growth

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ABSTRACT

An investigation was carried out on the study "The dietary habits of pre-school children and its effect on physical growth", with the following objectives-to study the food habits of pre-school children, to study how diet affects their physical growth. For conducting the investigation 100 (hundred) numbers of pre-school children both boys and girls were randomly selected from three different pre-schools of Sivasagar town, Assam. A set of questionnaire was prepared for gathering the data about the food habits, physical growth, activities performed etc. of pre-school children. The interview and observation method was also used in this study. After collecting all the data, they were tabulated and analysed statistically. It was observed from the study that diet habits of pre-school children, both boys and girls show positive correlation between their physical growth.

Keywords: Dietary habits, Pre-school, Physical growth, Nutrition

INTRODUCTION

The dietary habits of preschool children play a crucial role in their physical growth and development. During the preschool years, children require adequate nutrition to support their rapid growth and development. A well-balanced diet provides the necessary nutrients, vitamins, and minerals that are essential for optimal health outcomes. Dietary habits formed during this period can have long-lasting effects on a child's overall health and well-being (Sri Lakshmi, 2008). Assessing the dietary habits of preschool children can help identify potential nutritional deficiencies or excesses that may impact their physical growth.

Nutrition is essential for preschool children's growth and development, influencing their physical health, cognitive function, and emotional well-being. A diet that is deficient in essential nutrients can lead to a range of negative health outcomes, including stunted growth, wasting, and increased susceptibility to illnesses. Conversely, a well-balanced diet can support optimal growth and development, laying the foundation for a healthy and active life (Devdas, 2003).

Objectives:

- To study the food habits of Pre-school children
- To study how diet affects their physical growth

METHODOLOGY

For conducting the investigation 100 (hundred) numbers of pre-school children both boys and girls were randomly selected from three different pre-schools of Sivasagar town, Assam. A set of questionnaire was prepared for gathering the data about the food habits, physical growth, activities performed etc. of pre-school children. The interview and observation method was also used in this study. After collecting all the data, they were tabulated and analysed statistically.

RESULTS AND DISCUSSION

The observations of the present study as well as

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relevant analysis have been summarized under the following heads:

The number of boys and girls student:

The sample for the present study were collected from there different pre-schools. The pre-school boys and girls were selected randomly. The number of boys and girl's students were shown under the Table 1.

Table 1 : The number of boys and girls students

Total number of pre-school children	Boys	Girls
100	60	40

From the Table 1, it was evident that from the selected samples there were 60 per cent boys and 40 per cent girls pre-school children. Quality of boys students were more compared to the girls student in the present study.

Food preference of the Pre-school children.

The preferences of food or food tastes are formed early in life. Children tend to adopt the eating patterns that are presented early. So, the foods preferred by the pre-school children are presented in the Table 2

Table 2 : Food preference of the pre-school children

Sr. No.	Food groups	Likes		Dislikes	
		Boys	Girls	Boys	Girls
1.	Cereals and pulses	40	30	20	10
2.	Milk and milk products	35	32	25	08
3.	Egg/ Meat/ Fish	30	25	30	15
4.	Vegetables	20	20	40	20
5.	Fruits	45	25	15	5
6.	Junk food	50	30	10	10

From the Table 2 it was found that, about 40 per cent boys and 30 per cent girls like to eat cereals and pulse products. The food item like rice, pulao, chapaties, dals, green peas and beans etc. were preferred by the majority of the pre-school children. Another 20 per cent boys and 10 per cent girls were refuge to eat cereals and pulse products.

About 35 per cent boys and 32 per cent girls drink milk. Specially cow's milk and like to eat milk products. Among the milk products the pre-school children preferred mostly cheese, butter-milk, butters curd etc. Some children also like the products like complain, Horlicks etc. which are available in the market. Another 25 per cent boys and 08 per cent girls dislike milk and milk product.

From the Table 2, it was showed that 30 per cent boys and 25 per cent girls, preferred the egg, meat and fish group very much. They want that the parents should include these products in their meals. Eggs were preferred by most pre-school children than the meat and fish. Another 30 per cent boys and 15 per cent girls do not like these products. They eat only a small amount from this group.

From the vegetable group only 20 per cent of boys and 20 per cent girls preferred but majority of pre-school children, *i.e.* 40 per cent boys and 20 per cent girls refuge to eat vegetables.

Majority of children like fruits, *i.e.* about 45 per cent boys and 35 per cent girls. They like to eat the locally available fruits very much like mango, banana, peach guava etc. Apples, watermelon, grapes etc. are also preferred by the few children. Only 15 per cent boys and 5 per cent girls do not like fruits.

Above all these food groups, another foods that are mostly preferred by majority of children *i.e.* 50 per cent boys and per cent girls were like Junk Food. The Junk foods and the fast foods are the common terms in today's household. Because these foods are easy to cook, consuming less time for preparation an serving, and easily available.

Some of the instant food like, potato chips, Fish finger, Chinese chow-chow, beverages like Coca-cola, Pepsi-cola, synthetic fruit juices and many others have become a craze with the youngsters since the last few decades. Habitual consumption of Junk food affects digestion, because these elements lack essential nutrients Agarwal, 1991).

The height and weight of pre-school children:

The height and weight of pre-school children's (both boys and girls) are presented in the Table 3

Table 3 : Height and weight of pre-school children

Pre-school children	Mean height (in cm.)	Mean weight (in cm.)
Boys	98.25	16.5
Girls	96.12	14

From the Table 3, it was observed that, the mean height of boys student are 98.25cm whereas the girl's are 96.12. in case the weight of both boys and girls 16.5 kg. mean weight was found in boys and 14 kg. found among the girls.

It was clear from the table that there are slight difference in height and weight between the Boys and Girls. It means boys are growth more than the girls.

Correlation between healthy foods and weight of boys and girls Pre-School children:

According to Spearman's Rank Correlation Coefficient,

$$r_S = 1 - \frac{6d^2}{n(n^2 - 1)}$$

$$r_S = 1 - \frac{6 \times 12}{S(S^2 - 1)}$$

$$r_S = 1 - \frac{72}{120} \qquad r_s = 1 - 0.60$$

$r_s = 0.40$

Coefficient of determination, $R^2 = (0.40)^2 = 16\%$

The correlation coefficient between the healthy food habit and weight of boys shows a positive correlation which is +0.40. determines the degree of Correlation to the extent that only 16% positive Correlation has been explained by the variables put in the study (Table 4).

$$r_S = 1 - \frac{6d^2}{n(n^2 - 1)}$$

$r_s = +1$, and $R^2 = 100\%$

The Correlation Coefficient between the Healthy Food Habit of Girls and their weight shows a high positive Correlation which is +1. It can be inferred that the female Childs are directly influenced by the food habits in comparison to that of the male Childs. R^2 determines the degree of Correlation to the extent that 100% positive Correlation has been explained by the variables put in the study (Table 5).

Correlation between healthy food habits and height of boys and girls:

According to Spearman's Rank Correlation Coefficient,

$$r_S = 1 - \frac{6d^2}{n(n^2 - 1)}$$

$r_s = +0.60$, and $R^2 = 36\%$

The Correlation Coefficient between the Healthy Food Habit of Boys and their Height shows a positive Correlation which is +0.60. R^2 determines the degree of Correlation to the extent that only 36% positive. Correlation has been explained by the variables put in the study (Table 6).

$$r_S = 1 - \frac{6d^2}{n(n^2 - 1)}$$

$r_s = +0.40$, and $R^2 = 16\%$

The Correlation Coefficient between the Healthy Food Habit of Girls and their Height shows a positive Correlation which is +0.40. R^2 determines the degree of Correlation to the extent that only 16% positive Correlation has been explained by the variables put in the study. Under this circumstances, it is inferred that in the process of gaining height the food habits of boys is comparatively much effective than that of the girls. The relation also

Table 4: Healthy foods and weight (Boys)

Healthy foods (X)	Weight (in kg)	Rank of X (Rx)	Rank of Y (Ry)	Rank difference (d)	d^2
40	18.2	2	1	1	1
35	17.5	3	2	1	1
30	16.3	4	3	1	1
20	14.6	5	5	0	0
45	15.9	1	4	-3	9
					$\Sigma d^2 = 12$

Table 5 : Healthy foods and weight (Girls)

Healthy foods (X)	Weight (in kg)	Rank of X (Rx)	Rank of Y (Ry)	Rank difference (d)	d^2
30	14.60	3	2	1	1
32	13.90	2	3	1	1
25	15.30	4	1	3	9
20	13.00	5	5	0	0
35	13.20	1	4	-3	9
					$\Sigma d^2 = 20$

Table 6 : Correlation between healthy food habits and height of boys

Healthy foods (X)	Weight (in kg)	Rank of X (Rx)	Rank of Y (Ry)	Rank difference (d)	d^2
40	3.6	2	1	1	1
35	3.0	3	4	-1	1
30	2.9	4	5	-1	1
20	3.2	5	3	2	4
45	3.4	1	2	-1	1
					$\Sigma d^2 = 8$

Table 7 : Correlation between healthy food habits and height of girls

Healthy foods (X)	Weight (in kg)	Rank of X (Rx)	Rank of Y (Ry)	Rank difference (d)	d^2
30	3.2	3	2	1	1
32	3.6	2	1	1	1
25	3.1	4	3	1	1
20	2.9	5	5	0	0
35	3.0	1	4	-3	9
					$\Sigma d^2=12$

indicates the gender difference in the consumption of healthy foods and attaining heights (Table 7).

So, from the interpretation of the data, we come to know that there were positive correlation between the healthy foods and the height and weight of the pre-school children, both boys and girls.

In general, pattern of growth and development varies from person to person. The growth patterns are not uniform in children. Specially during the school years the growth rate decreases although significant changes are taking place (Arya, 1972).

Proper nutrition is essential for the healthy development of children in terms of physical and mental qualities. Those children, who have nutritional deficiency, the growth retardation observed most of those children.

Sometimes, the pre-school children consumed inadequate diet and so they are underweight. It may be due to poverty. Parents may not be able to provide nutritious food for their children. Sometimes ignorance on the part of parents to know the requirements of children may lead to malnutrition of children.

Even if there is enough food in the house to provide an adequate diet, growth can be flattered hue to feeding a young child with bulky staple foods which fill the child's stomach and assuage its hunger without meeting its energy needs. Also feeding a child's small stomach infrequently (only twice instead of four times) can affect the growth of the child (Sri Lakshmi, 2008)

The children's height and weight increases at a slow rate during this early childhood period. The height and weight between girls' and boys at this stage don't differ much.

Conclusion:

This study provides valuable insights into the dietary habits of preschool children and their impact on physical growth. The findings highlight the significance of a well-balanced diet in supporting optimal growth and development during the early years of life. The relationship between dietary habits and physical growth underscores the need for targeted interventions to promote healthy eating habits among preschool children.

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