

A Comparative Study on Nutritional Knowledge & Awareness among Students (11-16years) & Teachers (21-55years) of Government & Private Schools

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Abstract—Objective: To assess the nutritional knowledge and awareness among students and teachers of Government and private schools.

Background: Effective nutrition education in schools can eventually force children to rethink about their eating habits and form their own new ones. Teaching about healthy eating to kids, parents, and teachers is the need of the hour and an answer to our nation's growing epidemic of overweight, sedentary, and undernourished children and adolescents. [5]

Method: A comparative study was conducted at different Government and private schools in Hyderabad. For students, 100 samples were taken which were divided into 50 students studying at Govt. schools and 50 students studying at private schools. And for teachers, 50 samples were taken, divided into 25 teachers teaching at Govt. schools and 25 teachers teaching at private schools. A specially designed questionnaire was developed, and a direct interview was done.

Result: The results reveal that 66% and 68% of students and 76% and 72% teachers of Govt. and private schools have knowledge on five food groups. About 62% and 66% of students and 88% and 88% teachers of Govt. and private schools know what balanced diet is. It was found that 74% and 90% of Govt. and private students do not have nutrition education in their curriculum. The study concluded that 60% and 52% of Govt. and private school teacher are willing to attend training and program on nutrition but only 44% and 48% of Govt. and private school teachers participated in nutrition education training program.

Conclusion: The collected information was tabulated and analyzed statistically using paired t-test the result shows that p values are ($p < .100$) and it is significant hence, concluded that the alternate hypothesis is proved. Thus, we conclude that there is a difference in the nutrition knowledge of students studying in private and Govt. schools. Private students have more nutritional knowledge when compared to government students whereas government teachers have more nutritional knowledge than private teachers.

Index Terms—Nutritional knowledge, Nutrition awareness, Nutrition education, Nutrition programs, Nutrition.

I. INTRODUCTION

Nutrition is a science that encompasses all the interactions that occur between living organisms and food. Common belief is that acquiring nutritional knowledge will itself lead to improved dietary practices. [1]

NUTRITION EDUCATION:

Nutrition education can be defined as “the process of helping individuals to develop the knowledge, skills and motivation needed to make appropriate food choices throughout the life”. By practicing wellness, healthy life can be achieved. Good habits for proper life management include Choosing and eating nutritious food, exercising regularly, having adequate sleep, learning to handle stress, and avoiding harmful substances [1]. Nutritional counseling and education involve people gaining knowledge about nutrition and being encouraged to bring about required changes in their food habits. The goal of nutritional counseling and education is to motivate individuals to eat healthy and sustainable diets [3]. Nutrition education serves as an opportunity to teach children about food and the relation to culture and family heritage. Discussing culinary variances across cultures helps expose children to different foods and traditional practices, increasing their understanding and appreciation for diversity [4].

NUTRITION AWARENESS:

Nutritional awareness seems to be directly linked to nutritional knowledge, attitudes, and actions, which may have an effect on people's eating practices. Nutritional awareness is also related to knowledge of

the interrelationships between nutritional matters and human life, which may have an effect on a person's life [3].

ROLE OF SCHOOLS IN PROVIDING NUTRITION:

Healthy eating patterns are essential for students to achieve their full academic potential, full physical and mental growth and lifelong health and wellbeing. Schools have a responsibility to help students and staffs establish and maintain healthy eating patterns. [12]

NUTRITION EDUCATION IN SCHOOLS:

Meals and snacks at school can provide one-third to one-half of a child's daily nutritional needs. Schools can become a perfect place to teach children about healthy eating. A healthy nutrition program and education could play a very integral role in the development of a healthy nation. Schools are particularly favorable sites for nutrition education as children are less fussy about their food habits than adults. Change in thinking and habits can easily be brought about at this tender age. Schools are the "perfect place for change and acceptance". There can be many creative, out-of-the-box ways of conveying nutrition information to children [5].

NUTRITION EDUCATION IN CURRICULUM:

School-based NE often includes components such as curriculum enhancement, parental involvement, hands-on activities, gardening, physical activities, and card or computer games. When enriching nutrition curricula, input from teachers may increase the feasibility of a program, and increase teachers' commitment to implementation. Nutrition education programs that include hands-on activities are known to improve dietary behavior among learners from economically disadvantaged backgrounds [6].

NUTRITION EDUCATION PROGRAM:

Forming habits for healthy nutrition in children should be realized as a shared responsibility between family, school and society. Forming healthy models of nutrition and eating quality foods can be achieved through cultivating healthy nutritional habits from early age, as well as through timely control by state institutions and public organizations over children and students' foods and nutrition [7].

NUTRITION KNOWLEDGE AMONG TEACHERS:

School-based nutrition education (NE) has been widely used to address nutrition and health-promotion initiatives for learners, teachers, and school staff. Children with unhealthy eating behaviors may become malnourished and may develop non-communicable diseases (NCDs) such as hypertension, coronary heart disease, diabetes, and obesity later in life [6].

Schools provide an important opportunity for the distribution of essential information about healthy dietary patterns and active lifestyles and an efficient/effective means of reaching a large segment of society aged 4–18 years. Hence, schools are an ideal environment to start the process of nutrition education via nutrition education programs being implemented into the curriculum for all ages. However, this implementation is complex and has different challenges that must be considered. One of these challenges is teachers' capability. The teacher should be equipped with adequate knowledge, trained to deliver accurate nutrition information to students, and sufficiently motivated, as they are the main promoters in the education process [8].

Teachers are responsible for providing information, negotiating rules for food consumption, and should act as a model of behavior for students. When they reflect on the world of food and nutrition, they often approach it in such a way that the students understand eating not only as a biological act, but also as a social factor, and relate it to a good quality of life and development of a healthy adult. Training the teaching staff is therefore an indispensable condition for the promotion of healthy eating at school [9].

Teachers' nutrition knowledge and attitudes are key factors, not only to their immediate charges, but to the community as a whole. The teacher training program should create an environment favourable to teaching nutrition education. Teacher training is thus the principal instrument in performing the necessary task, teaching content and methodology which will stimulate increased knowledge and attitudinal change [10].

II. REVIEW OF LITERATURE

2.1 Nutrition Knowledge and Attitude Change of Students Studying in State and Private Secondary Schools

Abstract: The aim of the study was to assess, nutrition attitude and knowledge of students studying in private and state schools. The study composed of 521 students, including 142 female and 379 male students. The result of the study found was Nutritional knowledge and attitudes of students who received elective nutrition classes were found to be higher than those who did not have nutrition classes. In conclusion, taking a nutrition class has a positive influence on nutrition knowledge and attitude, and that private school students have more nutrition knowledge yet similar nutrition attitudes with those in state schools [11].

2.2 Primary school teacher’s nutrition knowledge and attitudes.

Abstract: The aim of the study is to determine its influence on the primary school teachers' nutrition knowledge and attitudes among food choices, nutrition related diseases, and nutrition principles. The methodology used for the investigation, were two instruments developed by the researcher; the Nutrition Knowledge Inventory (NKI) and the Nutrition Attitude Scale (NAS). The results revealed a significance difference on the principles of nutrition correlation and food choice. In conclusion, the researcher, suggest a replication of the study countrywide and a closer examination of the barriers which may account for the teachers' attitudes toward nutrition [10].

2.3 Knowledge Intervention on Nutrition among the Primary School Students.

Abstract: The aim of the study was to assess, the intervention of knowledge on nutrition. The study composed of 104 students of class V were selected and interviewed with a structured, self-administered questionnaire and were taught with basic nutrition knowledge then interviewed again with questionnaire. On the basis of the findings it may be concluded that the knowledge on nutrition is one of the major health concern, so creating awareness through intervention program on nutrition can reduce the malnutrition problem [1].

III. METHODOLOGY

RESEARCH APPROACH: Comparative study

SELECTION OF AREA: The place of study was done in different zone of Hyderabad.

SELECTION OF SAMPLE: Through random sampling, 150 samples from teachers and students of Government and private schools were selected for survey.

DURATION OF STUDY: The duration of study was 2 months.

COLLECTION OF DATA:

QUESTIONNAIRE: The questionnaires contain questions related to Nutrition knowledge, Nutrition attitudes and beliefs, Nutritional practices and Nutritional education among students and teachers.

DIETARY ASSESSMENT METHOD: This method was used to find dietary intake of food habits. The effect of lifestyle and dietary practices were included in questionnaire to assess the dietary pattern of the subjects. Each subject was interviewed about dietary pattern and asked to fill up the sheet

DATA ANALYSIS: Paired t- test formula

$$t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n-1}}}$$

Where, d = difference per paired value
n = number of samples

IV. RESULTS & DISCUSSION

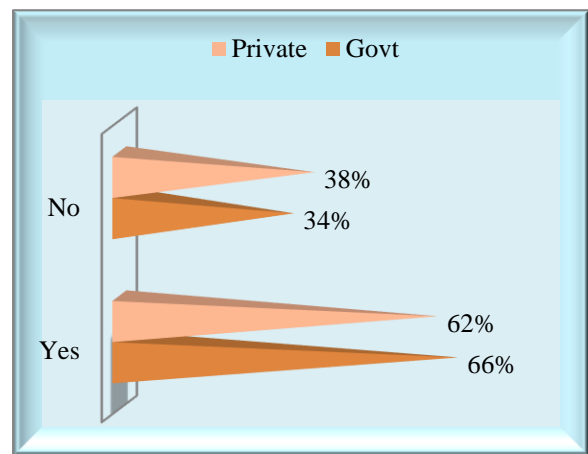


Figure 4.1: The above figure shows percentage of students who has knowledge on five food groups.

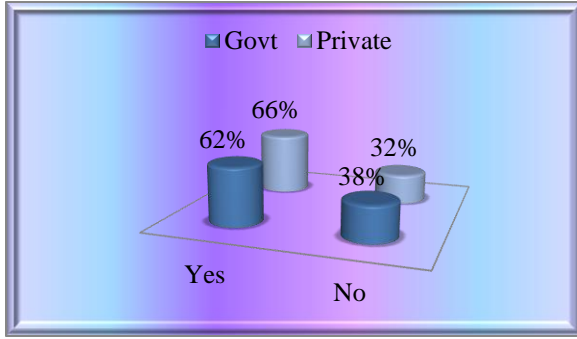


Figure 4.2: The above figure shows percentage of students who has knowledge on balanced diet.

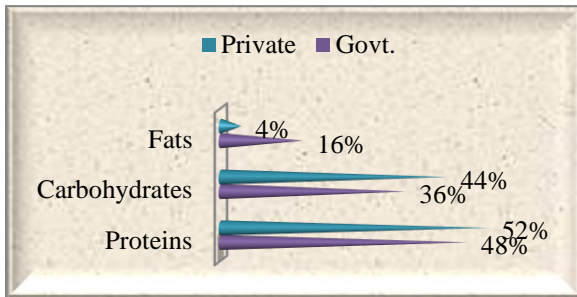


Figure 4.3: The above figure shows the percentage of what teachers think gives the least amount of calories.

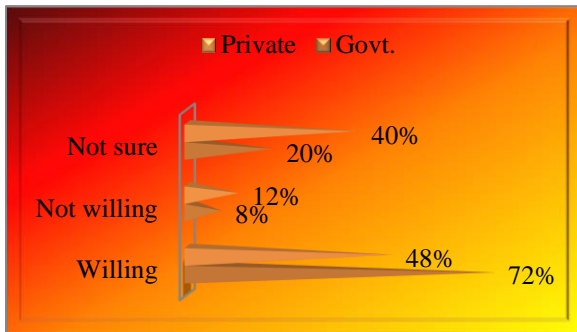


Figure 4.4: The above figure shows the percentage of teachers willing to teach nutrition.

Table 4.5: Distribution of subject based on body mass index of students:

Category	Government		Private	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Underweight	1	4	0	0
Normal	9	36	15	60
Overweight	13	52	8	32
Obese	2	8	2	8

Table 4.6: Distribution of subject based on body mass index of teachers:

Category	Government		Private	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Underweight	17	34	19	38
Normal	31	62	31	62
Overweight	2	4	0	0
Obese	0	0	0	0

V. SUMMARY & CONCLUSION

Nutrition education plays a significant impact on the individuals’ nutrition as they choose the quality and quantity of the diet necessary for their body’s daily needs that suit not only their development stages such as adolescence and adult hood, but also their health states, work or activity and sickness [2].

This study aimed to assess the knowledge and awareness among students and teachers of Government and private schools. A descriptive study was conducted at different Government and private schools of Hyderabad. For students 100 samples were taken which were divided into 50 students studying at Govt. schools and 50 students studying at private schools. And for teachers 50 samples were taken which were divided into 25 teachers teaching at Govt. schools and 25 teachers teaching at private schools. A specially designed questionnaire was developed and direct interview was done. The samples were face to face interviewed and their demographic information, Anthropometric measurements were asked. Questions related to the knowledge of Nutrition knowledge, Nutrition attitudes and beliefs, Nutritional practices and Nutritional education among students and teachers were enquired. Their lifestyle pattern and dietary habits were also documented. The collected data depicts the following results-

The first Objective of the study was to assess the level of knowledge and awareness among students and teachers of Government and private schools. The results reveal that 66% and 68% of students and 76% and 72% teachers of Govt. and private schools have knowledge on five food groups. About 62% and 66% of students and 88% and 88% teachers of Govt. and private schools know what balanced diet is. 74% and 72% of Govt. and private students along with 84% and 88% of Govt. and private teachers thinks that there

is a need to have balanced diet. 70% and 74% of students and 96% and 100% teachers of Govt. and private schools have knowledge that cereals should be consumed the most. 84% and 92% of students and 100% and 92% teachers of Govt. and private schools have knowledge that protein can promote the growth and development of children. 68% and 92% of students and 100% and 100% teachers of Govt. and private schools have knowledge about the sources of Vit-A. 70% and 80% of students and 100% and 96% teachers of Govt. and private schools have knowledge about the sources of iron. 92% and 86% of students and 96% and 100% teachers of Govt. and private schools know that Vit-D can be produced through sun. 94% and 98% of students and 96% and 96% teachers of Govt. and private schools have knowledge about the sources of calcium. 92% and 96% of students and 96% and 100% teachers of Govt. and private schools know that nutrition can help in preventing disease and improving health. The data concludes the impact of education on nutrition knowledge.

The next Objective of the study was to evaluate, whether the nutritional knowledge of the teachers and students is implemented.

The study concludes that 54% and 60% of Govt. and private students whereas, 100% and 100% of Govt. and private teachers implement their nutritional knowledge in their daily life.

The next Objective of the study was to know, whether the nutrition education is a part of the school curriculum, and it was found that 74% and 90% of Govt. and private students do not have nutrition education in their curriculum. If the nutrition education is available, it is included in science as a small topic.

The next Objective of the study was to evaluate, whether the schoolteachers are being provided training and information regarding nutrition education and the study concluded that 60% and 52% of Govt. and private school teacher are willing to attend training and program on nutrition but only 44% and 48% of Govt. and private school teachers participated in nutrition education training program.

The study concludes that 80% and 92% of teachers of Govt. and private schools perform physical activity

daily, in which 84% and 76% indulge themselves in walking. Whereas, 74% and 86% of students of Govt. and private schools perform physical activity daily, in which 24% and 32% performs running. Consumption of fruits, milk, eggs, green tea was found to be lesser in students whereas, the consumption of fried foods was seen more in students of Govt. and private schools.

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