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IMPACT OF NUTRITIONAL EDUCATION IN PREVENTING OBESITY, IN SCHOOL GOING CHILDREN OF 9-11 YEARS IN ALLAHABAD DISTRICT.

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ABSTRACT

A study was conducted to the impact of nutrition education in preventing obesity in school going children of 9-11 years in allahabad district of U.P.

Survey method was used for the collection of data. The sample size was 400 respondents comprising of 70 students from St. Joseph School & College, 70 from Maharshi Patanjali, 58 students from Rishi Public School, 72 from Earny Memorial, 66 from Rani Revti Devi and 64 students from Parshuram School. The survey schedule consist of the general profile, anthroprometric measurement in which height and weight were taken, dietry pattern by 24 hours recall method and clinical assessment. Result shows that 60% boys respondents & 56.25% of girls respondents belonging to the 9 years of age have over weight, 60.65% of boys respondents and 67.16% of girls respondents of age 10 years of ages were overweight and 4.48% of boys respondents and 3.38% of girls respondents of age 11 years were severely obese. The data indicated the maximum respondents were overweight.

Keywords: Consumption, Nutritional status, overweight, obesity.

Introduction

Allahabad is located at $25^{0}27'$ N $81^{0}50'$ Ein the eastern part of the Uttar Pradesh, India. at an Elevation of 98 meters (322 ft.) and stands at the confluence of two river The Ganga & Yamuna.

Children find themselves amidst a complex society that in undergoing breath taking changes. Concepts, relationships, life styles are metamorphosised to accommodate the new jet setting age.

Food is no excepgtion, healthy nutritious foods has been replaced by the new food mantra junk food. Junk food is defined as an in formal term applied to some foods which are perceived to have little or no nutritional value or to products with nutritional value but which also have ingredients consideered unhealthy when regularly eaten or to those considered unhealthy to consume at all. Junk foods are typically ready to eat convience foods containing high levels of saturated fats, salt or sugar, and little or no fruit, vegetables or dietary fibre. Junk food includes food such as ham burgers, hot dogs, chocolate, ice-cream, cake, french fries, pizza etc

Obesity is increasing at an alarming rate throughout the world. Today it is estimated that there are more than 300 million obese people world wide.

Obesity is a condition of excess body fat often associated with a large number of debititating and life the eatening disorder. It is still a matter of debate as to how to define obesity in young people.

Overweight persons have a body fat proportion intermediate between normal and obese. Weight table, measurement of skin fold thickness and body mass index (BMI)

Without eating vegetables along with the proper amounts of protein dairy products carbohydates, and good fats, children may fact a number of problems, including stunted growth, poor academic performance susceptibility to disease and disrupted sleep patterns. Severe deficiences can even cause death. If your child is a picky eater, make sure that he makes up for the lack of nutrients with vitamins or enriched juices, or you could be facing major problem in the future

Material and Methods

The present study was conducted using the material and method describe below:

1. Selection of Sample

(a) Selection of District: Allahabad district of U.P. was selected purposively for the present study because of accessibility.

(b) Selection of Schools: The schools selected were from the areas selected namely St. Joseph School & College, Maharshi Patanjali School & College, Rishi Publich School, Earny Memorial School, Rani Revti Devi, Parshuram Junior High School.

(c) Selection of respondents:For the study school going children between the age group of 9-11 years were considered as respondents.

(d) Preparation of instruments and tools for data collection: For the data collection, strucutred survey schedule comprising general information, anthropometry dietary and clinical assessment were adopted.

2. (a) The schedule was consisted of the following different parts.

   i. General Profile: In general profile respondents general information regarding name, age, sex, relation, class, family type etc. were recorded.

   ii. Anthropometri measurement gibsom (1990)

   iii. Dietary pattern: 24 hours dietary recall method Park, (2002).

   iv. Clinical assessment - Park (2002)

   (b) Nutrition education and its impact assessment

   i. Pre-exposure knowledge test

   ii. Exposure to nutrition education material

      a. Nutrition education through folder

         - Measurement of post exposure knowledge after folder alone

      b. Nutrition education through combination of folder and CD

         - Knowledge measurement 30 days after exposure to combination of folders and CD

   iii. Score allotment and categorization of subjects into knowledge categories

      a. Comparison of pre and post exposure score for impact analysis

      b. Assessment of gain in knowledge

3. Stastical Analysis: the data collected was tabulated and analyzed with the help of stastical techniques, stastical techniques in frequency, precentages mean-score, chi - square and t -test was applied.

Result and Discussions

The pooled data showed that the maximum respondents 36 percent belonged to 9 years of age, 32 percent belonged to 10 years and 32 percent belonged to 11 years of age group. Total respondents were 400 out of whcih 208 were boys and 192 were girls.

Table 1: Distribution of respondents on the basis of interval time to take junk foods-

Take Junk Foods	Pre intervention					
	Boys n = 208	Per-centage	Girls n = 192	Per-centage	Total	Per-centage
T/W	52	25.00	52	27.08	104	26.00
D	79	37.98	68	35.41	147	36.75
Th/W	77	37.01	72	37.50	149	37.25
Intervention with Folder						
T/W	45	21.63	46	23.95	91	22.75
D	64	30.76	62	32.29	126	31.50
Th/W	99	47.59	84	43.75	183	45.75
Intervention with combination of Folder and CD						
T/W	40	19.23	40	20.83	80	20.00
D	60	28.84	50	26.04	110	27.50
Th/W	108	51.92	102	53.12	210	52.50
Table $\chi 2$ at 5% = 9.488	Calculated $\chi 2$ of boys = 10.07 S			Calculated $\chi 2$ of girls = 9.620 S		

T/W – Twice in week ,D – Daily, Th/W – Thrice in week.

The table 1 show that the maximum boys respondents (37.98 percent) consuming junk foods Daily where as maximum girls respondents (37.50 percent) thrice in week consuming junk foods. Minimum boys and girls respondents (25 percent and 27.08 percent) twice in week consuming junk foods.

After intervention with folder shows that the maximum boys respondents and girls respondents (47.59 percent and 43.75 percent) consuming junk foods at thrice in week as well as minimum boys respondents and girls respondents (21.63 percent and 23.95 percent) twice in week consuming junk foods.

By the collected data after intervention with combination of folder and CD shows that the maximum boys respondents and girls respondents (51.92 percent and 53.12 percent) consuming junk foods at thrice in week as well as minimum boys respondents and girls respondents (19.23 percent and 20.83 percent) twice in week consuming junk foods.

Sincethecalculatedvalueofchi-squareduetoboysrespondentsare 10.07 and due to girls, 9.620 was greater than the table value of chi-square (9.488) at 5% probability level and on 4

degrees of freedom, so our null hypothesis was rejected. Therefore it can be concluded from the above data there is significant effect of interventions on time to take junk foods by respondents.

Table 2: Distribution of respondents on the basis of pattern of consuming junk foods-

Pattern of Junk Foods	Pre intervention					
	Boys n = 208	Per-centage	Girls n = 192	Per-centage	Total	Per-centage
As a main meal	65	31.25	48	25.00	113	28.25
As a snack	76	36.53	74	38.54	150	37.50
As a Additional	67	32.21	70	36.45	137	34.25
Intervention with Folder						
As a main Meal	48	23.07	41	21.35	89	22.25
As a snack	94	45.19	84	43.75	178	44.50
As a additional	66	31.73	67	34.89	133	33.25
Intervention with combination of Folder and CD						
As a main Meal	44	21.15	32	16.66	76	19.00
As a snack	104	50.00	104	54.16	208	52.00
As a additional	60	28.84	56	29.16	116	29.00
Table $\chi 2$ at 5% = 9.488	Calculated $\chi 2$ of boys = 9.56 S			Calculated $\chi 2$ of girls = 10.18 S		

Table 2 shows the distribution of respondents on the basis of pattern of consuming junk foods. From the pre-intervention data it is evident that the maximum boys respondents and girls respondents (36.53 percent and 38.54 percent) were consume junk foods as a snack, as well as minimum boys respondents and girls respondents (31.25 percent and 25.00 percent) were consume junk foods as a main meal.

By the collected data after intervention with folder shows that the maximum boys respondents and girls respondents (45.19 percent and 43.75 percent) were consume junk foods as a snack. Whereas minimum boys respondents and girls respondents (23.07 percent and 21.35 percent) were consume junk foods as a main meal.

Data after intervention with combination of folder and CD shows that the maximum boys respondents and girls respondents (50.00 percent and 54.16 percent) were consume junk

foods as a snack as well as minimum boys respondents and girls respondents (21.15 percent and 16.66 percent were consume junk foods as a additional meal.

Since the calculated value of chi-square due to boys respondents are 9.56 and due to girls, 10.18 was greater than the table value of chi-square (9.488) at 5% probability level and on 4 degrees of freedom, so our null hypothesis was rejected. Thereforeitcanbeconcludedfromtheabovedatathereissignificanteffectof interventions on pattern of consuming junk foods by respondents.

Table: 3: Distribution of respondents on the basis of reasons for consuming junk foods

Reason for consuming junk foods	Pre intervention					
	Boys n = 208	Per-centage	Girls n = 192	Per-centage	Total	Per-centage
To satisfy hunger	36	17.30	57	29.68	93	23.25
For its easily available	42	20.19	49	25.52	91	22.75
For taste	66	31.73	45	23.43	111	27.75
To add variety of food	64	30.76	41	21.35	105	26.25
Intervention with Folder						
To satisfy hunger	33	15.86	51	26.56	84	21.00
For its easily available	42	20.19	42	21.87	84	21.00
For taste	60	28.84	45	23.43	105	26.25
To add variety of food	73	35.09	54	28.12	127	31.75
Intervention with combination of Folder and CD						
To satisfy hunger	30	14.42	48	25.00	78	19.50
For its easily available	36	17.30	35	18.22	71	17.75
For taste	58	27.88	47	24.47	105	26.25
To add variety of food	84	40.38	62	32.29	146	36.50
Table $\chi 2$ at 5% =12.592	Calculated $\chi 2$ of boys = 4.385 NS			Calculated $\chi 2$ of girls = 7.438 NS		

Table 3 shows that the maximum boys respondents (31.73 percent) were consume junk foods for taste, where as maximum male respondents (29.68 percent) were consume junk foods to satisfy hunger. Minimum boys respondents (17.30 percent) were consuming junk foods to satisfy hunger, where asminimummale respondents (21.35 percent) were consuming junk foods to add varietyoffood from diet.

Data collected after intervention with folder shows that the maximum boys respondents and girls respondents (55.09 percent and 28.12 percent) were consuming junk foods to add variety of food from diet. Minimum boys respondents (15.86percent) were consuming junk

foods to satisfy hunger, where as minimum male respondents (21.87 percent) were consuming junk foods forits easily availability.

After intervention with combination of folder and CD shows that the maximum boys respondents and girls respondents (40.38 percent and 32.29 percent) were consuming junk foods to add variety of food from diet. Whereas minimum boys respondents (14.42 percent) were consuming junk foods to satisfy hunger and minimum girls respondents (18.22 percent were consume junk foods for its easily availability.

Since the calculated value of chi-square due to boys respondents are4.385 and due to girls, 7.438 was smaller than the table value of chi-square (12.592) at 5% probability level and on 6 degrees of freedom. Therefore it can be concluded from the above data there is no significant effect of interventions on reasons of consuming junk foods by respondents.

Conclusion

The present study shows that the nutritional status of a good proportion of the respondents in unsatisfactory due to significant difference in the average height and weight of both boys and girls as well as inadequate intake of important nutrients and presence of clinical signs of nutrititonal deficiencies. Hence the impact of nutrition education to the school going children (9-11) years is satisfactory. They must be aware of healthy food and healthy eating habits and also know the harmful effect of junk foods. Nutritional Education is necessary for the children for there better growth & development and for their brighter future.

References

1. Raghava P.K. (2005) – School health, Indian Journal of community medicine, 30: 1-3.
2. Bharti D.R., Deshmukhh P.R. and Garg B.S. (2008) correlates of overweight and obesity.
3. Gibson R.S. (1990). Principal of Nutritional Assessment, Published by New York, Oxford, Oxford University Press, pp: 163 – 183.
4. Park K. (2002): Textbook of Preventive and social medicine 17th edition, Published by M/s BansidasBahnot, Jabalpur (India), pp: 298 – 299.