Abstract

The objective of this study is to find out the association between knowledge on BMI & Food habits pattern. To find out the association between knowledge on Body Mass Index & Food habits pattern selected demographic variables. The sampling technique was non probability, convenient sampling technique with 95 samples and questionnaires were formulated, structured interview schedule and anthropometric assessment were used to collect data. The collected data was tabulated and analyzed. Descriptive and inferential statistics were used. The study reveals that 53% of adolescents were having adequate knowledge and 24% of the adolescents were having moderate knowledge and 23% of the adolescent having inadequate knowledge. The mean value is 11. There was no significant association between the anthropometric measurements with selected demographic variables. The collected data was tabulated and analyzed. Descriptive and inferential statistics were used. The mean value is 11. The study shows that 23 adolescents were under weight, 53 normal ranges, and 15 preobese, 3 obese class one, 0 obese class two and 1 obese class three knowledge.
I. INTRODUCTION
Obesity and overweight result from energy imbalanced, involves eating too many calories and not getting enough physical activity. The generation of cartilage and its underlying bones within the joints, gynecological problems (abnormal menses, infertility). Economic consequences – Direct medical costs include preventive, diagnostic & treatment services related to obesity. An indirect cost relates to morbidity & mortality costs. Morbidity costs are defined as the value of income lost from decreased productivity, restricted activity, absenteeism & bed days. Mortality costs are the value of future income lost by premature death. Diseases and drugs –some illness may lead to obesity or Weight gain, Cushing disease & polycystic ovary syndrome. Drugs such as steroids & some antidepressants may also cause weight gain.

Over weight and obesity result from energy imbalance, eating too many calories and not getting enough physical activity. Body weight is result of genes, metabolism, behavior, environment, and culture and socio economic status. Obesity problem is a common and serious problem. It is necessary to change our communities into places that strongly support healthy eating and active living. Obesity causes problems during pregnancy or makes it more difficult for women to become pregnant. Obese persons required more costly medical care. This places a huge financial burden on our medical care system.

In this study we planned and assessed the knowledge on Body Mass Index and Food habits pattern among adolescents. Demographic variables used in this study occupation, gender, age, area of residence, type of family, fathers occupation, mothers occupation, number of children in the family, family income (Kogila.P & Subbulakshmi.S, 2016)

II. MAJOR OBJECTIVE OF THE STUDY
To assess the level of knowledge on BMI and Food habits pattern among adolescents.

III. HYPOTHESIS
Ho: There will be no adequate level of knowledge on BMI and Food habits pattern among adolescents
H1: There is an adequate level of knowledge on BMI and Food habits pattern among adolescents

IV. METHODOLOGY
- **Research Approach**: Quantitative, non-experimental – evaluative approach seems to be the most appropriate approach for this study.
- **Research Design**: Non experimental descriptive design seems to be the most appropriate design for this study.
- **Research setting**: The study was conducted at government higher secondary school at kelambakkam.
Population: Boys and girls (16-17 years) who are studying 11th standard at government higher secondary school at Kelambakkam.

Sample size:
- Sample size \( n = \frac{\text{DEFF} \times N_p (1-p)}{1/[d^2/z^2 /2\times(N-)+p(1-p)]} \) (Schaefer.RL et al 1990)
- Confidence level: 95%
- Confidence interval: 5%
- Population: 12, at 95% confidence level the sample size was 92

Sampling technique: Non probability- purposive sampling technique was adopted.

Sampling Criteria

A. Inclusion Criteria
The study includes the higher secondary students who were:
- Studying in 11th standard.
- Available at school during data collection.
- Shown willingness to participate in the study.

B. Exclusion Criteria
The study excludes students who were
- Long absentees.
- Not willing to participate in the study.

Selection and Development of Study Instruments
As the study aimed to evaluate the level of knowledge on BMI and food habit pattern among adolescents, researcher constructed the demographic variable proforma and structured interview schedule. Tools were validated by the experts and checked reliability too.

Research Tool

Part 1:
Demographic variables such as Age, Gender, area of residence, type of family, Father’s occupation, mother’s occupation, family income.

Part 2:
Standard Structured questionnaires consist of 10 objective type of question to assess the food habits pattern among adolescents.

Part 3:
Tool to assess the nutritional status

\[
\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m}^2\text{)}}
\]

Table-1: WHO Scoring interpretation for weight calculation by Body Mass Index

<table>
<thead>
<tr>
<th>S.NO</th>
<th>BMI RANGE</th>
<th>WHO CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;18.5</td>
<td>Under weight</td>
</tr>
<tr>
<td>2</td>
<td>18.5-24.9</td>
<td>Normal range</td>
</tr>
<tr>
<td>3</td>
<td>25.0-29.9</td>
<td>Pre obese</td>
</tr>
<tr>
<td>4</td>
<td>30-34.9</td>
<td>Obese class 1</td>
</tr>
</tbody>
</table>
Data Collection Procedure
The researcher planned to collect the data for the period of one week. The written Consent was obtained from the study research before gathering the information. In this present study the researcher were collected the demographical data & Responses for standardized tool on food habits pattern by contacting interview and the researcher also were identified the nutritional status of adolescents by BMI.

V. DATA ANALYSIS & RESULTS INTERPRETATION:
The study reveals that 53% of adolescents were having adequate knowledge and 24% of the adolescents were having moderate knowledge and 23% of the adolescent having inadequate knowledge. Mean 11% and 23 adolescents were under weight, 53 normal ranges, and 15 preobese, 3 obese class one, 0 obese class two and 1 obese class three knowledge.

![Figure 1: Bar graph showing the frequency and percentage distribution of BMI and food habit pattern for gender](image)

Table 2: Frequency and percentage distribution of demographic characteristics of BMI and food habits of adolescents (N=95)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Characteristics</th>
<th>Sample No</th>
<th>Sample %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Area Of Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>15</td>
<td>15.78%</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>80</td>
<td>84.21%</td>
</tr>
<tr>
<td>2</td>
<td>Fathers Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Farmer</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Dinesh J, Gotham S, Lini Thomas, Kogila P.: A Study to assess the Knowledge on Body Mass Index and Food Habits Pattern among Adolescents in a Selected School at Kelambakkam, Kancheepuram district, Tamil Nadu, India

Table -3: Over All Knowledge Aspects of of adolescents’ knowledge on BMI and food habit pattern (N=95)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Level of knowledge</th>
<th>Number of adolescents</th>
<th>Total number of question</th>
<th>Score Range</th>
<th>Mean%</th>
<th>Knowledge%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adequate</td>
<td>95</td>
<td>20</td>
<td>16-20</td>
<td>11</td>
<td>53%</td>
</tr>
<tr>
<td>2</td>
<td>Moderate</td>
<td></td>
<td></td>
<td>11 -15</td>
<td></td>
<td>24%</td>
</tr>
<tr>
<td>3</td>
<td>Inadequate</td>
<td></td>
<td></td>
<td>0-10</td>
<td></td>
<td>23%</td>
</tr>
</tbody>
</table>

Figure 2: cylinder graph showing the frequency and percentage distribution of BMI and food habit pattern for age.
VI. DISCUSSION

The study result also revealed that maximum adolescents the age group of 16-17 years (95%), adolescents studying 12 standard. Majority of adolescent’s non-vegetarian (90%) number of adolescents vegetarian (10%). And the mean percentage was 11%. The study result was there is no significant association between selected demographic variables and the level of knowledge of adolescents regarding BMI and Food habit pattern. Hence the research hypothesis H1 is strongly rejected at p 0.05 level.

BMI and Food habit pattern is a main cause of obesity among adolescents the members of health sector should have adequate knowledge on BMI and Food habit pattern for instructing the adolescents to prevent to obesity through health education in the school setup.

In our study number of females - 23 and number of males - 72. All come into the age group of 16 – 18. 17 numbers of males and 7 numbers of females come into underweight group and their total percentage is 25.26%. 26 numbers of males and 23 numbers of females come into normal weight group and their total percentage is 51.57%. 12 numbers of males and 10 number of females come into overweight group and their total percentage is 23.15%.

Among normal weight school students 50% of students are engaged in physical activities like playing, walking, jogging, physical exercises and yoga. All of the students among over weight and obesity category are not having any physical activity. They are awaking by 7.30 AM, refreshing, taking breakfast and going to school by 9.00 AM. After coming to home they are spending their time in watching TV, movies, computer and internet. While watching they are eating snacks and there is no physical activity. So these are at the risk of complications of obesity and overweight like Diabetes Mellitus, Hypertension, Osteoarthritis, Coronary Artery disorders etc. in future if they won’t change their lifestyle. They were warned and educated about these things, so that they rectify themselves and guide the people in the society and underweight students are instructed to improve diet as malnutrition may lead to many complications like hypoglycemia, giddiness, drowsiness, sometimes irritability and loss of memory may not be able to concentrate in the classroom and may not read properly. Finally they may suffer from hypoproteinemia and anemia and other problems like anxiety, depression if they won’t improve their quality and quantity of dietary intake and this indicates some eating disorders like anorexia nervosa. This category (underweight) is associated with incorrect weight perception among young females. 25% of students are spending more time in reading with no time for any physical activity.

VII. CONCLUSION

According to the proverb The less you eat, the longer you live, it is better to rectify the weight abnormalities rather than to treat the complications and resulting diseases of overweight, obesity and underweight, so that the school students first make themselves physically fit with good dietary habits and BMI and serve the society.
The current study provides an update and more inclusive data on dietary and BMI among adolescents in Tamilnadu. Furthermore, these data could be used as baseline information for the comparison of BMI and food habits pattern.

VIII. REFERENCES


Author’s Biography:

My name is Dinesh .J.My Date of birth is 20/6/1997. Iam from Vellore District. I am studying B.Sc. Nursing third year. I’m having more interested to do research on pediatric with subject immunization. I have published one research article in international Journal. I attended international and national conference on Topics Transforming nursing practice research and dissemination on 23/6/2017 at Chettinad college of nursing, and Foundation and upheaval in pediatric censorious care colloquium in Mohamed sathak AJ college of nursing. Non-communicable disease-A race against time on 30/6/2016.and Saveetha university training programme on cardio pulmonary resuscitation on 7/4/2016.

My name is Gotham .S.My Date of birth is 17/1/1995. Iam from Vellore District. I am studying B.Sc. Nursing third year. I’m having more interested to do research on pediatric with subject low birth weight babies. I have published one research article in international Journal. I attended international and national conference on Topics Transforming nursing practice research and dissemination on 23/6/2017 at Chettinad College of nursing, and Foundation and upheaval in pediatric censorious care colloquium in Mohamed sathak AJ college of nursing, Non-communicable disease-A race against time on 30/6/2016.and Saveetha university training in cardio pulmonary resuscitation on 7/4/2016.

My name is Lini Thomas. My Date of birth is 1/4/1995. Iam from Kerala I am studying B.Sc. Nursing third year. I’m having more interested to do research on pediatric with subject on preterm babies. I have published one research article in international Journal. I attended international and national conference on Topics Transforming nursing practice research and dissemination on 23/6/2017 at Chettinad college of nursing, and Foundation and upheaval in pediatric censorious care colloquium in Mohamed sathak AJ college of nursing, Non-communicable disease-A race against time on 30/6/2016.and Saveetha university training in cardio pulmonary resuscitation on 7/4/2016.
Mrs. Kogila.P born on 14.09.1981 at Salem district, Tamil Nadu, Associate professor, Chettinad college of nursing, chettinad university and the area of research interest are pediatric research such as, infant feeding, immunization, complementary feeding, gastro intestinal disorders, kangaroo mother care. Professional activities are published research paper in 18 international and 3 national peer reviewed journal, presented many scientific research paper and poster in international/national conference and attended many workshop, seminars, conferences. This is to share, I am positive person and I am interested to help others and also love to share my ideas, knowledge and thoughts with my students.

TO CITE THIS PAPER