Adolescence is an intense anabolic period when requirements for all nutrients increases. Unsound food habits and lack of nutritional awareness are considered to be the main factors in determining nutritional status in rural areas. Adolescents are more vulnerable to malnutrition. (WHO, 1994). The aim of this study is to assess the nutritional status of adolescent girls using weight and height measurement. This is a cross-sectional study design using multistage random sampling method. 650 adolescent girls aged 13-19 years, were selected as the study subjects. Pertinent information was obtained on a pre-designed and pre-tested interview schedule. The data thus obtained was analyzed. Analysis shows that 26.6% of adolescent girls were undernourished (BMI<25.9). Caste, religion and marital status were significantly (p<0.05) associated with nutritional status of adolescents. Therefore the study recommends the strong need of nutritional education for adolescents in the rural area. Focus will be given to adolescents who are married & belong to weaker section of society.

**KEYWORDS**

BMI, Adolescents, Malnutrition, Obesity

**ABSTRACT**

Introduction

Adolescence is the transitional period between childhood and adulthood. During this period individual move towards physical and psychological maturity, and economic independence and acquire their adult identity. Demographically, India is a young country today as more than 50% of its population is below the age of 25 and more than 65% below the age of 35.1

Adolescence is an intense anabolic period when requirements for all nutrients increases. This period is very crucial since these are formative years in the life on an individual when major nutritional needs and low social power3. Nutritional deficiencies has far reaching consequences, especially in adolescent girls. If their nutritional needs are not met, they are likely to give birth to undernourished children, thus transmitting under nutrition to future generation. Unfortunately assessment of nutritional status of adolescent girls has been the latest explored area of research particularly in rural India4. Malnutrition prevails in rural area due to low economic status, less awareness about healthy diet of adolescent girls. Hence it is essential to access the nutritional status of adolescent girls, especially in rural area.

Objectives

1. To assess the nutritional status of adolescent girls
2. To ascertain the association between different socio-demographic characters (caste, religion, and marital status) and nutritional status.

Material and Methods

A community based cross-sectional study was conducted during January 2015 to June 2015. Talking into consideration the time restraints and convenience, twelve Villages from ninety village panchayats in vicinity of Raigarh were selected through multistage random sampling. Six hundred and fifty adolescent girls of the age group 13-19 years were examined on the basis of BMI. Pertinent information on socio demographic variables was obtained on a pre-designed and pre-tested interview schedule.

Following standard techniques were used for measurements:

Height: Height in centimeters was marked on a wall with the help of a measuring tape. All girls were measured against the wall without foot wear and with heels together and their heads positioned so that the line of vision was perpendicular to the body. A glass scale was brought down to the topmost point on the head. The height was recorded to the nearest 1 cm.

Weight: The weight was measured using a weighing machine with an accuracy of ± 100gm. The subjects were asked to remove their footwear before measuring their weight. The scales were recalibrated after each measurement.

Accuracy of the weighing scale was verified from time to time against known weights. (Gupta M.K. et al)

BMI: BMI of the study subject was calculated by using the formula weight (kg)/height² (m²)

Results

Out of the 650 adolescent girls participated in the study majority (91.7%) were Hindus. Caste wise distribution shows that more than fifty percent were belong to OBC category, 28% General, and only 13.4% were SC. In the study area majority of the respondent were (71.6%) school going & approx. three fourth of the total were unmarried & only 9.5% were married and living with their husband. Out of the total socio demographic variables considered in the study significant association was seen with caste, religion, and marital status only.

The findings of this study (shown in pic- diagram) shows that out of 650 adolescent girls, more than 50% were having BMI between 18.5-24.9, and 27% were below 18.5 only 16% were above 24.9 & at higher risk of developing obesity.

Out of total 650 adolescent girls 13.4%, 58.6% and 28% belonged to SC, OBC and Other caste category, respectively. Nutritional status of adolescent girls was found significantly (p<0.05) associated with their caste. Under-nutrition was significantly high among girls who belonged to Schedule Caste category. Under different caste categories 39.1%, 26.6% and
22% study subjects were underweight in SC, OBC and other caste groups, respectively. This variation in under-nutrition among girls from different caste groups may be due to variation in their socioeconomic characteristics and thereby difference in availability of quality food.

Distribution of adolescent girls according to BMI status

<table>
<thead>
<tr>
<th>CASTE</th>
<th>Underweight (BMI&lt;18.5)</th>
<th>Normal weight (BMI 18.5 - 24.9)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule Caste</td>
<td>34</td>
<td>53</td>
<td>87</td>
</tr>
<tr>
<td>Other Backward Caste</td>
<td>26</td>
<td>222</td>
<td>248</td>
</tr>
<tr>
<td>Other Caste (General)</td>
<td>173</td>
<td>47</td>
<td>220</td>
</tr>
<tr>
<td>Total</td>
<td>173</td>
<td>47</td>
<td>220</td>
</tr>
</tbody>
</table>

Majority (91.7%) of adolescent girls were Hindu by religion. Religion was found to have a significant (p<0.05) influence on nutritional status of adolescent girls. Hindu girls were more vulnerable to under nutrition (27.7%) in comparison to Muslim girls (14.8%). This variation in the trend indirectly represents religion wise variability in food accessibility and dietary intake. (Table:2)

**REFERENCES**