



HEALTH STATUS OF YOUNG FEMALES IN THE AGE GROUP 18 TO 25 YEARS: FINDINGS FROM AKOLA, MAHARASHTRA

Zoology

Sawarkar, A.S*

Professor, Department of Zoology, Shri R. L. T. College of Science, Akola, M.S., India*Corresponding Author

ABSTRACT

Women's health is central to the survival of the society as they give beginning to the new life. Various health parameters like Height, Weight, Body Mass Index (BMI), and Blood Hb Level of 100 female students between the ages of 18-25 years was measured. During this study, 46% girls are found to be underweight and 46% are healthy i.e. normal weight. Only 7% and 1% are overweight and obese respectively. About 1/3rd of the examined population is having normal haemoglobin level and 2/3rd is having below normal. Majority of these are mildly or moderately anaemic. Out of total underweight females, 89.13% seems to be anaemic. College students come from different socio economic and cultural backgrounds. There is an increased need to create awareness and impart knowledge regarding health, especially, anaemia among the girls. Educated girls can act as advocates for themselves and their families, ensuring that they receive the care they need to stay healthy.

KEYWORDS

Height, Weight, BMI, Blood Hb.

INTRODUCTION

Health is one of the vital indicators reflecting quality of human life. In India, women's lives are governed by multifaceted and nuanced realities where class, caste and religion intersect with each other in complex ways to intensify women's subordination (Sarojini, et al., 2006). Women's access to health services is much less in comparison to men. Studies conducted in India have also reported nutritional anemia especially during the critical period of growth and development. Anemia is one among the leading cause of maternal deaths in India. Apart from the risk to the mother it is also responsible for increased incidence of premature births, low birth weight babies and perinatal mortality (Gautham et al., 2004).

BMI is a reliable tool for establishing risk levels for illnesses. Many healthcare professionals use BMI to determine effective doses for medicines. BMI correlates your weight with your height and evaluates whether your weight is appropriate for your stature. BMI below 18.5 is categorised as being underweight, 18.5 to 24.9 as a normal/healthy weight, between 25.0 and 29.9 is categorised as being overweight and BMI of 30.0 or higher is treated as obese. According to the WHO (World Health Organization, 2005), Anemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. Genes encoding RBC enzymes and membranes can also cause genetic variations in hemoglobin concentrations (Barrera-Reyes and Tejero, 2019). Women are valuable contributors to our society. Having a healthy body will allow for the energy and mental clarity to continue making progress and positive impacts in the world.

MATERIALS AND METHODS

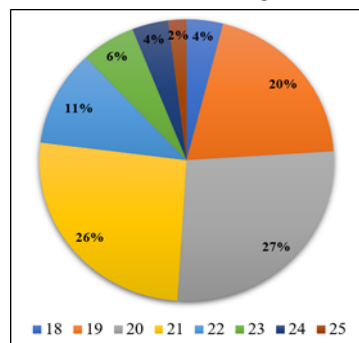
Female students studying in Shri R.L.T. Science College, Akola were selected for the study. 100 girls aged between 18-25 years were chosen as unit of study. Age in completed years was taken into consideration. Height of each girl was measured by using KRUPS AL3 Stadiometer height measuring device. All individuals were weighed using the Manual Weighing Machine, Model- KPWS E of ISO certified Kohinoor company, and recorded in kilograms (kg). Body Mass Index was calculated with online BMI Calculator. The respondents were classified according to their BMI values (WHO, 2004). Sahli's Hemoglobinometer was used for Haemoglobin Estimation. Procedure given by Ghai (2013) was adopted.

OBSERVATIONS AND RESULTS

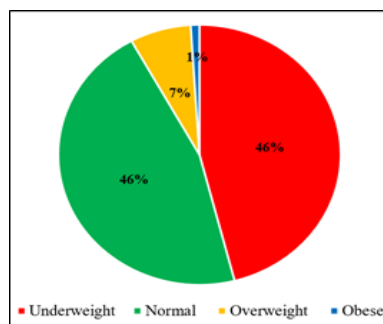
The respondents i.e. the college students come from different socio economic and cultural backgrounds. Participation in this research study was voluntary, anonymous and random.

All participants were between the ages of 18-25 years to ensure that they were of legal age to participate in the study (Graph -1). The students having of 20 years of age was the highest (27%), with the second highest being age of 21 years of age (26%). Anthropometric measurements like height and weight are non-invasive quantitative measurements of the body. These measurements along with age of respondents are taken into account while calculating Body Mass Index

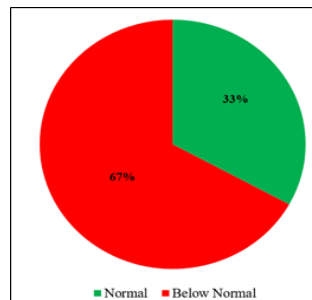
(BMI) of female students. According to BMI, respondents are classified into various categories such as underweight, normal/healthy weight, overweight and obese (Graph -2). During this study, 46% girls are found to be underweight, 46% are healthy i.e. normal weight, only 7% and 1% are overweight and obese respectively. In the present study, only 33% of girls are having normal haemoglobin level i.e. in the range of 12 to 13. Nearly double proportion of females i.e. 67% are having haemoglobin level below normal in the range of 7 to 11.9 (Graph- 3).



Graph-1: Age wise (in years) proportion of female students examined (n=100).



Graph- 2: Proportion of Body Mass Index (BMI) of female students (n=100).



Graph- 3: Proportion of Blood Haemoglobin level in female students examined (n=100).

DISCUSSION

The present study is undertaken with a view that, the early detection of health status and identification of nutritional risk factors like low haemoglobin level and undernourishment. Body Mass Index (BMI) is a popular and reliable anthropometric tool to measure obesity, and the assessment of a person's nutritional and health status that applies to both adult men and women (Aryal, 2020). It is simple and inexpensive method of screening for weight categories. World Health Organization considers BMI as a predictor of obesity (WHO, 2005). An ideal BMI is lies within the range 18.5 to 29.9. Direct measurements of body fat require more time and money, better facilities, highly trained personnel, tedious methodology etc. On the other hand, BMI provides ready result, and one can easily calculate using a calculator (Bhurosy and Jeewon, 2013). In this study, I found a significant correlation between anemia and BMI. Out of total underweight females, 89.13% are seems to be anemic. Different studies have also shown a significant relationship between being underweight and anemia. Bano et al. (2012) stated that the majority (81.8%) of anemic students were undernourished according to their BMI, whereas Pandey and Singh (2013) stated that the prevalence of anemia among underweight students was 60%, normal was 27.5%, and overweight was 12.5%. An individual may underweight because of genetic or metabolic causes, lack of food, gastrointestinal problems, hyperthyroidism (overactive thyroid), cancer, tuberculosis, etc. (Mohajan, 2022). Women with severe underweight causes amenorrhea, infertility, pregnancy complications, anemia, hair loss, etc. (Tebekaw et al., 2014). Obesity is regarded as one of the most important health issues worldwide. It is already affected more than one-third of the population around the world, and this figure is increasing alarmingly (WHO, 2021). Surprisingly, in this study, very negligible i.e. only 7 girls were overweight and 1 out of 100 girls was found to be obese. They can easily come to normal health by eating a balanced, calorie-controlled diet and regular exercise. Determining the haemoglobin levels by age and sex has important clinical uses. Hb levels below 5.0 g/dL (50 g/L) can lead to heart failure and death, and the values above 20 g/dL (200 g/L) can cause capillary occlusion due to blood levels (Barpanda, 2021). In this study, the lowest level of haemoglobin observed is 7 g/dL, which shows severe anaemic condition of the girl. 2/3rd of the examined population is having haemoglobin level below normal i.e. in the range of 7 to 11.9. Majority of these are mildly or moderately anaemic. Anemia is caused by quantitative or qualitative deficiency of haemoglobin or both and indicates the status of poor nutrition and poor health. The super imposed requirements related to reproduction, menstruation, pregnancy and lactation urge the need for increased requirement of iron for women of reproductive age (Borgis, et al., 2020). Risk factors for Deficiency of haemoglobin include a low intake and poor absorption of iron from diets during period of life when iron requirements are especially high i.e., growth and pregnancy (WHO, 2005). Other causes such as heavy blood loss during menstruation and parasite infections such as hook worms, ascaris, and schistosomiasis can lower blood hemoglobin (Hb) concentrations. Acute and chronic infections, including malaria, cancer, tuberculosis, and HIV can also lower blood Hb count (Nkuah and Bonchel, 2020). Other factors such as micro nutrient deficiencies, including Vitamins A and B12, folate, riboflavin, and copper can increase the risk of anaemia (Angadi and Ranjitha, 2016).

CONCLUSION

In this study, about half of the girls were found underweight and half were of normal weight.

About 1/3rd of the examined population is having normal haemoglobin level and 2/3rd is having below normal. Majority of these are mildly or moderately anaemic. Out of total underweight females, 89.13% are seems to be anaemic.

Educated girls can act as advocates for themselves and their families, ensuring that they receive the care they need to stay healthy. There is an increased need to create awareness and impart knowledge regarding health, especially, anaemia among the girls. Health education to young girls is a key contributing factor to building more resilient and equitable societies.

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