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ASSOCIATION OF SOCIODEMOGRAPHIC VARIABLES WITH NUTRITIONAL STATUS AMONG THE COLLEGE GIRLS OF HOWRAH, WEST BENGAL, INDIA

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ABSTRACT

Nutritional status of young adult girls is very essential since they are future mothers, and their nutritional requirements increase tremendously compared to the preceding years of growth. The present study was an endeavour to assess the nutritional status and to find an association between sociodemographic variables and nutritional status among young adult college girls of Howrah, West Bengal. The study included a total of 140 college girls aged between 18 to 20 years. The sociodemographic data were collected by the interview method using a pretested standard structured schedule. The anthropometric data were measured by the standard protocol. For the comparison of anthropometric data, growth charts of the Centre for Disease Control and Prevention (CDC) were used. The anthropometric measures like weight, mid upper arm circumference (MUAC), waist circumference (WC), hip circumference (HC), suprailiac skinfold, body mass index (BMI), waist-hip ratio (WHR) and waist-height ratio (WHtR) show an increasing trend according to age groups. Based on BMI, 25.7% of the young adult college girls were found to be underweight (BMI < 18.5 kg/m^2), which includes chronic energy deficiency (CED) grade I (13.6%), chronic energy deficiency (CED) grade II (7.9%) and chronic energy deficiency (CED) grade III (4.3%). BMI for age (< 5th percentile) or thinness showed a significant difference ($p < 0.01$) according to age. Similarly, stature for age (< 5th percentile) or stunting shows a significant association ($p < 0.05$) with father's education, and underweight (BMI < 18.5 kg/m^2) shows a significant association ($p < 0.05$) with monthly family household income. The results of linear regression show that sociodemographic variables and food habits were significant predictors of various anthropometric measures. Monthly family income and frequency of eating fast food per week were significant predictors of

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BMI and MUAC, and the age of the participant and the education of the mother were significant predictors of WHR, and family income per month and the age of the participant were significant predictors of WHtR. Thus, the present study provides a podium for further studies to combat the effect of undernutrition among future mothers and instigates effective nutritional intervention strategies entailing this vulnerable group.

Keywords: *nutritional status; underweight; stunting; thinness; sociodemographic variables*

INTRODUCTION

Many developing countries have experienced rapid economic, demographic and nutritional transitions in recent decades, resulting in changes in dietary habits, nutritional status and lifestyles [1, 2]. Nonetheless, undernutrition remains a global public health problem and is considered a principal cause of ill health resulting in chronic morbidities. Nutrition is the cornerstone of socio-economic development and a fundamental pillar of human life. The young adult age range is a vulnerable period in the human life cycle, and the nutritional status of young adult girls, who are future mothers, has become a major area of concern [3]. According to NFHS-3 [4], undernutrition level was higher among young adult girls, as almost half of the girls (46.8%) in the age range from 15 to 19 years were undernourished. Nutritional requirements during this period increase tremendously compared to the preceding years of growth. It is indispensable to improve the nutritional status of the young adult college girls prior to conception, otherwise, this will result in more severe consequences [5, 6, 7]. Maternal pre-pregnancy size or maternal nutrition is the most important determinant of birth weight [8, 9]. As an outcome, undernourished mothers will give birth to low birth weight (LBW) babies. Prematurity and intrauterine growth retardation (IUGR) may also result in LBW. This growth retardation has two strong predictors – one of these is mothers' low nutrient consumption. Maternal energy and protein intake, when compromised, can precipitate IUGR, which is strongly associated with a number of chronic conditions in later life [10]. An underweight mother has a 30% higher risk of delivering an LBW baby than her well-nourished counterpart [11].

In general, young adult girls are the worst sufferers of ravages of various forms of undernutrition because of their increased nutritional needs and low social power. Various macro- and micronutrient deficiencies and other nutritional problems are common among young adult girls of Bangladesh [12].

It has also been reported that 28.3% of college-going girls (18–20 years) of Midnapur in West Bengal were suffering from chronic energy deficiency [13]. Unfortunately, assessment of the nutritional status of young adult girls has been among the least explored research areas in India. Socio-cultural factors, peer influences, craze for trendy foods, mood, body image, and extreme changes in the lifestyle and food habits of young girls in the recent past have affected both their nutrient intake and needs. Assessments of nutritional status have the potential to play significant roles in formulating developmental strategies for the young adult college girls of the country. Thus, the present study was an attempt to assess the nutritional status and to find associations of sociodemographic variables with the nutritional status among the young adult college girls of Howrah, West Bengal.

MATERIALS AND METHODS

The present study was conducted among young adult college girls of Narasinha Dutta College of Howrah district in the state of West Bengal, India. The study included a total of 140 college girls aged between 18 to 20 years. The purpose of the study was explained to the participants, and verbal informed consent was taken from the participants prior to the survey. The participants selected for this study were apparently healthy. The data was collected by using a pre-tested structured schedule. Sociodemographic data were collected by the interview method, and all the anthropometric measurements were taken by using the standard protocol [14]. One of the authors (BD) collected all the anthropometric measurements and also interviewed the participants.

The sociodemographic data included the age of the participant at the time of the interview (years), the participant's education in completed years, the participant's father's educational status, father's occupational types, mother's educational status, mother's occupational types along with monthly family household income (in Indian rupees). Data on skipping of breakfast and frequency of fast-food intake were also collected. The data on these variables were collected by using a pretested structured schedule. Anthropometric measurements included height (cm), weight (kg), mid upper arm circumference (MUAC) (cm), waist circumference (WC) (cm), hip circumference (HC) (cm). Four skinfold thicknesses (mm), such as biceps skinfold thickness (BSF), triceps skinfold thickness (TSF), subscapular skinfold thickness (SSSF), and suprailiac skinfold thickness (SISF) were measured following the standard protocol [14].

Body mass index (BMI) was calculated and categorized as follows:

BMI (kg/m^2) = weight (kg) / height (m^2)

Cut-off values of BMI (kg/m^2) [8]

Nutritional status	BMI (kg/m^2)
CED grade III	< 16
CED grade II	16–16.9
CED grade I	17.0–18.4
Normal	18.5–24.9
Overweight	≥ 25–29.9
Obese	≥ 30

Waist-hip ratio (WHR) was calculated) by the formula

WHR = WC (cm) / HC (cm)

Waist-hip ratio for females [15]

Nutritional Status	WHR
Risk	≥ 0.80
Normal	< 0.80

Mid Upper Arm Circumference (cm) [16]

Nutritional status	MUAC (cm)
Undernourished	< 22.0
Normal	≥ 22.0

Waist-to-height ratio (WHtR) was calculated by the formula

WHtR= WC (cm) / height (cm)

WHtR was classified in to four categories [17]

Nutritional Status	WHtR
Underweight	< 0.40
Normal	0.40 – < 0.50
High risk	0.50 – < 0.60
High morbidity	≥ 0.60

This study used the diagnosis of height-for-age (stunting), weight-for-age (underweight) and BMI-for-age (thinness) among the young adult girls aged 18 to 20 years. Nutritional status was assessed using the CDC reference sets of percentiles for age- and sex-specific percentile reference values for age 2–20 years [18].

Statistical analysis

Descriptive statistics was used to understand the distribution of the anthropometric variables, including the skinfold thicknesses, of the studied participants. ANOVA (analysis of variance) was also performed to understand the age-group-wise differences of the study participants based on different anthropometric variables, skinfold thicknesses and various indices like BMI, WHR, WhtR. Chi-square test was applied to understand the age-group-wise differences of the prevalence of stunting (height for age < 5^{th} percentile) and thinness (BMI for age < 5^{th} percentile) among the studied participants. Chi-square test was also used to understand the association between sociodemographic variables with underweight, stunting and thinness of the participants. P value of $p \leq 0.05$ was considered as statistically significant for this analysis.

Multiple linear regression analysis was applied to understand the association of sociodemographic variables, skipping of breakfast and frequency of fast-food intake data with various anthropometric indices like BMI, WHR, WHtR and MUAC. All the sociodemographic variables like family income per month, educational status and occupation of the father and mother of the study participants and also skipping of breakfast and frequency of fast-food intake of the participants were included as independent variables. On the other hand, MUAC, BMI, WHR and WHtR were used as dependent variables. P value of $p \leq 0.05$ was considered as statistically significant for this analysis. The analyses of the data were done using the Statistical Package for Social Sciences, version18.0 [19].

RESULTS

The anthropometric measurements of the participants in different age groups are presented in Table 1. The mean weight, MUAC, WC, HC and suprailiac skinfold, BMI, WHR and WHtR increases with the chronological increase in the age group. Significant difference ($p < 0.05$) between the age groups was observed only in the case of WHR.

Table 1. Anthropometric characteristics of the studied participants

Anthropometric measurements	18 years	19 years	20 years	Age combined	ANOVA F-Value	p-Value
	(N = 48)	(N = 47)	(N = 45)	Total (N = 140) Mean ± SD		
	Mean ± SD	Mean ± SD	Mean ± SD			
Height (cm)	154.37±5.75	152.57±5.98	153.31±6.88	153.43±6.21	1.017	0.364
Weight (kg)	50.31±10.23	51.25±11.55	52.42±11.93	51.31±11.20	0.409	0.665
Mid upper arm circumference (cm)	24.29±2.96	24.85±4.14	25.45±3.23	51.31±3.49	1.282	0.281
Waist circumference (cm)	75.68±10.44	77.44±11.55	80.47±10.85	77.83±11.07	2.265	0.108
Hip circumference (cm)	92.21±8.86	92.97±10.02	93.86±9.82	92.98±9.53	0.347	0.708
Biceps skinfold (mm)	13.28±1.32	13.26±1.16	13.39±1.14	13.31±1.21	0.154	0.857
Triceps skinfold (mm)	18.77±3.16	18.34±3.37	19.52±3.5	18.87±3.36	1.460	0.236
Subscapular skinfold (mm)	34.41±6.39	34.02±5.12	34.38±6.09	34.37±5.85	0.061	0.941
Suprailiac skinfold (mm)	32.12±7.66	34.84±6.15	34.54±6.0	33.82±6.73	2.367	0.098
BMI (kg/m^2)	21.13±4.27	21.96±4.52	22.23±4.4	21.76±4.42	0.786	0.458
WHR	0.81±0.06	0.83±0.06	0.85±0.65	0.83±0.067	3.908	**0.022***
WHtR	0.49±0.06	0.50±0.07	0.52±0.06	0.50±0.07	2.783	0.065

*Statistically significant $p < 0.05$

Figure 1 shows the nutritional status of the young adult college girls based on BMI. 25.7% of the college girls were found to be underweight (BMI < 18.5 kg/m^2), which includes chronic energy deficiency (CED) grade I (13.6%), chronic energy deficiency (CED) grade II (7.9%) and chronic energy deficiency (CED) grade III (4.3%). 52.1% were in the normal category, and 16.4% were found to be overweight and 5.7% were in the obese category.

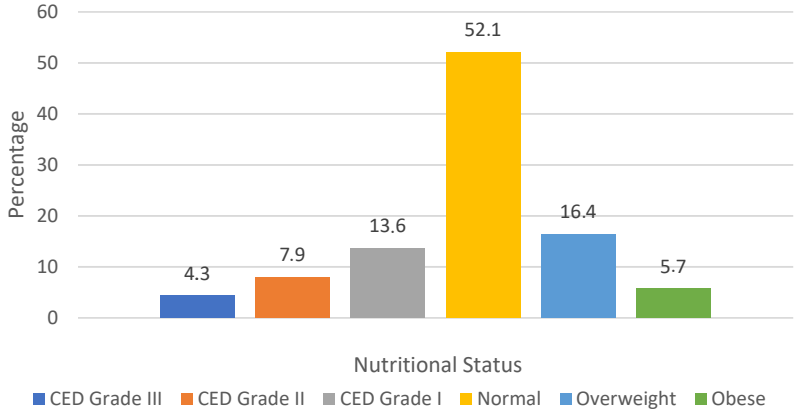

Figure 1. Nutritional status of the studied participants

Table 2 shows the prevalence of stunting (height for age < 5th percentile) and thinness (BMI for age < 5th percentile) among the young adult college girls and its association with age. 35.7% of the girls were found to be stunted, and it was more predominant among the girls aged 19 years, but no significant association was found between stunting and the age group. BMI for age or thinness was more prevalent among the girls aged 18 years, and overall, 10.7% of the adult college girls were found to be thinned. Significant difference ($p < 0.01$) was found between thinness and age groups.

Table 2. Prevalence of stunting and thinness among the studied participants

Nutritional indicators	Category	Age of the participants						Age combined		X^2 p-value
		18 years		19 years		20 years				
		N	%	N	%	N	%	N	%	
Height for age < 5th percentile (Stunting)	Normal	34	37.8	28	31.1	28	31.1	90	64.3	0.488
	Stunting	14	28.0	19	38.0	17	34.0	50	35.7	
BMI for age < 5th percentile (Thinness)	Normal	37	29.6	43	34.4	45	36.0	125	89.3	0.001*
	Thinness	11	73.3	4	26.7	0	0	15	10.7	

*Statistically Significant $p < 0.01$

Table 3 shows the association of sociodemographic variables with underweight, stunting and thinness. The maximum percentage of underweight girls (33.3%) were in the category of 18 years, but no significant difference was found according to age groups, religion, education and occupation of the participant's

father and mother. A significant association ($p < 0.01$) was observed between underweight girls and monthly family household income. This table also shows that 40.43% of the young adult college girls of 19 years were stunted, but no significant difference was found according to age groups ($p > 0.05$). Significant association was observed ($p < 0.01$) between father's education and stunting. Maximum of girls with non-literate mothers (50%) and mothers in service (72.7%) were found to be stunted. The majority of the participants whose monthly household income was less than 5000 rupees (57.1%) were stunted. It is also evident from the table that significant difference ($p < 0.01$) was prevalent between thinness and the age-group ($p < 0.05$). No significant association ($p > 0.05$) was found between thinness and other sociodemographic variables.

Table 3. Association of sociodemographic variables with underweight, stunting and thinness

Variables	Categories	Total	Underweight		X^2	Stunting		X^2	Thinness		X^2
			Present	Absent	p-value	Present	Absent	p-value	Present	Absent	p-value
Age (N = 140)	18 years	48 (34.3)	16 (33.3)	32 (66.7)	0.307	14 (29.2)	34 (70.8)	0.703	11 (22.9)	37 (77.1)	**0.005***
	19 years	47 (33.6)	11 (23.4)	36 (76.6)		19 (40.4)	28 (59.6)		4 (8.5)	43 (91.5)	
	20 years	45 (32.1)	9 (20.0)	36 (80.0)		17 (37.8)	28 (62.2)		0 (0)	45 (100.0)	
Religion (N = 140)	Hindu	102 (72.9)	25 (24.5)	77 (75.5)	0.593	34 (33.3)	68 (66.7)	0.116	11 (10.8)	91 (89.2)	0.827
	Muslim	38 (27.1)	11 (28.9)	27 (71.1)		16 (42.1)	22 (57.9)		4 (10.5)	34 (89.5)	
Education of father (N = 131) €	Non-Literate	8 (6.1)	5 (62.5)	3 (37.5)	0.074	2 (25.0)	6 (75.0)	**0.008***	1 (12.5)	7 (87.5)	0.938
	Primary level	10 (7.6)	0 (0)	10 (100.0)		6 (60.0)	4 (40.0)		0 (0)	10 (100.0)	
	Secondary level	58 (44.3)	14 (24.1)	44 (75.9)		22 (37.9)	36 (62.1)		7 (12.1)	51 (87.9)	
	Higher Secondary level	24 (18.3)	7 (29.1)	17 (70.9)		12 (50.0)	12 (50.0)		2 (8.3)	22 (91.7)	
	Graduate and above	31 (23.7)	7 (22.6)	24 (77.4)		4 (12.9)	27 (87.1)		4 (12.9)	27 (87.1)	

Variables	Categories	Total	Underweight		X^2	Stunting		X^2	Thinness		X^2
			Present	Absent	p-value	Present	Absent	p-value	Present	Absent	p-value
Education of Mother (137) δ	Non-literate	12 (8.7)	2 (16.7)	10 (8.3)	0.367	6 (50.0)	6 (50.0)	0.362	0 (0)	12 (100.0)	0.171
	Primary level	9 (6.6)	3 (33.3)	6 (66.7)		4 (44.4)	5 (55.6)		3 (33.3)	6 (66.7)	
	Secondary level	79 (57.7)	24 (30.4)	57 (69.6)		27 (34.2)	52 (65.8)		10 (12.7)	69 (87.3)	
	Higher Secondary level	23 (16.8)	5 (21.7)	18 (78.3)		8 (29.6)	15 (70.4)		2 (8.7)	21 (91.3)	
	Graduate and above	14 (10.2)	2 (14.3)	12 (85.7)		3 (21.4)	11 (78.6)		0 (0)	14 (100)	
Occupation of father (N = 131) €	Business	61 (46.6)	11 (18.0)	50 (81.96)	0.139	23 (37.7)	38 (62.3)	0.416	2 (3.3)	59 (96.7)	0.184
	Service	27 (20.6)	7 (25.9)	20 (74.1)		8 (29.6)	19 (70.4)		4 (14.8)	23 (85.2)	
	Skilled and unskilled Worker	33 (25.2)	14 (42.4)	19 (57.6)		14 (42.4)	19 (57.6)		7 (21.2)	26 (78.8)	
	Others	10 (7.6)	2 (20.0)	8 (80.0)		1 (10.0)	9 (90.0)		1 (10.0)	9 (90.0)	
Occupation of mother (N = 137) δ	Business	2 (1.5)	1 (50.0)	1 (50.0)	0.526	1 (50.0)	1 (50.0)	0.177	1 (50.0)	1 (50.0)	0.264
	Home-maker	118 (86.1)	28 (23.3)	90 (76.7)		38 (32.2)	80 (67.8)		10 (8.5)	108 (91.5)	
	Service	11 (8.0)	3 (27.3)	8 (72.7)		8 (72.7)	3 (27.3)		2 (18.2)	9 (81.8)	
	Others	6 (4.4)	3 (50.0)	3 (50.0)		1 (16.7)	5 (83.3)		2 (33.3)	4 (66.7)	
Monthly family household income (N-140)	< 5000	7 (5.0)	0 (0)	7 (100.0)	**0.000***	4 (57.1)	3 (42.9)	0.600	0 (0)	7 (100.0)	0.999
	5000-10000	76 (54.3)	29 (38.2)	47 (61.8)		32 (42.7)	44 (57.3)		12 (15.8)	64 (84.2)	
	10000-15000	20 (14.3)	3 (15.0)	17 (85.0)		7 (35.0)	13 (65.0)		1 (5.0)	19 (95.0)	
	>15000	37 (26.4)	4 (10.8)	33 (89.2)		7 (18.9)	30 (81.1)		2 (5.4)	35 (94.6)	

€ Fathers of nine participants were deceased

δ Mothers of three participants were deceased

*Significant $p < 0.01$; figures in parentheses are percentages

Table 4 represents the results of multiple linear regression for some anthropometric measures (dependent variables) like BMI, MUAC, WHR and WHtR. The sociodemographic variables, skipping of breakfast and intake of fast food were included as independent predictors for outcome (dependent) variables. Only the significant predictors of the outcome variables are presented in the table. This result shows that monthly family income and frequency of eating fast food per week were significant predictors of BMI and MUAC. Similarly, the participant's age and mother's education were significant predictors of WHR, and family income per month and the participant's age were significant predictors of WHtR.

Table 4. Results of multiple linear regression analysis for some anthropometric measures

Dependent variables	Independent variables	Unstandardized coefficients		Standardized coefficients	t-value	P-value	R^2	Adjusted R^2
		B	Std. Error	Beta				
BMI	Family income per month	0.000	0.000	0.310	3.806	0.000	0.170	0.157
	Frequency of eating fast food per week	-0.452	0.129	-0.285	-3.495	0.001		
MUAC	Frequency of eating fast food per week	-0.304	0.106	-0.242	-2.868	0.005	0.111	0.096
	Family income per month	7.857	0.000	0.238	2.822	0.006		
WHR	Education of mother	0.004	0.002	0.215	2.523	0.013	0.09	0.076
	Age of the participant	0.018	0.007	0.212	2.486	0.014		
WHtR	Family income per month	1.75	0.000	0.261	3.099	0.002	0.114	0.1
	Age of the barticipant	0.018	0.007	0.201	2.383	0.019		

DISCUSSION

Young adult age range is a crucial period in the women's life which prepares the woman nutritionally to attain a healthy motherhood. But young adults are the worst sufferers of ravages of various forms of malnutrition because of their increased nutritional needs and low social power [20, 21, 13]. The women of the reproductive age groups, due to poverty, poor standard of living, malnutrition, low level of education, poor knowledge of health and diseases, unhealthy lifestyle and poor access to health care services are more susceptible to various diseases and morbidity [22, 23]. Nutrition plays a pivotal role in determining a healthy reproductive outcome [3]. A study [24] reported that the prevalence of chronic energy deficiency based on BMI (grade I, II and III) were 26.0%, 14.4%, and 13.4 % respectively among the college girls of Rawalpindi. Similarly, several other studies [25, 26, 27] have also reported the prevalence of undernutrition among the young girls of reproductive age groups. A recent study [28] revealed that 60.3% of the adolescent girls attending government schools and 4% of girls attending private schools were found to be underweight. The present study shows that the prevalence of undernutrition among young adult college girls is in accordance with several other studies. Another study among young adult girls found that 35% were normal, 8.33% were overweight and 6.67% were obese [13]. This is consistent with the findings of the present study where 52.1% were normal, 16.4% were overweight and 5.7% of young adult college girls were obese. Similarly, a study revealed that 20% of the adolescent girls among the Sherpur district of Bangladesh were underweight (BMI < 18.5), 77% were within normal limits (BMI > 18.5) and 3% were obese (BMI > 30) [29]. The present study is in congruence with Mandal et al., 2011 [13] who conducted a similar type of study among the college girls (18–20 years) of Midnapur district of West Bengal and found that 28.3% girls were underweight and were suffering from chronic energy deficiency. The present study is in converse with another study [30] where Hindu girls were more vulnerable to undernutrition (27.7%) in comparison to Muslim girls (14.8%). This variation in the trend indirectly represents variability related to religion and caste in food accessibility and dietary intake. The nutritional status of the present study participants was significantly associated ($p < 0.01$) with age (thinness), education of father (stunting) and monthly family household income (underweight), but other variables like religion, education of mother, occupation of father and mother etc were not associated with the nutritional status of the participants ($p > 0.05$). This is in accordance with Rani et al., 2018 [28], but in contrast with the findings of Singh et al., 2012 [31] who reported that nutritional

status of young girls was significantly associated with their caste and religion ($p < 0.05$). The most commonly used measures of social class in epidemiologic studies are occupation, education, and income [32]. The results of the present study show that monthly family income and frequency of eating fast food per week were significant predictors of BMI and MUAC, the participant's age and mother's education were significant predictors of WHR, and family income per month and the participant's age were significant predictors of WHtR. It could be explained by the assumption that father's education is one of the income determinants in families. Thus, this study revealed that the sociodemographic variables have a significant association with the nutritional status, and this is in congruence with other studies from India [33, 21, 34, 3, 28]. A similar study [35] reported that only the mother's educational level was positively associated with the adolescent's BMI. Many studies have shown that educational achievement of parents, both fathers and mothers, is associated with their children's nutritional status [36, 37]. Parents' educational attainment could lead to higher income and may imply a higher availability of food and household resources [38]. On the other hand, it might be positively associated with higher nutritional awareness as well as better caring for children [39]. Various other studies [40, 41] have also reported significant association of sociodemographic parameters like age, religion, socioeconomic status, diet, menarcheal status, and literacy status of parents with undernutrition. Similarly to the present study, a positive correlation of increased fast food consumption and skipped breakfast with increased body mass index has been observed among the young adult girls [42].

Similarly, a study from Bulgaria reported that the main determinants of overweight, obesity and underweight among the studied adolescents were the factors, related to nutrition, particularly, eating of bigger food quantities (overeating) as well as the frequency of meals. Overweight and obesity occur most commonly in girls who are not following any daily eating regimen based on time. With the increase of the level of parents' education, the percentage of underweight girls drops, and obesity is most commonly seen among daughters of mothers with secondary education and fathers with higher education [43]. The research results from Serbia also indicate that the family income is the only factor that significantly correlates with female obesity [44]. Several studies have identified that social and demographic factors and higher intake frequency of daily meals are associated with obesity [45–47]. More frequent distribution of obesity has been found among adolescent girls coming from families where both parents have higher education [48].

CONCLUSION

The preliminary results of the current research show the main determinants of overweight, obesity and underweight of young adult college girls. 25.7% of the girls were found to be underweight, 35.7% of the girls were stunted (height for age <5th percentile) and 10.7% were found to be thinned (BMI for age < 5th percentile). 22.1% were in the overweight and obese category. A significant association was observed between the sociodemographic variables and food habits and the nutritional status of the college girls. Young adult girls constitute an important segment of the population. Since they are the future mothers, their health status influences their reproductive outcome and also their reproductive functioning. It is necessary to take adequate measures for prevention of underweight, overweight and obesity among young adult college girls. The parents of the girls should promote healthy lifestyles, healthy nutrition and physical activity. The young adult college girls with deviations from normal body nutritional status need systematic monitoring for prevention of health and personal problems in their later life. Thus, to combat the intergenerational effect of malnutrition and the high prevalence of undernutrition, effective nutritional intervention strategies are to be framed, entailing the vulnerable young adult group. Nutritional education and health awareness programmes are to be initiated for the young adult college girls and, consequently, education and employment opportunities are to be generated to improve their socio-economic status. This will also help them to improve their lifestyle and maintain a healthy life.

The findings of this study should be viewed under certain limitations, such as the inadequate sample size. This study also lacks data of dietary intake or calorie intake which, along with the anthropometric measures, could have provided a better comprehensive overview of the nutritional status of the young adult girls. In association with that, other factors like ethnicity and cultural background, lifestyle, genetics, etc can also throw light on the analysis of this study. Nonetheless, this study was a considerable attempt at nutritional assessment of college girls who will be future mothers in a few years but still face several nutrition-related problems.

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