RESULTS AND DISCUSSION

Socio-economic profiles:

The background of a person helps in revealing possession of certain knowledge & qualities. The present cross sectional study of the college going girls of Guwahati (n=278) is presented in Table 3. shows that maximum of the students fall under low income group with 31.40 per cent of them come from a family which survive with a merge monthly income of Rs.10,000-Rs.20,000/month, 23.40 per cent from an income group of Rs.20,001.00-Rs.30,000.00, 23.14 per cent of them from Rs.30,001.00-Rs.40,000.00 and 23.97 per cent of the students from a family income of Rs.40,000.00 and above group. A high percentage 78.33 % of the students hails from a nuclear family, 16.53 per cent from joint family and as less as 3.31 per cent belong to an extended family system. With respect to their present residential situation, 47.93 per cent of the students resides in their own home, while 23.14 per cent stays in a hostel, 20.66 per cent in a rented house and the remaining 7.40 per cent of them stays as paying guest.

Dietary Habits

Balanced diet is essential for all human being as even deficiency of a single nutrient may cause fatal diseases. University students are mature and also understand the importance of good diet but mostly they ignore proper food and diet. Essential nutrients like essential amino acids, fat, vitamins and minerals are not only compulsory compounds for survival but these are very essential for study to achieve the goals (Premala and Sowmya, 2012). An analysis of the filled up questionnaire reveals an interesting dietary habits of the female students of Guwahati. The result in Table 4 depicts that a whooping 75.21 per cent of the students are non-vegetarian, 20.66 per

Table 3: Socio-economic profile of the college going girls of Guwahati city

Particular	Frequency (n=278)	Percentage
1. Family Income		
a) Rs. 10000-20000	87	31.40
b) Rs. 20000-30000	64	23.14
c) Rs. 30000-40000	60	21.49
d) Rs. >Rs.40000	67	23.97
2. Types of family		
a) Nuclear	207	74.38
b) Joint	46	16.53
c) Extended	9	3.31
3. Place of residence		
a) Own home	133	47.93
b) Hostel	64	23.14
c) Rented house	57	20.66
d) Paying guest	21	7.44

cent of them are non-vegetarian but prefer to consume vegetarian foods and a few students of 4.13 per cent are pure vegetarian. A surprising 40.50 per cent students consume only one main meal in a day, 57.85 per cent consume two main meals in a day and a very less per cent of 1.65 per cent consume 3 or more main meal in a day. Regarding the consumption of snacks between main meal, 39.67 per cent consume once in between main meals, 43.80 per cent twice and the remaining 16.53 per cent consume three or more times in a day. Young people prefer to visit restaurants either to fill them shelves or for the sake of fun with peer groups. College girls are no exception, the present study reveals that 6.89 per cent of the students visit restaurants everyday, 25.62 per cent of them 3-4 times a week, 37.19 per cent visit restaurant at least once a week, 2.48 per cent ends up in restaurants just once in fortnight while the remaining 30.58 per cent of the students hardly visit a restaurants. When breakfast is being accounted, it's a well known fact that breakfast is one of the most important meal of the day and breakfast is supposed to supply 1/3 rd of the total daily energy requirement for proper physical and mental functioning. Several investigators have suggested that omission of breakfast or consumption of an inadequate breakfast may contribute to dietary inadequacies, which are rarely replenished by other meals during the day (Nicklas *et al.*, 2004). While college going girls are busy with a lot of academic pressure, they tend to skip breakfast. The present study reveal that a high value of 20.66 per cent of the students skip breakfast every day, 29.75 per cent skip breakfast at least 3-4 times in a week, 12.40 per cent of them once a week or seldom, and 37.19 per cent of the students make sure that they have breakfast every day. Young college going women are often considered to be health conscious but when they were questioned if they follow any dietary regime, it was found that only 1.65 per cent claim to follow dietary regime. When the girls were questioned if they practice fasting on religious ground, 8.26 per cent of them responded that they fast once or more

Table 4. Dietary habits

1. Dietary practice	Frequency N=278	Percentage
a) Vegetarian	12	4.13
b) Non-vegetarian	209	75.21
c) Non-vegetarian but usually consume vegetarian	57	20.66
2. Per day meal consumption		
a) One	112	40.50
b) Two	161	57.85
c) Three	5	1.65
3. Snacks consumption between main meals		
a) One	110	39.67
b) Two	122	43.80
c) Three or more	46	16.53
4. Frequency of visiting a restaurants		
a) Every-day	7	6.89
b) 3-4 times a week	71	25.62
c) Once a week	103	37.19
d) Once in fortnight	7	2.48
e) sheldom	85	30.58
5. Frequency of skipped breakfast		
a) Almost every day	57	20.66
b) 3-4 times a week	83	29.75
c) Once a week or seldom	35	12.40
d) Never	103	37.19
6. Practice of dietary regime		
a) Followed	5	1.65
b) Not followed	273	98.35
7. Practice of fasting on religious ground		
a) Once a week	23	8.26
b) Once in a fortnight	39	14.05
c) Once a month	9	3.31
d) Seldom	207	74.38
8. Consumption of Vitamin supplement		
a) Consumed	30	10.74
b) Not consumed	248	89.29

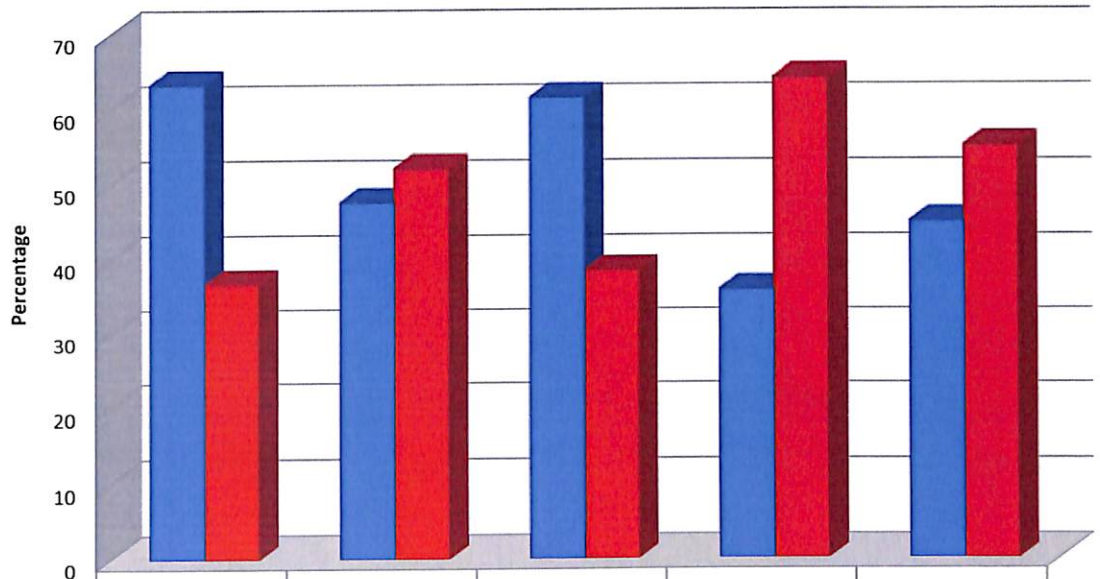
in a week, while 14.05 per cent reported that they fast once a month, 3.31 per cent of them fast once in a fortnight and a large majority of 74.38 per cent either don't fast or seldom fast. Regarding their practice on consumption of vitamin supplements it was found that 10.74 per cent students have the habit of taking vitamin supplements while a whooping majority of 89.29 per cent of them don't consume vitamin supplements.

Nutrients are needed by humans in specific amounts to ensure good health and well being. These nutrients needs are met by eating the right kinds and amount of food. The food frequency practice of the students depicted in Table 5 shows the students dietary intake is adequate or not. Surprisingly, even though rice is considered as a staple food of the region and is believed to be consumed by all every day, the student's data shows that only 65.83 per cent of them consume rice daily while 33.33 per cent of them consume occasionally. 10.33 per cent of the students are regular consumer of wheat, and a high majority of 57.50 per cent consume occasionally. Regarding the other uncommon cereal of the region like maize, jowar, ragi, etc. 92.50 per cent of them consume occasionally. Considering the pulses, it was found that 45.83 per cent of them consume pulses cooked as dhal, while another 48.33 per cent consumed dhal cooked as dhal occasionally. Pulses as nutritious as it is, if soaked or germinated are more nutritious as the process simplify the carbohydrate and protein in the pulses to easily digestible form beside enhancing the Vitamin C and B-vitamins. It was found that 81.67 per cent of the students consumed pulses as soaked or germinated occasionally.

Fruits and vegetable are rich in nutrients. Many are excellent sources of Vitamin A, Vitamin C, folate and potassium. They are low in fat and sodium and high in fibre. The food pyramid suggest that a person should take at least 3-5 serving of vegetables and 2-4 serving of fruits in a day. But when the students consumption pattern was taken into account, the study

Table 5. Food Frequency practices

Food Stuff	Frequency of usage						
	Daily	4-5/week	2-3/week	occasionally	Once in a week	Once in a fortnight	Once in a month
A. Cereal							
Rice	65.83	0.83	0.00	33.33	0.00	0.00	0.00
Wheat	10.83	0.00	10.83	57.50	16.67	2.50	0.83
Other cereal-a)	0.00	.00	1.67	92.50	2.50	0.00	0.83
b)							
Processed cereal							
B. Pulse							
Cooked : as dhal	45.83	2.50	1.67	48.33	0.00	0.00	0.00
Raw: Soaked or germinated	0.00	3.33	9.17	81.67	4.17	0.00	0.00
C. Vegetables							
Roots and tuber	34.17	5.83	5.00	49.17	4.17	0.00	0.00
Other vegetable	24.17	5.83	8.33	56.67	2.50	0.00	0.00
Green leafy vegetable	8.33	6.67	25.0	48.33	10.00	0.00	0.00
D. Fruits							
Whole	11.67	8.33	13.33	56.67	4.17	0.00	4.17
Juice	2.50	3.33	15.83	65.83	5.83	0.00	4.17
E. Animal food							
Meat, fish, poultry	1.67	20.00	23.33	45.83	5.00	1.67	0.00
Milk	14.17	3.33	8.33	64.17	2.50	0.00	5.00
Curd	3.33	2.50	8.33	77.50	2.50	1.67	2.50
Other milk product	5.83	0.83	3.33	75.83	1.67	1.67	6.67



	Basic idea on balance diet	Practice balance diet	Knowledge on normal haemoglobin level of adult women.	Minimal idea on causes and symptom of anaemia	Knowledge on iron rich foods
Positive/right answer	63.33	47.6	61.51	35.83	44.96
Negetive/wrong answer	36.69	52.13	38.49	64.03	55.04

Fig.1. Nutritional knowledge of young college going women

revealed that 34.17 per cent of the students consume roots and tuber regularly, while 49.17 per cent of them consume occasionally. Both other vegetables and green leafy vegetables are considered to be the powerhouse of nutrients especially the vitamins and minerals, When the students consumption pattern was taken onto account it was observed that only 24.17 per cent consume other vegetables and only 8.33 per cent of the students consume green leafy vegetables (known for their high-iron content) daily while it was found that 56.67 per cent and 48.33 per cent occasionally consume others vegetable and green leafy vegetables respectively. Considering the fruits intake, it was observed that 11. 67 per cent consume whole fruits daily and 2.50 % consume fruit juice daily, while a large majority of 56.67 per cent and 65.83 per cent consume whole fruits and fruit juice occasionally.

Animal foods like egg, meat, fish, poultry as well as milk and milk products are considered to be the protein bank of foods. These foods are not only rich in proteins but they also provide a good quality protein with higher bio-availability. Besides, these foods are also rich in calcium as well as iron with higher bio-availability. The study revealed that 1.67 per cent of the student consume meat, fish, egg, poultry daily, while 20 per cent of them consume 4-5 times a week, 23.33 per cent consume 2-3 times a week, while 45.83 per cent of them consume occasionally. Regarding their milk consumption pattern, it was found that only 14.17 per cent of the students consume milk daily, while a large majority of 64.17 per cent of the students consume milk occasionally, while 77.50 and 75.83 per cent of them consume curd and other milk product occasionally.

Table 6: Nutritional status of the college going girls

Presumptive diagnosis	BMI	N=278	%
Chronic energy deficiency-grade III severe	< 16.0	19	6.83
Chronic energy deficiency-grade II moderate	16.0-17.0	22	7.91
Chronic energy deficiency-grade I mild	17.0-18.5	48	17.27
Low weight normal	18.5-20.0	36	12.95
Normal	20.0-24.9	112	40.28
Overweight	25.0-29.9	38	13.67
Obesity	>30	3	1.08

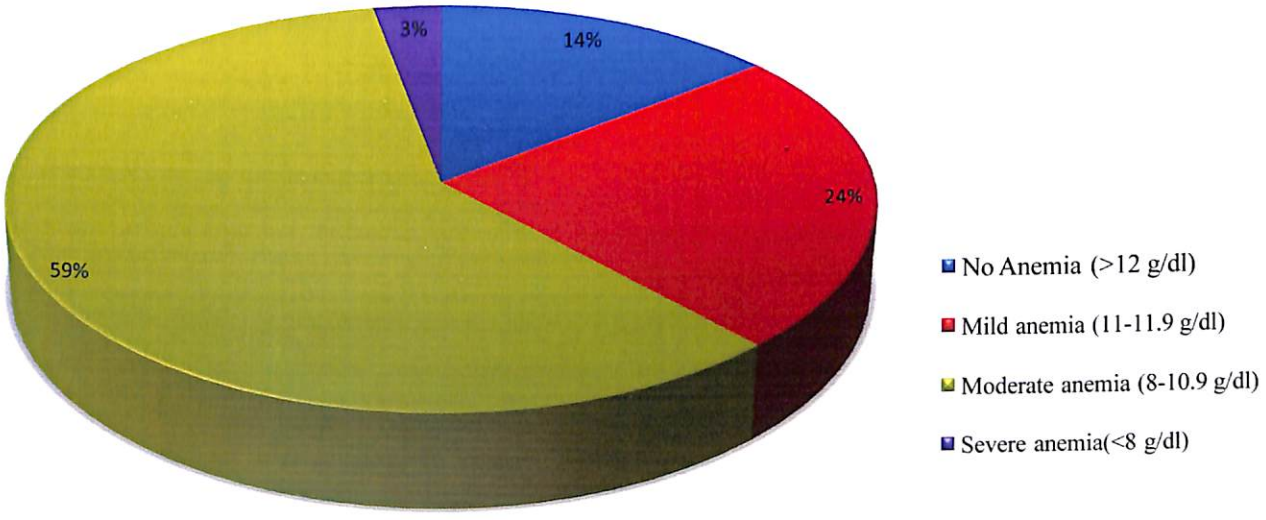


Fig. 2. Distribution of anaemia among the young college going women

Nutritional Knowledge:

Fig 1 depicts the nutritional knowledge of the college going girls. It is evident from the figure that regarding balanced diet 63.33% gave the right answer while 36.69% opted the wrong answer. Majority of the girls 61% had the knowledge of normal hemoglobin level while 38.49% could not give the correct answer. Majority of the girls did not had any knowledge on the causes and symptoms of anemia and about iron rich foods. This may be due to lack of knowledge and ignorance of these girls. Intervention programme may be effective to make them aware of these nutritional aspects.

Nutritional Status:

The nutritional status of a person depicts the condition of health of a person as influenced by the dietary intake and utilization of nutrients. The present study reveals that only 40.28 per cent of the students were in a normal BMI range, 12.95 per cent of the girls in a border line or low weight normal BMI range. About 17.27 per cent of them suffer from mild or Chronic energy deficiency, with 7.91 per cent falls under the range of moderate or Chronic energy deficiency and 6.83 per cent of them falls under Severe or Grade III Chronic energy deficiency stages. The remaining few students comprising of 13.67 per cent were found to be overweight and 1.08 per cent of the students hits obesity (Table 6).

Anemia (even when mild) causes a significant impairment of maximal work capacity. The more severe the anemia, the greater reduction in work performance and thereby productivity. This has great significance on the economy of the country. (GOI, 1978). The hemoglobin colour scale developed by WHO used in the study to obtain hemoglobin level revealed that the young college going girls of the city were alarmingly anemic. The overall prevalence of anaemia

among girls was 85.61% as depicted in Fig. Out of 278 college going 238 of them had varying degree of anemia and only 40 girls (14.39%) were normal. Out of 278 girls 67(24.10%) were mildly anemic, 163(58.63%) were moderately anemic and 8(2.88%) were severely anemic. The results of the present study was much higher than the results of the study carried out by Joglekar *et. al.* (2015).The study revealed that only 14.39 per cent of the students cross the cut off value of anemia for women (i.e. 12 g/dl) . The results obtained is an alarming concern for the young college going girls as its crosses the WHO consideration of public health problem as a more than 40 per cent prevalence of anemia as a severe public health problem(Table 1). The reason for high incidence of anaemia among the college going girls in the present study may be due to inadequate diet menstrual loss and low intake of iron rich foods. Shekhar et. al.(2005) also reported in his study that college going girls required iron because of growth, menstrual loss, discrepancy between high iron need for foods which in iron needed for hemoglobin formation and low intake of iron containing food, erotic habits, dislike for food which are rich in iron like green leafy vegetable, anti oxidant rich foods and iron inhibitors in foods (Shekhar *et al,*, 2005). Verma R (2014) conducted a study on prevalence of anemia of college going girls in Haryana and found out that 2.6 per cent were severely anemic whereas 44.38 percent were moderately anemic which is in consistent with the finding of the present study.