DIETARY HABITS AND NUTRITIONAL KNOWLEDGE OF COLLEGE GIRLS OF GUWAHATI CITY.

Meenakshi Dutta Mazumdar*   Hoitinkim Singson*   Jayashree Sarmah Goswami*
*Department of Home Science, Handique Girls' College, Guwahati.

Abstract
College going girls are in a very crucial stage of life as these period is a formative years in the life of an individual when major physical, psychological and behavioral changes take place. These group of individuals generally tend to ignore their health as they are busy attending their academic demand, expectation of their parents and peers. Therefore a study was undertaken among these groups to understand their dietary habits and nutritional knowledge. Pre-structured and pre-tested questionnaire was adopted to study the dietary habits. The study revealed that the dietary habits of the college going girls were nutritionally imbalanced as most of the young women survive with one square meal a day. They depend on snacks and most of them had the habit of skipping breakfast. Regarding their food intake in connection with food groups, it was found that most of the foods like vegetables and fruits were just an occasional relish. Even their consumption pattern of all other food groups was not up to the acceptable standards. The study also revealed that the nutritional knowledge of the college girls was not up to the mark.

Key Word: Anaemia, College Going Girls, Foods Habits, Haemoglobin, Nutritional Status.

Introduction

The age of College going young women ranges from 18-22 years . Early adult transition that is age between 17-22 years is a period of transition between adolescence and early adulthood. It is a crucial period in women's life. Health and nutritional status during this phase is critical for the physical maturity, which in turn influences the health of their offspring (Diane Papalia-1984). Young age period is very significant since these are formative years in life of an individual when major physical, psychological & behavior changes take place. This is also the period of preparation for undertaking greater responsibilities including making decision for study and careers , to earn livelihood & healthy responsible parenthood. Future of the society depends on these young people as they form a great human resource for the society (Kishore, 2011). According to report of UGC on higher education, more than 252 lakhs of college girls were enrolled in different colleges of India including distance education and in Gujarat total projected college population was 7,590 thousand and projected enrolment was 12,20,537 are a significant human resource that needs to be given ample opportunity for holistic development towards achieving their full potential (UGC report- 11th plan-2008).

The kind of food and amounts of food consumed by the people impact the nutritional and health status of the people. The food habits of an individual tend to reflect those of his/her community. Food habits are gradually developed from infancy through childhood by the types of individual and collective experiences. Thus, individual food habits are merely the symbols of these influences and experiences.

Rodwell Williams (1969) states: "Food has many meanings and a person's food habits are intimately tied up with his whole way of life. Food habits, like other forms of human behaviors are the result of many personal, cultural, social and psychological influences. Studies in the behavioral sciences - anthropology, sociology and psychology - have contributed much insight on food habits. Food habits are among the oldest and most entrenched aspects of many cultures. Food symbolism plays a large role in most religions of the world. Food is a symbol of sociability, warmth, friendliness and social acceptance. Food is symbolic of motherliness. The mother teaches what is acceptable as food, when to eat, how much to eat and why it is eaten. Status is often sought in terms of food".

 Ethel Astin Martin (1970) identifies the basic influences in food habit formation which include - food supply, economic welfare of the people, family eating practices, social customs and emotional climax. These basic influences form the background against which the food habits of people of any country is developed.
Food habits are particularly static when cultures are old and traditions rule the way of life when people live together in closely integrated units. According to Rozin and Paul (1996) "The role of food in health and life of an

individual is unique and that in all cultures, food has its principal nutrition function which varies in salience. Attitudes towards food like other attitudes are influenced by relevant beliefs and knowledge". Human life cannot be sustained without adequate food, healthy dietary patterns and proper nutrients. The present study was thus formulated with an objective to analyze the nutritional knowledge and dietary habits of college girls.

Methodology
Study design: A Cross sectional study was adopted for the present study which was undertaken for a period of 6 months i.e. October 2015-March 2016.

Sampling Frame and Size
a) Study area: The study was conducted in Guwahati city. Handique Girls' College, a premium Girls' College situated at Dighali Pukhuri, Guwahati was selected for the purpose so that the entire city is represented.
b) Size of the sample: Three hundred students from Handique Girls' College were selected as a sample of the study through simple random sampling method.

Tools of Data Collection
Questionnaire: A pre-structured questionnaire covering the socio-demographic and dietary habits of the subject was developed and was pre-tested. These structured questionnaires were then given to the students and were informed of the objectives of the project. The students were also instructed on how to fill up the questionnaire

Result 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 1, which 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.

Table 1: 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

Dietary Habits

Balanced diet is essential for all human being as even deficiency of a single nutrient may cause fatal diseases. College 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)

Table 2. Dietary Habits of College Girls

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 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) seldom	85	30.58
5. Frequency of breakfast skipped		
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. Intake of Vitamin supplement		
a) Consumed	30	10.74
b) Not consumed	248	89.29

Consumption of vegetarian and non-vegetarian Food
 An analysis of the filled up questionnaire reveals an interesting dietary habits of the female students of Guwahati. The result in Table 2 depicts that a whopping 75.21 per cent of the students are non-vegetarian, 20.66 per 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.

Consumption of Snacks
 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 themselves 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.

Consumption of Breakfast
 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.

Fasting pattern
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 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.

Vitamin supplements
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 89.29S per cent of them don't consume vitamin supplements.

Frequency of Food Consumed With Respect To Different Food Group
Consumption of cereals and pulses: 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 quantities of food. The food frequency practice of the students depicted in Table 3 shows the adequacy of dietary intake .of the girls students. 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, pearl millet(jowar),finger millet(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 pulse cooked as dhal occasionally. Pulses as nutritious as it is, if soaked or germinated are more nutritious as the process simplifies the carbohydrate and protein in the pulses to easily digestible form besides 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.

Table 3. Food Frequency Practices With Respect To Food Group.

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
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

Consumption of fruits and vegetables
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 fiber. The food pyramid suggests 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 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.

Consumption of Animal food
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

Research Paper
Impact Factor: 5.442
Peer Reviewed Monthly Journal

IJMDRR
E- ISSN –2395-1885
ISSN -2395-1877

consume milk daily, while a large majority of 64.17 per cent of the students consumes milk occasionally, while 77.50 and 75.83 per cent of them consume curd and other milk product occasionally.
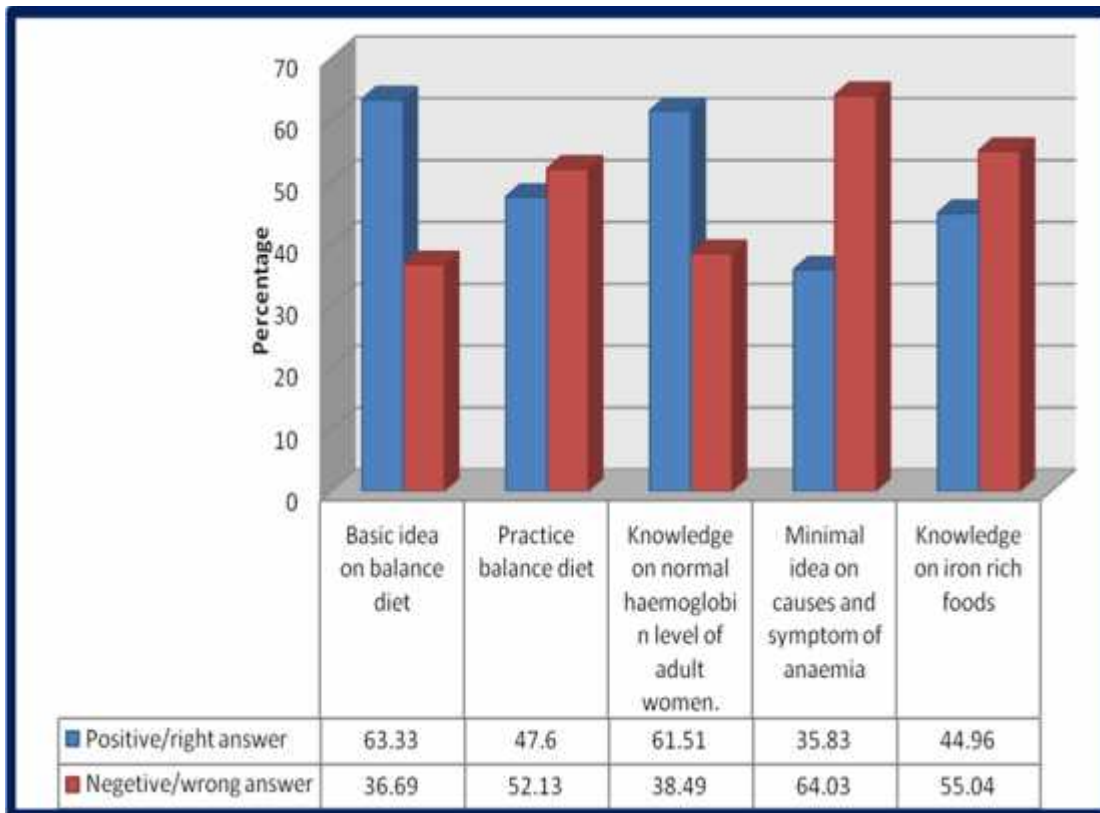

Figure.1. Nutritional knowledge of young college going women

Nutritional knowledge of College going girls- Figure 1 depicts that 63.33 per cent of the girls had a basic idea on balance diet, while a majority of them do not practice balance diet. It was also found that although maximum of the college going girls had a concept on the normal haemoglobin level for their age yet they do not have the ideas on the causes and symptoms of anemia. Atleast 45 percent of the girls had knowledge on the kind of foods which are rich in iron.

Conclusion
The study revealed that the college going girls comes from a diverse economic background and majority of them belonged to nuclear family back ground. The college going girls resides in different residential places, such as own house, hostels, rented house and as paying guests. The dietary habits of the students were found to be nutritionally imbalanced as most of the young women survive with one square meals a day and depends on snacks and most of them had the habit of skipping breakfast. Regarding their food intake in connection with food groups, it was found that most of the foods like vegetables and fruits were just an occasional relish. Even their consumption pattern of all other food groups was not up to acceptable standards. The minimal knowledge of the girls with respect to balance diet and its importance, also on iron rich foods call for further intervention programme which can enlighten the girls on the basic idea on the importance of balance diet and requirements of various food groups in our daily diet .

References

1. Premakumari, S., Kowsalya,S., Mujumdar,V.V., Nirmalkumar Rakshe and Vinayak Kale. Formulation and evaluation of nanoparticles of almonds in hypercholesterolemia. Ind. J. Nutr. Dietet., 2014, 51, 1-10.
2. Raanan Shamir, Dominique Turck and Moshe Phillip, 'Nutrition and Growth, S.Karger AG., Basel. Switzerland. 2013, 43-69.
3. Diane E. Papalia (1994), Adolescence, The Adolescence growth spurt, Human Development, 5th edition, ISBN: 0-07-462325-7. Tata McGraw – Hill Publishing Company Limited, New Delhi. 308-335.
4. J.Kishor ,J.Kishor's National Health Programmes of India; Ninth Edition , New Delhi ,Century Publications, 2011 ,P.176.
5. Martin, Ethel Astin (1970), "Nutrition in Action", Oxford lH Publishing Co., New Delhi, India pp 4-5.
6. Nicklas, Theresa A. DrPH, LN; O'Neil, Carol PhD, MPH, RD; Myers and Leann PhD (2004) The Importance of Breakfast Consumption to Nutrition of Children, Adolescents, and Young Adults. Nutrition Today: 39(1) p 33-39.
7. Premala, P.V. and S. Mathew (2012). Impact of a Pre Game Meal on the Performance Level of Female Foot Ball Players. Int. J. Health Sci. Res., 2: 59-71.
8. Rozin, Paul (1996), "The Socio-Cultural Context of Eating and Food Choice", In. Musclman (Ed.) "Food Choice Acceptance and Consumption", K.H.J.H. Macfie Publishers, pp 83-101.
9. Williams, Rodwel (1969), "Cultural, Social and Psychological Influences on Food Habits", Nutrition and Diet Therapy, C.V. Mosby Company, pp 242-264. 232. (Williams, Sue RodwelK(1990), "Essentials of Nutrition and Diet Therapy", Times Mirror / Mosby College Publishing, Boston, pp 6-8.
10. UGC Report 11th Plan (2008) Higher Educaion in India. Issues Related to expansion, Inclusiveness, Quality and Finance. University Grants Commission. Bahadur Shah Zafar Marg, New Delhi-2.p. 1-249.