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Formulation and awareness of handy breakfast recipes for college going girls

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Abstract

At different time throughout the history, those who shape policy have had varying beliefs about the importance of breakfast in overall diet quality. Today, there would appear to be universal recognition that breakfast should play a significant role in helping peoples attain an optimal nutritional profile. Notwithstanding the scale of this literature, significant challenges exist given the variation in such basic concepts as defining breakfast or breakfast skippers as well as exploring how breakfast food and nutrient intakes might be related to overall dietary quality. The practice of skipping breakfast is pretty common, and this is particularly true for adolescent girls. It is associated with many health problems and changes in various aspects of children's and adolescents' lives. The study aims to examine eating behaviour of college going girls and on the basis of this, to give awareness and formulate handy breakfast recipes for them.

Keywords: breakfast, nutritional, significant, awareness, formulate

Introduction

The definition of the word breakfast is the first meal of the day and its origin was derived from the late Middle English verbs break and fast. The word literally means to break the fasting period from the day before. Breakfast is important in re fuelling the body with energy and nutrients, kick starting the day (L. Place *et al.*, 2018) ^[3]. Apart from providing energy, breakfast foods are good sources of important nutrients such as calcium, iron and B vitamins as well as protein and fibre. Breakfast is an excellent occasion to eat together as a family when possible. Studies suggest that a sufficient level of blood sugar regulates a number of brain and behavioural functions including learning and recollection (E. Jacoby *et al.*, 1998) ^[1]. Having abreak fast increases power and stability, leading studentsto be provided with a more efficient training. Skipping breakfast is a worldwide phenomenon among college students, with many studies highlighting the issue and raising concerns. It is associated with many health problems and changes in various aspects of children's and adolescents' lives, including psychosocial functions, cognitive functions, academic achievement and attendance. The practice of skipping breakfast is pretty common, and this is particularly true for adolescent girls. In general, research suggests that skipping breakfast can be healthy and can even help to promote weight loss. But, that doesn't mean that skipping breakfast is healthy for every group of people. Inadequate nutrition affects student's health and academic success (T.A O'Sullivan *et al.*, 2009) ^[2]. Students may have proficient knowledge regarding nutritional requirements; however the transition to college life gives them more freedom to choose the type and the amount of food they eat. Most college campuses having dining facilities that provide a variety of food options, which can lead to establishing good or bad eating behaviours. The purpose of the study is to examine college going girls eating behaviour and on the basis of this, to give awareness and to formulate easy to handled breakfast recipes.

Objectives

- To analyse the demographic and anthropometric details of the selected samples.
- To examine the eating behaviour of selected college going girls.
- To formulate breakfast recipes for college going girls.
- To incorporate nutrient rich components to breakfast recipes.
- Analyse the sensory quality and nutritive value of the developed recipes.

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- To develop a recipe booklet on the formulated breakfast recipes.
- To organize an awareness class regarding the importance of breakfast among college going girls

Materials and methods

The area selected for the study was conducted among the degree and post graduate students of Assumption College (Autonomous), Changanacherry, Kottayam district, Kerala, India. This institution was selected due to the easily availability of samples, approachability and convenience of the investigator. A sample of hundred college going girls was selected and selection of the subjects was based on random sampling. Using questionnaire information regarding demographic profile, anthropometric details, food consumption pattern and reasons for skipped breakfast among selected samples were collected. The data was analysed and

interpreted using statistical methods like descriptive statistics (frequency) and correlation method. Certain recipes are developed to access the palatability and acceptance. After the development of recipes they were undergone organoleptic evaluation by the staff of Assumption College. The investigator imparted awareness class on the importance of breakfast on their physical health and academic performance, unhealthy eating habits and better nutrition needed for college going students. The investigator also developed a booklet on the importance of breakfast and various breakfast recipes. It consists of variety of easily handled breakfast recipes suitable for college going girls.

Result and Discussion

Food frequency table

The frequency of breakfast consumption among selected samples were studied and tabulated below in the table 1.

Table 1: Food Frequency

Consumed Breakfast Foods	Consumption Pattern			
	Daily	Weekly	Monthly	Occasionally
Dosa/idli/sambar	15	62	13	10
Palappam and curry	9	62	24	5
Puttu/ curry/ banana	13	70	9	8
Idiyappam and curry	12	58	22	8
Chappathi and curry	18	54	23	5
Upma/ curry/ banana	3	47	18	32
Puri and curry	4	30	26	40
Bread/ jam/ curry	3	34	24	39

N=100

From the above table, fifteen of the samples were consuming dosa/idli with sambar daily and majority (62) of the samples were consuming dosa and palappam weekly. Only five of the selected subjects were consuming palappam occasionally.

Out of the hundred selected samples seventy samples were having puttu with curry/ banana weekly basis and eight of them were consuming it occasionally. The above table shows that fifty eight samples were consuming idiyappam with curry weekly and only twelve of them consumed regularly.

Fifty four of the selected samples were consuming chapathi with curry on weekly, twenty three of the selected samples were consuming chapathi monthly and only five of the selected samples were consuming chapathi occasionally. Only three of the selected samples were consuming upma and curry/ banana daily and majority (47) consuming weekly.

Majority (40) of the samples were consuming puri with curry occasionally and only four of the selected samples were consuming it daily. Three of the samples were consuming bread and jam/ curry daily.

Reasons for the missed breakfast among selected samples

The reasons for missed breakfast among selected samples were studied and tabulated below the table 2.

Table 2: Reasons for missed breakfast of selected samples

Reasons for Missed Breakfast	Frequency	Percentage
Long distance travelling	37	37
Morning class hours	18	18
Work load	20	20
Lack of appetite	25	25

N=100

The above table shows that reasons for missed breakfast of selected samples. Majority (37%) of samples were missing their breakfast due to long distance of travelling, twenty five percentage of the selected samples were missing breakfast due to lack of appetite and least (18%) of the samples were not having their breakfast due to their morning class hours.

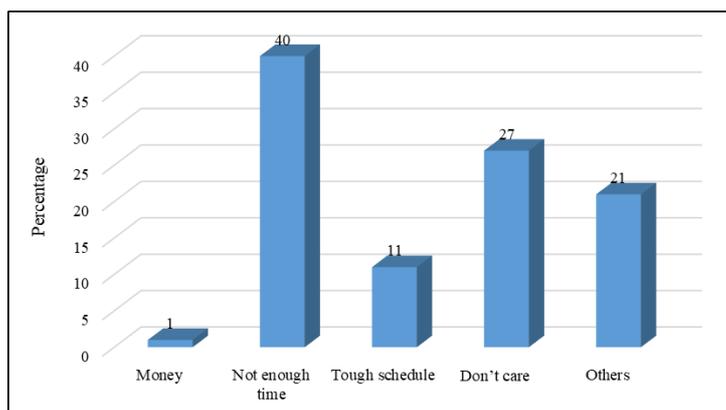


Fig 1: Reasons for unhealthy eating habit

Nutrient Composition of Developed Recipes

The nutrient composition of the developed recipes were

calculated and tabulated in the following table 3.

Table 3: Nutrient Composition of Developed Recipes

Recipes	Energy (Kcal)	CHO (gm)	Protein (gm)	Fat (gm)	Vit. A (mcg)	Iron (mg)
Sooji Balls	782.6	85.18	12.69	43.5	43	3.15
Idli Burger	662.9	98.2	15.99	22.97	816.7	2.41
Semolina Dosa	722.8	118.95	17.72	21.19	106.2	3.31
Green French Toast	569.14	52.76	18.23	31.72	3668.5	3.13
Dosa with Spinach Omelette	546.6	92.54	24.24	9.28	3172.4	4.48
Sprouted Chilla	441.2	93.82	15.64	0.86	19.60	2.72
Masala Kozhukatta	402.1	91.01	8.86	0.78	778.2	2.33
Muttakoodu	404.6	72.58	11.92	25.86	581	3.085
Pancake	690.1	75.63	11.5	37.8	23.20	4.62
Ragi Uthappam	463.2	61.53	6.78	21.19	68.6	4.18

The above table depicts the nutrient contribution of developed recipes. The energy found in the sooji balls was 782.6 Kcal. The carbohydrate was found to be 85.18g. Protein in the sooji balls was 12.69g. Fat found as 43.5g. Vitamin A was 43mcg and iron was 3.15mg.

The sample 2 shows the nutrient content found in the idli burger. The energy was calculated for idli burger was 662.9 kcal and carbohydrate was 98.2g. The protein was calculated as 15.99g. Fat content was 22.97g. Vitamin A was 816.7 mcg and iron was 2.41mg.

The nutrient contribution in the semolina dosa was discussed in the above table. The energy was found to be 722.8 Kcal and carbohydrate was calculated as 118.95g. The protein content of the recipe was 17.72g and fat was found to be 21.19g. Vitamin A and iron is calculated as 106.2 mcg and 3.31mg respectively.

The energy calculated for Green French toast was 569.14 Kcal, carbohydrates was calculated as 52.76 g, and protein was 18.23 g and fat was 31.72 g. Vitamin A and iron was

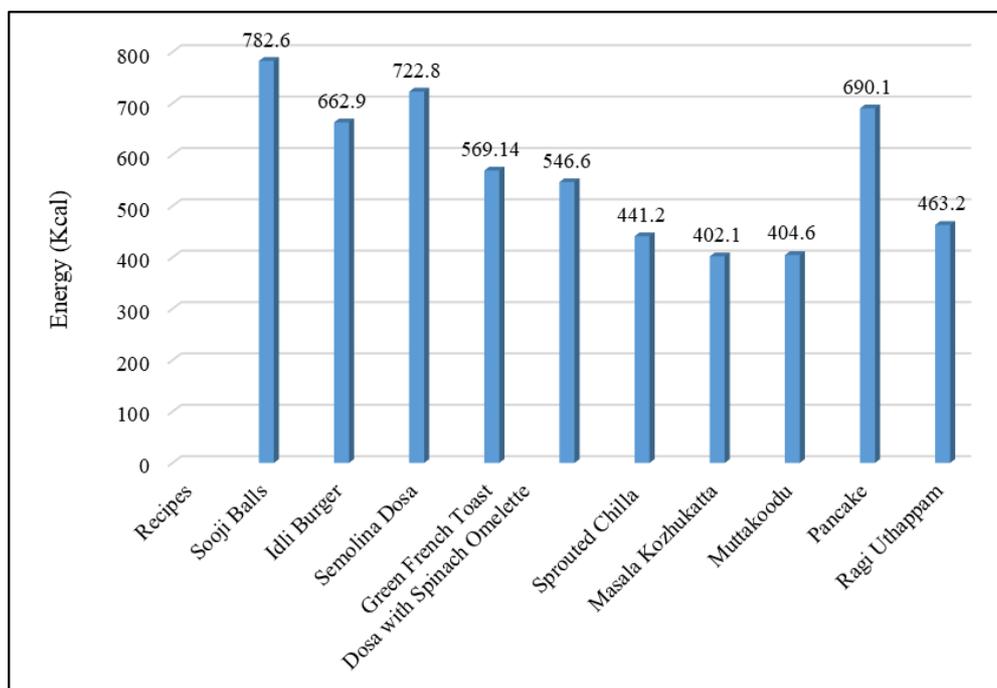
found in Green French toast was 3668.5 mcg and 3.13 mg.

Energy found in the dosa with spinach omelette was 546.6 Kcal. The carbohydrate was found to be 92.54g. Protein in the dosa was calculated as 24.24 g. Fat found as 9.28g. Vitamin A was 3172.4 mcg and iron was 4.48 mg.

The nutrient content found in the sprouted chilla was discussed in the above table. The energy was calculated as 441.2 Kcal, carbohydrate was 93.82 g, protein was 15.64 g and fat was found to be 0.86 g. Vitamin A and iron was calculated as 19.60 mcg and 2.72 mg respectively.

The energy was found to be in the muttakoodu was to be 404.6 Kcal, carbohydrates was 72.58 g, and protein was 11.92 g and fat was 25.86 g. vitamin A and iron content in muttakoodu was 581 mcg and 3.085 mg.

Nutrient content found in the ragi uthappam was discussed in the above table. The energy was 463.2 Kcal, carbohydrate was 61.53 g, protein content was 6.78 g and fat was calculated as 21.19 g. Vitamin A and iron was found to be as 68.6 mcg and 4.18 mg respectively.

**Fig 2:** Calculated energy of developed recipes

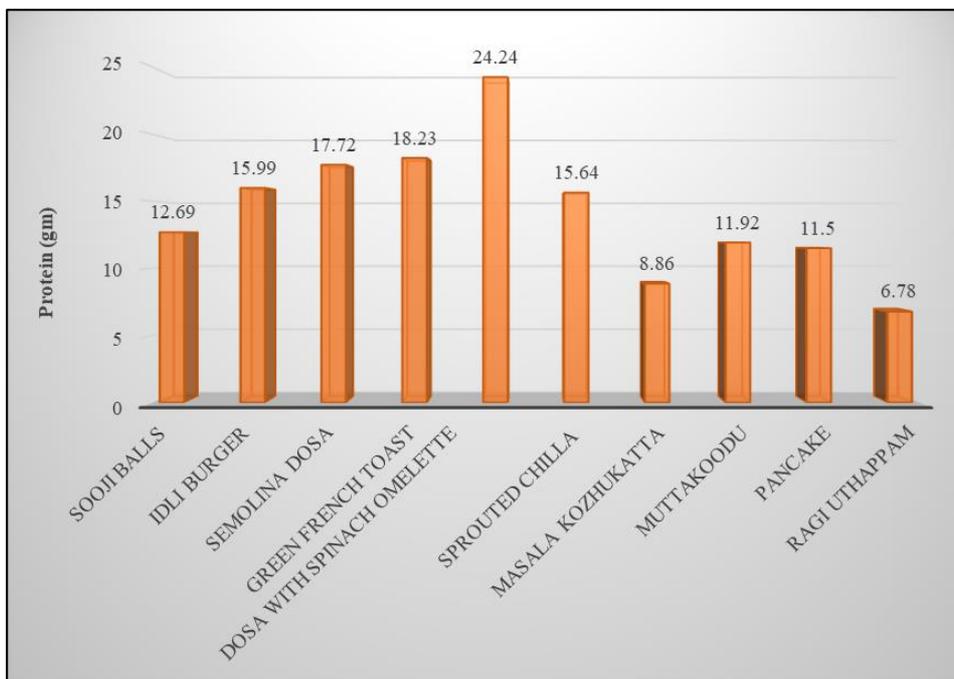


Fig 3: Protein contribution of developed recipes

Relationship between Skipping of Breakfast and Frequency of Junk Food Consumption

The relationship between skipping of breakfast and frequency of junk food consumption among the selected samples are discussed below the table 4.

Table 4: Relationship between skipping of breakfast and junk food consumption

Skipping of breakfast		Frequency of junk food consumption
Skipping of breakfast	Pearson Correlation Sig. (2-tailed) N	.229*

** . Correlation is significant at the 0.01 level (2-tailed).

There is a significant positive relationship between skipping of breakfast and frequency of junk food consumption among selected samples. It is clear that those who have skipped breakfast there is an increased chance of consumption of junk foods.

Conclusion

The study entitled “Formulation and Awareness of Handy Breakfast Recipes for College Going Girls” was discussed under different topics. The study was selected on the basis of breakfast consumption of the college going girls. It was concluded that most of college girls are missed their breakfast on various reasons such as, long distance travelling, morning class hours, work load, lack of appetite etc. On the basis of this, recipes are developed based on the nutritional needs of the college going girls and are also easy to carry out to the college. It helps to decreases the chances for missing the breakfast at the morning. Thereby improved their academic performance and concentration.

Nutritional awareness was given to the subjects through nutrition education with developed visual aid, such as power point and with booklet. These visual aids which briefly describes about the breakfast and its importance and details regarding developed recipes for college going girls. Nutrition education is very important, because this subsequently will lead to more food conscious society and healthier people, also students are more likely to change positively, therefore it

enhances the knowledge and it can be helpful for the society.

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