East West University

A Survey on Breakfast Habit and Skipping Breakfast among University Going Students

A thesis report submitted to the Department of Pharmacy, East West University, Bangladesh, in partial fulfillment of the requirements for the Degree of Bachelor of Pharmacy.

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Declaration by the Research Candidate

I, **Md Kamrul Hasan Joy**, hereby declare that the dissertation entitled **"A Survey on Breakfast Habit and Skipping Breakfast among University Going Students"** is submitted by me to the Department of Pharmacy, East West University, in the partial fulfillment for the award of the degree of Bachelor of Pharmacy, is a record of original research work conducted by me under the supervision of **M. Saleh Yunus**, **Lecturer, Department of Pharmacy,** East West University and it has not formed on the basis for the award of any other Degree/Diploma/fellowship or other similar title to any candidate to any University.

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Certification by the Supervisor

This is to certify that the dissertation entitled **"A Survey on Breakfast Habit and Skipping Breakfast among University Going Students"** is a research work done by **Md. Kamrul Hasan Joy (ID:2013-3-70-020)**, in partial fulfillment of the requirement for the degree of Bachelor of Pharmacy under my supervision.

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This is to certify that the dissertation entitled **"A Survey on Breakfast Habit and Skipping Breakfast among University Going Students"** is a genuine research work carried out by **Md. Kamrul Hasan Joy** (ID: 2013-3-70-020) under the supervision of **M. Saleh Yunus** (Lecturer, Department of pharmacy, East West University) in partial fulfillment of the requirements for the degree of bachelor of pharmacy. I further certify that no part of the thesis has been submitted for any other degree and all the resources of the information in this connection are duly acknowledged.

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Dedication

This research paper is dedicated to my beloved parents, honorable faculties and loving friends.

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Abstract

OBJECTIVE: The research was carried out to find out breakfast habit among the university going students.

METHOD: The study included finding out information regarding breakfast habit and the tendency to miss breakfast in the daily life of students.

DESIGN: A standardized questionnaire was introduced to students to collect their response.

SETTING: East West University, Dhaka.

SUBJECTS: 445 students of the university among them 298 were male and 147 were female.

INTERVENTIONS: A Survey, questionnaire composed of eating habit related questions, other behavioral factor related questions, health related questions etc.

RESULTS: Among 445 students 69% of the students had their breakfast regularly and 31% do not have their breakfast regularly, 61% missed their breakfast 1-2 days in a week, 25% of them 3-4 days in a week, 11% students 5-6 days in a week and another 3% students missed their breakfast regularly. Among the students who missed their breakfast regularly, majority stated that the irregularity started when they joined university. They pointed out some reasons e.g. getting up late (39%), not feeling like taking anything in the morning (25%), classes (21%), unavailability of breakfast (15%) etc. The percentage of students who took breakfast at home was higher. In breakfast, it was observed that students took carbohydrate in higher percentage compared to protein, fat, fruits and vegetables etc.

CONCLUSION: During this study it has been observed that majority of the university students were conscious about their health and they took their breakfast regularly. But many students also found that they did not take their breakfast timely and many of them also did not take their breakfast. Though taking breakfast regularly helps us to maintain blood glucose level, reduce risk of heart disease, boost our energy level etc. some people still think that skipping breakfast is good.

CHAPTER-1

INTRODUCTION

1 Breakfast:

A meal eaten in the morning, the first of the day. (Oxford Dictionaries | English, 2017)

2 Importance of eating breakfast regularly:

2.1 Reduce obesity:

In a study published in the American Journal of Epidemiology, researchers found that those who skipped breakfasts were more likely to be not just overweight, but obese. The same study found that frequently eating breakfast away from home was also linked with obesity. Researchers from the University of Missouri found that eating a high-protein breakfast meant participants felt fuller throughout the day and ate a smaller dinner and fewer snacks. Eating a low-protein breakfast or no breakfast made subjects more likely to graze on unhealthy snacks during the day. And, an Israeli study found that women who ate half their daily calories at breakfast lost an average of 19 pounds in 3 months.

2.2 Reduce the risk of type 2 diabetes:

Over 29 million Americans have diabetes, 90% of which are suffering from Type 2, which is mainly caused by excess body weight and physical inactivity. Studies have now shown that irregular breakfast consumption is associated with a higher risk of type 2 diabetes in women. With symptoms of diabetes including increased thirst, frequent urination, fatigue, blurred vision, increased hunger and frequent infections, it is definitely something you want to prevent.

2.3 Prevent heart disease:

One in every three deaths is caused by heart disease and stroke. Even if not fatal, these illnesses can result in disability and decreased quality of life. The sad thing is that most incidences of cardiovascular disease could be prevented through a healthy diet, exercise, maintaining a healthy weight and avoiding smoking. Take the first step and start the day off right with a healthy breakfast, which has been associated with a lower incidence of heart disease in men aged 45 to 82.

2.4 Enhance our memory:

Eating breakfast may play a more important role than you think in getting good grades or excelling at the office. Evidence collected from a review of 22 studies on breakfast and cognitive function suggests that eating breakfast may improve memory, test grades and school attendance in children and adolescents.

2.5 Long lifespan:

People living in the Blue Zone global locations known for good health and a long lifespan all eat the most calories at breakfast, the second most at lunch and the least at dinner.

2.6 Fight Cravings:

That is because skipping breakfast makes high calorie food seem more appealing later in the day, according to a study. Our brains crave these calorie laden snacks to make up for what we missed out on when fasting.

2.7 Prevent Cold & Flu:

With winter approaching, it might be more important than ever to start the day off right. A Dutch study has shown that a substantial breakfast boosts the body's gamma-interferon, a natural antiviral that boosts immune function. Cardiff University researchers also claim that people who skip breakfast are more prone to infections perhaps because white blood cells, which fight infection, need a morning boost. (Leonard, 2018)

2.8 Cognitive function:

Breakfast also restores glucose levels, an essential carbohydrate that is needed for the brain to function. Many studies have shown how eating breakfast can improve memory and concentration levels and it can also make us happier as it can improve mood and lower stress levels. In studies amongst children, breakfast can improve attainment, behavior and has been linked to improved grades. Just like any other organ in the body, the brain needs energy to work at its best.

2.9 Energy needs:

People's energy needs vary depending on activity levels and life stage but typically men require more energy than women. Growing children require a lot of energy, as an example boys aged 7-10yrs should consume approx. 1970 kcals per day, and girls aged 7-10yrs should consume approx. 1740 kcals. For adults, men require approx. 2500 kcals and women approx. 2000 kcals per day.

2.10 Long term health:

Eating breakfast has long term health benefits. It can reduce obesity, high blood pressure, heart disease and diabetes. (Shakeupyourwakeup.com, 2018)

3 The Benefits of Eating a Healthy Breakfast for Students:

In an effort we need to take advantage of more sleep; students often get up at the last minute to get ready for their day. However, when we are in a rush, we miss a vital step that can offer great health benefits to your day. That step is preparing and eating breakfast.

Eating a healthy breakfast is crucial to a healthy diet and a well-managed day. When you skip breakfast we miss out on the nutrients and energy it can provide for a busy schedule of studying and going to class or labs.

3.1 Start the day off with a happier mood:

Eating breakfast gives us the nutrients to start our day on a happy note. Since your body is deprived of nutrients and energy during the hours we are asleep, our blood sugar is low in the morning. This can cause many people to feel cranky and irritable throughout the day. Eating breakfast will improve our blood sugar levels so that we can stay alert and energized for the start of your day. Plus, it can also greatly improve our mental health in the morning.

3.2 Improved energy: The American Dietetic Association says that eating a breakfast of lean meats, vegetables, and fruits, with whole grains can improve our energy and our concentration. Breakfast containing fruits like vitamin C can help our brain signals function

properly so that we are more awake and alert throughout the day. Our brain needs the energy provided by a healthy breakfast so it can function to the best of its ability.

3.3 Prevent overeating:

Sometimes people do not eat breakfast because they want to save their calories for lunch and dinner. Eating a healthy breakfast can actually help us from overeating throughout the day. Eating breakfast allows you to prevent weight gain by avoiding overeating. A 2012 study shows that when people skip breakfast, they are more likely to over eat high-calorie foods during the day. The nutrients in breakfast will also boost our metabolism, which is an essential part of preventing weight gain.

3.4 Healthy skin:

If we want healthy looking skin, eating essential breakfast ingredients along with a regular facial routine could help give you that glow you want. The American Dietician Association suggests eating fruits, eggs, and spinach which contains nutrients such as vitamin A and D, and antioxidants which help protect our skin. They also contain lutein which helps protect the skin and eyes from free radicals.

3.5 Better mental and physical performance:

If we eat after a long night's sleep, we will reenergize our mind and body for school. If we are writing notes, taking a test, or trying to participate at our externship, then we do not want to feel sluggish and tired. A Food Research and Action Center study demonstrates that students who eat a nutritious breakfast perform better during reading and critical thinking. The study also shows that students can see benefits of improved speed, memory, and problem-solving. They will also be able to concentrate better on that test. But we can also energize those muscles so our body can function properly. If we want to do our best, then eating breakfast can help sustain our mental and physical performance throughout the day. (Salter School, 2017)

4 Calories Needed According to Age:

Estimated amounts of calories needed to maintain energy balance for various gender and age groups at three different levels of physical activity.

Table 1.1 Calories needed according to age

Gender	Age (years)	Sedentary	Moderately Active	Active
Child	2-3	1,000	1,000-1,400	1,000-1,400
Female	4-8 9-13 14-18 19-30 31-50 51+	1,200 1,600 1,800 2,000 1,800 1,600	1,400-1,600 1,600-2,000 2,000 2,000-2,200 2,000 1,800	1,400-1,800 1,800-2,200 2,400 2,400 2,200 2,000-2,200
Male	4-8 9-13 14-18 19-30 31-50 51+	1,400 1,800 2,200 2,400 2,200 2,000	1,400-1,600 1,800-2,200 2,400-2,800 2,600-2,800 2,400-2,600 2,200-2,400	1,600-2,000 2,000-2,600 2,800-3,200 3,000 2,800-3,000 2,400-2,800

Sedentary means a lifestyle that includes only the light physical activity associated with typical day-to-day life.

Moderately active means a lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life

Active means a lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life. (M. Zelman, 2018)

5 Daily consumption:

5.1 Recommended dietary allowance for carbohydrates:

Men: 2320 Kcal/day

Female: 1900 Kcal/day

Carbohydrates: The truth about Carbohydrates may be hard to digest but nutritionists say they are an important part of a healthy diet. Carbohydrates are our body's main source of energy. 70-80% of total dietary calories are derived from carbohydrates present in plant foods such as cereals, millets and pulses. "Half of our total calories of the day should come from carbs. The problem is that we emphasize more on refined carbs in the form of breads, biscuits, white rice and wheat flour. We forget that carbs come from other healthier sources like whole grains which include brown rice, millets and oats that have a higher nutritive value. These are also great sources of fiber.

Our meal would be incomplete without fiber both soluble and insoluble. It helps with digestion but few people are getting enough. Most fruits and vegetables (besides potatoes and corn) and whole grains are also foods with a low glycemic index which means that they don't cause sudden spikes in blood sugar levels and help maintain them. Our breakfast should definitely have cereal or bananas or some form of good carbs that keeps us fuelled until lunch. Simple carbohydrates like glucose and fructose are found in fruits, vegetables and honey, sucrose in sugar and lactose in milk, while the complex polysaccharides are starches in cereals, millets, pulses and root vegetables and glycogen in animal foods.

5.2 Recommended dietary allowance for Proteins: About 30 to 35% of our diet should consist of protein. This could be in the form of pulses, milk, leafy greens, eggs, white meat or sprouts. Since protein is the main component of all of our body's cells, as well as our hair, skin and soft tissues. Moreover, we burn more calories in digesting proteins than carbs. Since men tend to be muscular and usually weigh more than women, they require more protein. The issue of protein deficiency in our country recommends that we should have one helping of protein with every meal, be it in any form like whole dals, cottage cheese or gram flour or 30 grams of pulses as per NIN.

5.3 Recommended dietary allowance for fat:

Men: 60 grams/day

Female: 55 grams/day

Fats: Fats provide energy, store vitamins and synthesize hormones. According to NIN, about 1/5th of our diet or 20% should be devoted to fats all three kinds -polyunsaturated, mono saturated and omega-3 fatty acids. Vegetable oil used in day to day cooking is a major source of visible fat in our diet. To ensure optimal fat quality the use of a combination of vegetable oils is important. The thumb rule – do not fear trying different oils. It is suggested to have a good blend of various types of oils in your diet. We can switch between butter, ghee, olive oil, mustard oil, soya bean, sesame or even groundnut oil for different meals. (NDTV Food, 2017)

6 Breakfast skipping tendency:

1. Some people may wake up really late and it is lunch time.
2. Some people don't have an appetite in the morning.
3. Ran out of time and need to go to school/work.
4. Practice intermittent fasting for fat loss.
5. They wake up late.
6. They don't feel like eating anything in the morning.
7. It's too early to have food.
8. They are unaware about importance of having breakfast.

(Anon, 2017)

7 Problems arising with skipping breakfast:

7.1 Problems in metabolism:

Metabolism is a chemical process which occurs in the cells and it is necessary for body maintenance. Having breakfast in morning helps in boosting your metabolic rate thus burning more caloriesIf we do not take breakfast regularly our metabolism process will hamper the rest of the day.

Fig 1.1: Problems in metabolism

7.2 Risk of health problems:

The risk related to heart diseases increases if we skip our breakfast. Apart from heart diseases the chances of having diabetes, high blood pressure, high cholesterol etc. would be increased.

Fig 1.2: Risk of health problems

7.3 Unhealthy mid-day cravings:

This is a myth that skipping meals can help in reducing calories, instead missing breakfast can lead to unhealthy mid-day cravings and as a result of which we tend to eat snacks which are not good for our health.

Fig 1.3: Unhealthy mid-day cravings

7.4 Makes exercise difficult:

Skipping breakfast lowers the energy level in the body and thus makes us physically inactive. This makes exercising through the day hard.

Fig 1.4: Makes exercise difficult

7.5 Weight gain:

Many people skip their breakfast to reduce their weight but it is believed that skipping breakfast can lead to gaining of calories instead.

Fig 1.5: Weight gain

7.6 Reduces concentration:

The morning meal acts as a fuel for the brain and if we miss that concentrating on work becomes difficult and productivity is thus reduced.

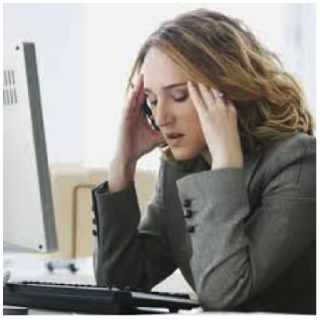

Fig 1.6: Reduces concentration

7.7 Bad mood:

Avoiding or skipping breakfast leads to worse moods throughout the day. This makes the person cranky and it affects the mental state of the person too.

Fig 1.7: Bad mood

7.8 Increases the risk of type 2 diabetes:

No breakfast consumption increases the risk of type 2 diabetes. This is common in case of women.

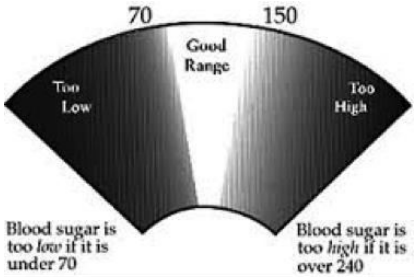

Fig 1.8: Increases the risk of type 2 diabetes

7.9 Poor memory:

Avoiding breakfast has an influence on brain which results in poor memory. The short term memory is reduced and it results in a person being forgetful.

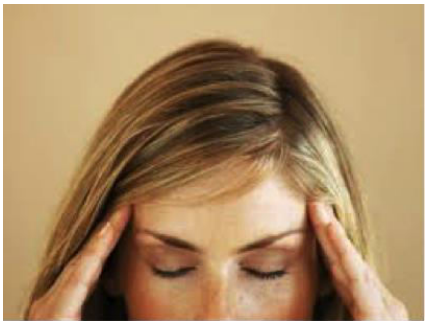

Fig 1.9: Poor memory

7.10 Prevents calorie burning:

Having breakfast helps in eating fewer calories during the day. It also helps in better metabolism which helps in reducing calories.

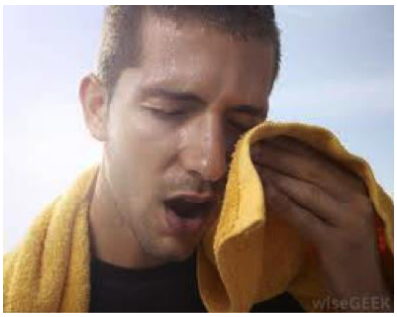

Fig 1.10: Prevents calorie burning (WebMD, 2017)

CHAPTER-2

LITERATURE REVIEW

2.1 The Breakfast Habits of Middle School Students

The purpose of this research was to describe the breakfast eating habits of middle school students as measured by a twelve-item questionnaire developed by the researcher. The objectives of this study were to determine the percentage of students who ate breakfast and who did not eat breakfast; identify reasons given by students for not eating breakfast; identify nutritional value of breakfast food that was consumed; identify emotional and physical symptoms as a result of not eating breakfast; give recommendations to parents to encourage a healthy breakfast. One Hundred students from Northstar Middle School in Eau Claire, Wisconsin were asked to respond to the twelve-item survey. The survey results indicated that 72% of the participants did eat breakfast, 28% did not eat breakfast. Of this 72%, 79% indicated that they lived with both parents and 65% also stated that the parents were present during breakfast. Eighty-one percent of the respondents indicated that they prepared their own breakfast. The breakfast meal should provide 25 to 30% of the recommended daily allowances. The results of this survey indicate that the respondents met a minimum of 25% of the recommended daily allowances for protein, vitamins A, B1, B2, B3, C, calcium and iron. Ninety-two percent of all ready-to-eat breakfast cereals are fortified with essential nutrients. Forty - two respondents ate cereal for breakfast. For the students who chose not to eat breakfast, 67.4% stated that time was the factor influencing their decision to skip breakfast. Sixty-nine percent of these respondents also indicated that they felt fine by midmorning. However, 31% indicated that they were hungry and tired. Breakfast is perhaps the easiest meal to provide. The fortified ready-to-eat cereals allow individuals to meet the 25 to 30% of the recommended daily allowances. Parental habits of eating breakfast and establishing good eating habits at an early age set the tone for lifetime healthy habits. Parents can encourage healthy habits by providing ready-to-eat cereals, waking their child fifteen minutes earlier to allow for that extra time needed or send along a sack breakfast with their child. In addition, the School Breakfast Programs are designed to meet 25% of the daily recommended allowances. The School Breakfast Program also provides free and reduced prices for families with low incomes. (Ruth A, 2017)

2.2 A survey of breakfast-skipping and inadequate breakfast-eating among young schoolchildren

The prevalence of breakfast-skipping and inadequate breakfast-eating among schoolchildren in Nova Scotia was determined by surveying 2,500 children in Grades 1 to 3 in 25 randomly selected schools. Breakfast-skipping was measured on two occasions using a validated survey instrument administered by videotaped child entertainers. 4.8% of children came to school without eating or drinking anything on the morning of testing. Breakfast omission was significantly related to grade with 6.1% of Grade 1 children skipping breakfast compared with 3.2% in Grade 3. Boys were significantly more likely to skip breakfast than girls but the absolute differences were small. 86% of children consumed a breakfast including two food groups; 56% three food groups. Adequacy of consumption was poorer in lower grades but did not vary by other sociodemographic variables. Breakfast omission in Nova Scotia children attending Grades 1, 2 or 3 does not warrant a provincial public health response. (McIntyreL, 2017)

2.3 Breakfast Habit and Nutritional Status of Undergraduates in Ekiti State, Nigeria

The study was carried out to assess the breakfast consumption habit and nutritional status of undergraduates in Ekiti State, Nigeria. Two hundred and fifty students comprising of 186 female and 64 male were randomly selected in two higher institutions. A self-administered questionnaire which elicits information on socio-demographic data and breakfast habit of the students was used. Nutrients intake of the respondents was assess using 24 hour dietary recall while the Body Mass Index (BMI) was used to assess the nutritional status of the respondents. The result revealed that 76.2% of the respondents were female while 23.8% were male. Slightly above average (52.8%) were within the age range of 16-20 years while 36.8% received more than ₦10, 000 as feeding allowances. In general, 52% of the students reported not to be taking breakfast on the day of the survey and 40.8% attributed this to insufficient feeding allowances. Nutritional status assessment showed that there was no significant difference ($X2=4.16$; $P=0.24$) between breakfast skipping and BMI. The 24 hour dietary analysis showed that there was a significant ($P<0.05$) difference between the mean

protein and fat intake of breakfast skippers and eaters. The mean nutrients intake of breakfast skippers and eaters were; energy (2315.4kcal vs 2229.6kcal), protein (52.6g vs 58.4g), fat (42.1g vs 33.0g), carbohydrate (324.3g vs 306.3g), iron (12.4mg vs12.6mg), and calcium (1106.2mg vs 1157.9mg). The study concluded majority of the students' skip breakfast, a reflection of insufficient feeding allowances, busy schedule and weight control measures. The study then recommends that parents should increase the feeding allowances of their children that are in tertiary institutions. (Adesola, MotunrayoAyodeji and Akorede, 2017)

2.4 Breakfast habits, beliefs and measures of health and wellbeing in a nationally representative UK sample

The aim of this study was to report UK adult breakfasting habits, beliefs and the relationship of both with measures of personality, health and wellbeing including physical activity and body mass index (BMI). A nationally representative sample of 1068 adults completed a web-based survey, combining standardized scales and self-designed questionnaire statements. Sixty-four percent of respondents consumed breakfast daily whilst 6% never ate breakfast. Breakfasting frequency was found to correlate with conscientiousness, wellbeing and age and general health. The survey found that breakfast eaters strongly believe that breakfast helps weight control and weight loss. Breakfast eaters were more likely to partake in vigorous exercise, although there was no significant difference in BMI. Multi-variate analysis identified conscientiousness, cognitive restraint and age as making unique contributions to predicting breakfast frequency. This study provides further support for the view that breakfast eating is likely to be a proxy-variable for a healthy lifestyle. The role of breakfast and related beliefs should be taken into consideration in breakfast behavior research, interventions and health and wellbeing campaigns. (Reeves, Halsey and McMeel, 2017)

2.5 Breakfast Habits among School Children in Selected Communities in the Eastern Region of Ghana

Breakfast is considered the most important meal of the day, yet many people skip breakfast. Studies indicate that school age children who regularly skip breakfast are not likely to concentrate in class, thus affecting school performance. This study determined the breakfast

habits and nutrient contributions of the breakfast meal to the days' nutrient intake. About 85.5% of the children had breakfast on the day of interview. More boys (87.8%) consumed breakfast compared to the girls (83.1%). For those who skipped breakfast, lack of food at home or lack of no money (36.5%) was the main reason. Breakfast consumers had significantly higher energy and nutrient intakes than those who skipped breakfast (energy 2259 verses 1360 kcal, p-0.039; vitamin A 1534 verses 662 ug/RE, p=0.001; iron 22.9 verses 13.9 mg, p=0.017, zinc 9.9 verses 5.6 mg, p=0.034). The breakfast meal contributed between 32–41% of the day's energy intake, and between 30–47% of micronutrient intake. Encouraging breakfast consumption among school children is a way to ensure that they meet their daily nutrient and energy intakes. (Intiful and Lartey, 2017)

2.6 Comparison of dietary intakes according to breakfast choice in Australian boys

There is little information on how breakfast choices are associated with dietary intakes in Australian boys. (i) To determine the proportion of breakfast skippers, ready-to-eat cereal (RTEC) consumers and non-RTEC consumers at breakfast; (ii) to compare breakfast, and daily nutrient intakes and nutrient density, between the three groups; and (iii) to compare daily nutrient intakes against nutrient recommendations Cross-sectional analysis of 12 to 16-year-old boys (n = 781) from the 2007 Australian National Children's Nutrition and Physical Activity Survey. Forty-two percent of boys consumed RTEC at breakfast; 38% did not consume RTECs; and 20% skipped breakfast. Breakfast skippers had a higher body mass index and waist circumference compared with RTEC consumers ($P \leq 0.05$). At breakfast, RTEC consumers had a higher intake of total sugars and a lower intake of fat and sodium versus non-RTEC consumers. Total daily nutrient density for calcium, iron, thiamin, riboflavin, zinc, dietary folate equivalents, magnesium and iodine was higher for RTEC consumers versus non-RTEC consumers and breakfast skippers (all $P \leq 0.05$). Fifty-nine percent of 14 to 16-year-old RTEC consumers reached the fibre adequate intake versus 34% and 24% of non-RTEC consumers and breakfast skippers, respectively (all $P \leq 0.01$). More RTEC consumers met the calcium estimated average requirements versus non-RTEC consumers and breakfast skippers ($P \leq 0.01$). (Grieger JA and L, 2017)

2.7 Kellogg Reveals Results of Monumental Breakfast Survey

While more than half (54%) of all adults would like to eat breakfast every day, in reality only one-third (34%) actually do. Nearly all moms (89%) want their kids to eat breakfast every day. However, 40 percent of moms report their child doesn't eat breakfast daily. While nearly all toddlers and preschool-age children are eating breakfast, consumption of breakfast dips as American children grow older; 77 percent of young children eat breakfast every day, but the number falls to 50 percent in the middle-school years and 36 percent among high school students. Although moms report a desire to see their kids relax in the morning and concentrate on eating breakfast, many kids are too busy watching television, getting their homework done. To help reverse these breakfast trends, Kellogg, which sponsored the survey, has convened the *Kellogg Breakfast Council* —seven third-party nutrition experts dedicated to helping people understand nutrition information, and incorporate nutritious foods and habits into the diet. Dr. Jana is a member along with six other experts in the fields of community, child and school nutrition; food security; weight management; public health; family and consumer science; and boomer health. "With school wrapping up in many parts of the U.S., many families are now adjusting to less predictable morning routines and the challenge of getting kids to remember to eat a nutritious breakfast," said Jana. "Making sure that children from a very young age are in the habit of eating a healthy breakfast can significantly help improve their overall health and well-being both during the school year and throughout the summer months." (Kellogg Company News Room, 2017)

2.8 Wisconsin School Breakfast Survey Final Report

Over 250 public and private school food service directors across the state of Wisconsin completed an online survey in September of 2005. The survey consisted of questions about school breakfast programs. Since the state of Wisconsin serves school breakfast to only one in four low-income students, and foregoes nearly 13 million in Federal funds, as a result, each year (Food Research and Action Center, 2004), both the state of Wisconsin Department of Public Instruction and nutritionists with the University of Wisconsin-Extension, Cooperative Extension's Family Living Program were interested in finding out why

Wisconsin schools seem to be slow to implement school breakfast programs. The attached report focuses on a handful of specific research questions that look at the effects of perceived support, presence of a la carte and vending, challenges, and traditional vs. nontraditional serving models on school breakfast programs. Food service directors were asked to rate the level of support they felt they had from a variety of school officials and parents for serving breakfast at school. Overwhelmingly, those food service directors who felt they had the support of teachers, principals, parents, and the school board were more likely to be associated with an elementary, middle, or high school that had a school breakfast program. While it is not clear which came first – the school breakfast program or the support of school personnel and parents – what is clear is that the percentage of food service directors expressing perceived support of others is much lower in schools without a school breakfast program. Food service directors were asked to describe a la carte and vending services provided at their schools. Schools that had a la carte and/or vending tended to be more likely to also have a school breakfast program. Contrary to what had been expected, schools did not appear to be implementing a la carte or vending in place of school breakfast programs. However, the most often cited reason for offering a la carte and/or vending and not school breakfast program was "not enough time" to serve breakfast. It appears that some schools that would otherwise be supportive of school breakfast programs offer a la carte and/or vending because they are perceived to be quicker than serving school breakfast. Recommendations following the Final Report address some alternatives to a la carte and vending that could be reimbursable through the school breakfast program. (Heather Harvey and Westover, 2017)

2.9 A breakfast survey of primary schools in low income inner city areas of Southampton

This report describes the results of a survey of children's reported or perceived breakfast habits in seven primary schools serving low-income areas in Southampton during January-April 1993. Structured and semi- structured interviews were used. The two types of interview revealed a similar frequency of skipping breakfast, which was reported by 5.1 per cent in the entire sample of 935 children. The most common items apparently consumed at breakfast

were cereal (68 per cent) usually with milk (61 per cent). Nearly a third of the children had sugar as well. Small numbers reported eating during the rest of the morning, most often in the mid-morning break when 447 (48 per cent) had a snack and 135 (14 per cent) had a drink. Striking differences were reported among the schools as to whether the children had a snack at all, and the type of snack. The importance of school's policies and practices should be explored further, as a potentially powerful force for achieving dietary behavioral change. (Val Box and Landman, 2017)

2.10 Breakfast skipping is associated with differences in meal patterns, macronutrient intakes and overweight among pre-school children

To examine the association between skipping breakfast, daily energy, macronutrients and food intakes, and BMI in pre-school children. A cross-sectional study using information on children's food consumption and measured height and weight. Energy and macronutrient intakes of the children were derived from parent/day-care attendant's responses to 24 h recall interviews and eating behavior questionnaires. Ten per cent of children ate breakfast on fewer than 7 days per week. This behavior was associated with a lower diet quality and concentrated energy intakes through higher protein intakes at lunch and the consumption of snacks higher in energy and carbohydrate in the afternoon and evening; yet total daily energy intakes were not significantly different from those of pre-school children who ate breakfast every day. Breakfast skippers' mean BMI increased as intake of energy, carbohydrates or servings of grain products increased; however, this was not the case for breakfast eaters. When Cole's cut-off for overweight/obesity was used, overweight/obesity in breakfast skippers was related to the dinner-time consumption of approximately 3,000 kJ (700 kcal) or more for energy intake, approximately 100 g or more of carbohydrates, or approximately 3 servings or more of grain products. (Dubois L, M and A, 2017)

2.11 Are breakfast consumption patterns associated with weight status and nutrient adequacy in African-American children

The objective of the present study was to assess whether weight status, nutrient intake and dietary adequacy were associated with breakfast consumption patterns. A representative sample of the US population was used in a secondary analysis of nutrient intake/diet quality

and weight status by breakfast consumption patterns. The study sample included African-American (AA) children aged 1-12 years (n 1389). Forty-five per cent of children aged 1-5 years and 38 % of those aged 6-12 years consumed ready-to-eat cereal (RTEC) at breakfast; while 7.4 % and 16.9 % in those age groups skipped breakfast, respectively. The lowest mean BMI (P <or= 0.05) and mean waist circumference (P <or= 0.05) was found in children 1-12 years of age who consumed RTEC at breakfast compared with other consumption groups. RTEC breakfast consumers had the highest mean intakes of vitamins A, B6 and B12, thiamine, riboflavin, niacin, folate, Ca, Fe and Zn (P <or= 0.05) and the highest Mean Adequacy Ratio (P <or= 0.05). RTEC breakfast consumers also had the highest intake of carbohydrates and total sugars, and the lowest intakes of total fat (P <or= 0.05). Consuming RTEC at breakfast was associated with improved weight and nutrient adequacy in AA children. AA children in all breakfast categories still had mean intakes of most nutrients below recommended levels. The implications are that consuming a breakfast meal should be encouraged in these children, and that RTEC at breakfast provides important nutrients and may help promote a healthy weight. (Williams BM, CE and DR, 2017)

2.12 The role of breakfast in nutrient intake of urban schoolchildren

To ascertain the breakfast habits of 10-15-year-old schoolchildren and to assess the quality of this meal as well as its relationship to the food consumption pattern for the full day. Eight hundred and two schoolchildren, boys and girls, aged 10-15 years, belonging to different urban schools located in Secunderabad, Andhra Pradesh, India. Only 42.8% of the children ate breakfast regularly. Over half of the children skipped breakfast, ranging from daily to once in two weeks. The energy and protein composition of breakfasts eaten by the children indicated that those who did not skip breakfast met one-quarter to one-third of their total daily energy and protein requirements. Mean nutrient intakes calculated from 24-hour recalls revealed that the children's diets were inadequate compared with the recommended values for energy and protein. The inadequate energy intake was reflected in a high incidence of malnutrition in both boys and girls; 40.3% of the boys and 32.1% of the girls studied were found to be underweight. Protein intake was also inadequate among boys and girls, although a higher percentage of children met their protein requirements. (Chitra U and CR, 2017)

2.13 Breakfast and behavior in morning tasks: Facts or fads

Most of the studies investigating the effects of breakfast on cognitive performance have compared performance in subjects who have or have not consumed this meal. However, characteristics of breakfast itself may influence mental abilities. Moreover, as far as the positive effects of having breakfast is more evident, research may focus on the specific characteristics of an adequate breakfast. To update an existing systematic review, published at the beginning of 2014, on the role of nutrient composition and/or energy intake at breakfast on the accomplishment of school-related tasks and cognition. From the literature search, we identified 39 papers, of which 2 were eligible according to our inclusion criteria. Both the selected papers concerned randomized crossover studies on the acute effect of breakfast carried out in a school setting in the United Kingdom. Both studies compared 2 iso-energetic breakfasts with a similar macronutrient composition; however, the alternative breakfasts were meant to differ in terms of glycemic index or glycemic load. The effects of breakfast composition were investigated on memory, attention, and information processing in both studies. However, different tests and subdomains were considered. While the hypothesis of a better mental performance with breakfast>20% daily energy intake still needs confirmation, there does appear to be extra evidence that a lower postprandial glycemic response is beneficial to mental performance. (Edefonti V, F and M, 2017)

2.14 School meals: types of foods offered to and consumed by children at lunch and breakfast

Children's food intakes do not meet dietary recommendations. Meals offered through the National School Lunch Program and School Breakfast Program make substantial contributions to school-aged children's diets. This article describes foods offered in school meals and consumed by children at lunch and breakfast, and differences in foods consumed by children who did and did not participate in the school meal programs. Data were collected as part of the third School Nutrition Dietary Assessment Study, a cross-sectional, nationally representative study conducted in 2005. School menu surveys were used to identify the foods offered in school meals, and 24-hour dietary recalls were used to assess the foods children consumed. Most school menus offered nonfat or 1% milk, fruit or 100% juice, and vegetables daily. Starchy vegetables were more common than dark green/orange vegetables

or legumes. School lunch participants were significantly more likely than nonparticipants to consume milk, fruit, and vegetables, and significantly less likely to consume desserts, snack items, and beverages other than milk or 100% juice. At breakfast, participants were significantly more likely than nonparticipants to consume milk and fruit (mainly 100% juice), and significantly less likely to consume beverages other than milk or 100% juice. (Condon EM, MK and MK, 2017)

2.15 Breakfast habits and factors influencing food choices at breakfast in relation to socio-demographic and family factors among European adolescents

Breakfast consumption has been shown to be an important indicator of a healthy lifestyle. Little is known however about factors influencing breakfast consumption and food choices at breakfast in adolescents. The aim of the present study was therefore to describe breakfast habits, and factors influencing food choices at breakfast within the framework of the EU-funded HELENA Study, in 3528 adolescents from Ten European Cities. Additionally, socio-demographic differences in breakfast habits and in influencing factors were investigated. Half of the adolescents (and fewer girls than boys) indicated being regular breakfast consumers. Girls with mothers with a high level of education, boys from 'traditional' families and boys who perceived low family affluence were positively associated with breakfast consumption. Boys whose parents gave encouragement and girls whose peers ate healthily were more likely to be regular breakfast consumers. 'Hunger', 'taste', 'health concerns' and 'parents or guardian' were the most important influences on the adolescents' food choices at breakfast. Adolescents from southern Europe and girls reported to be more influenced by personal and socio-environmental factors. Socio demographic differences, in particular regional and gender differences need to be considered in discussions surrounding the development of nutritional intervention programs intended for adolescents. (Lena Hallstro¨m, A and Ruiz, 2017)

2.16 A survey of breakfast-skipping and inadequate breakfast-eating among young schoolchildren in Nova Scotia

The prevalence of breakfast-skipping and inadequate breakfast-eating among schoolchildren in Nova Scotia was determined by surveying 2,500 children in Grades 1 to 3 in 25 randomly selected schools. Breakfast-skipping was measured on two occasions using a validated survey instrument administered by videotaped child entertainers. 4.8% of children came to school without eating or drinking anything on the morning of testing. Breakfast omission was significantly related to grade with 6.1% of Grade 1 children skipping breakfast compared with 3.2% in Grade 3. Boys were significantly more likely to skip breakfast than girls but the absolute differences were small. 86% of children consumed a breakfast including two food groups; 56% three food groups. Adequacy of consumption was poorer in lower grades but did not vary by other socio demographic variables. Breakfast omission in Nova Scotia children attending Grades 1, 2 or 3 does not warrant a provincial public health response. (McIntyre, 2017)

2.17 Breakfast skipping and its association with other unhealthy food habits among Greek high school adolescents

Eating breakfast is an important habit for our health. The recognition of high-risk groups for breakfast skipping, especially during the transition period of adolescence, is essential for the prevention of this unhealthy habit. Objective: To determine the prevalence of breakfast skipping in adolescents attending high school, in correlation with nutritional status and socio-demographic factors, and to identify possible association with other unhealthy food habits. Subjects and methods: A sample of 513 high school students was randomly selected from three areas: urban/ higher, urban/medium and urban/lower. All subjects completed a questionnaire concerning various socio demographic characteristics and food habits. Body height and weight were also measured and body mass index was calculated. Results: The prevalence of breakfast skipping was 29.4%. Breakfast skipping was more prevalent in older adolescents, adolescents with fathers of low educational level, adolescents living in the urban/lower area and of those who were overweight/obese. Breakfast skippers consumed salads, fruit, legumes and fishes less frequently than breakfast eaters. They consumed meat,

soft drinks and alcohol more frequently. Also, they reported higher frequency of out-meals. Conclusions: The prevalence of breakfast skipping among Greek adolescents is quite high and it is related to nutritional status and socio-demographic factors. Breakfast skipping is associated with other unhealthy food habits, suggesting a considerable negative. (Gikas, Ôriantafillidis and Perdikaki, 2003)

2.18 Comparison of breakfast consumption in rural and urban among Inner Mongolia Medical University students

The aim of current study was to investigate breakfast consumption between rural and urban among Inner Mongolia Medical University students, China. Method: From December 2010 to January 2011, a cross-sectional survey was conducted among medical students in the Inner Mongolia Medical University using a self-administered questionnaire. X2 was used to identify the differences between rural and urban. Result: The prevalence of breakfast consumption was 70.95%. The prevalence of breakfast in rural was higher than that in urban (72.09% vs. 69.78%). Breakfast consumption prevalence among male students in rural was higher 7.4% than those of students in urban. Students in Mongolian ethnic in rural were more likely to eat breakfast than Mongolian students in urban. The prevalence of breakfast decreases with grade increase both urban and rural. Students with good physical condition were more likely to eat breakfast compared with students with poor physical condition. Conclusion: The prevalence of regular breakfast consumption in rural was higher than that in urban. However, the prevalence of eating breakfast declined faster in rural than that in urban. Our study findings could help health care professionals develop targeted interventions designed to increase breakfast consumption. (Ba et al., 2018)

2.19 Here's What Americans Are Eating for Breakfast

The good news is, we seem to have finally gotten the message about the most important meal of the day: According to new data from market research firm The NPD Group, the consumption of breakfast is expected to increase 5%through 2019. The bad news is that a lot of those breakfasts are being picked up at the drive-thru or convenience store. Most Americans eat breakfast nearly every day—361 days a year, up from 350 days a year, on

average, in 2010. We're also doing more morning snacking, eating 17% more morning snacks today than we did six years ago, NPD found. To accommodate busy schedules and increasingly long commutes, we buy and eat nearly a third of our breakfasts on the go. NPD reports that morning visits to fast food restaurants grew by 5% in the past year, on top of a 3% increase the previous year. Even more than a good meal, we crave convenience in the morning, buying more and more breakfast sandwiches and portable items like yogurt and granola bars. Somewhat unexpectedly, millennials seem to be the demographic group that gravitates more towards more "traditional" breakfast fare like eggs and other sit-down dishes. "Millennials are more fully engaged with breakfast and like some level of involvement in breakfast prep," NPD explained. Even though it's likely to take longer and be less convenient, young adults are willing to invest the time because eating fresh food is a top priority for them and it's hard to get fresher than making it yourself. Baby boomers, on the other hand, want breakfasts that are in some way healthy, "either preventive or restorative," according to the research. (White, 2017)

2.20 What Australians eat for breakfast: an analysis of data from the 1995 National Nutrition Survey?

Objective Toanalyse data on the patterns of food consumption at breakfast reported in the 1995 National Nutrition Survey. Design The Australian Bureau of Statistics was commissioned to undertake additional analysis of data on food intake collected using 24-hour recall interviews, a food frequency questionnaire and a food habits questionnaire. Subjects Nationally representative sample of 13 858 Australians, from age 2 years, surveyed in the 1995 National Nutrition Survey. Main outcome measures Percentage of people eating breakfast regularly, mean amount of food groups consumed at breakfast, the percentage of respondents consuming each food item, and the mean serve sizes. Statistical analyses Data are presented as frequencies and mean intakes. Pearson's chi-square tests were used for comparisons. Results People on special diets, those taking vitamin or mineral supplements, and people in the lowest quintile of household income were more likely to eat breakfast regularly. Breakfast was mostly eaten at home, although 15% of 19-24 year olds obtained breakfast away from home. Cereals, bread and milk were the most popular breakfast foods and less than 10% of Australians ate a cooked breakfast. Sugar added to cereals contributed

less than 2% of the total sugar intake over the day in all age groups. Conclusion The high proportion of adolescents and young adults who miss breakfast regularly is of concern. There is an opportunity to increase fruit intake by promoting its consumption at the breakfast occasion. (Williams, 2017)

CHAPTER-3

MATERIALS AND METHOD

3.1 Type of the Study

It was a survey-based study.

3.2 Materials

- Survey questionnaire
- Response from the respondents
- BMI Calculator

3.3 Study Area

The survey was conducted on students of different departments of East West University.

3.4.1 Inclusion Criteria

- Both males and females
- Anyone who was a student of East west University

3.4.2 Exclusion Criteria

- Person unwilling to do the study
- Anyone who was not a student

3.5 Study Population

In this study, both male and female were the study population. This inquiry was carried out on 445 students of East West University.

3.6 Development of the Questionnaire

Following the STEPS guideline the questionnaire was developed. Also from the observation of different behavior of students.

3.7 Sampling Technique

In this study random sampling technique was followed.

3.8 Data Collection Method

The data was collected through questionnaire that is formed in English language. It is a questionnaire consisting of multiple choice type questions. The data was collected by both face-to-face interview and by questionnaire supply.

3.9 Data Analysis

After collecting, all the data were checked and analyzed with the help of Microsoft Excel 2013.

3.10 BMI Parameter

Table 3.1 BMI Classification

Underweight	**<16 - 18.5**
Normal	**18.5 - 25**
Overweight	**25 - 30**
Obese	**30 - 40**

3.11 Procedure

The study was performed through 3 stages of the procedure. In the beginning literature review was done from 20 online literature regarding Breakfast Habit and Skipping Breakfast among University Going Students. The aim of literature review was to observe the breakfast habit of both male and female students. Followed by the literature review, data collection step was executed by collecting data with the help of a survey questionnaire. In the final stage data analysis was made with the help of Microsoft Excel 2013.

Fig 3.1: procedure

CHAPTER-4

RESULT AND ANALYSIS

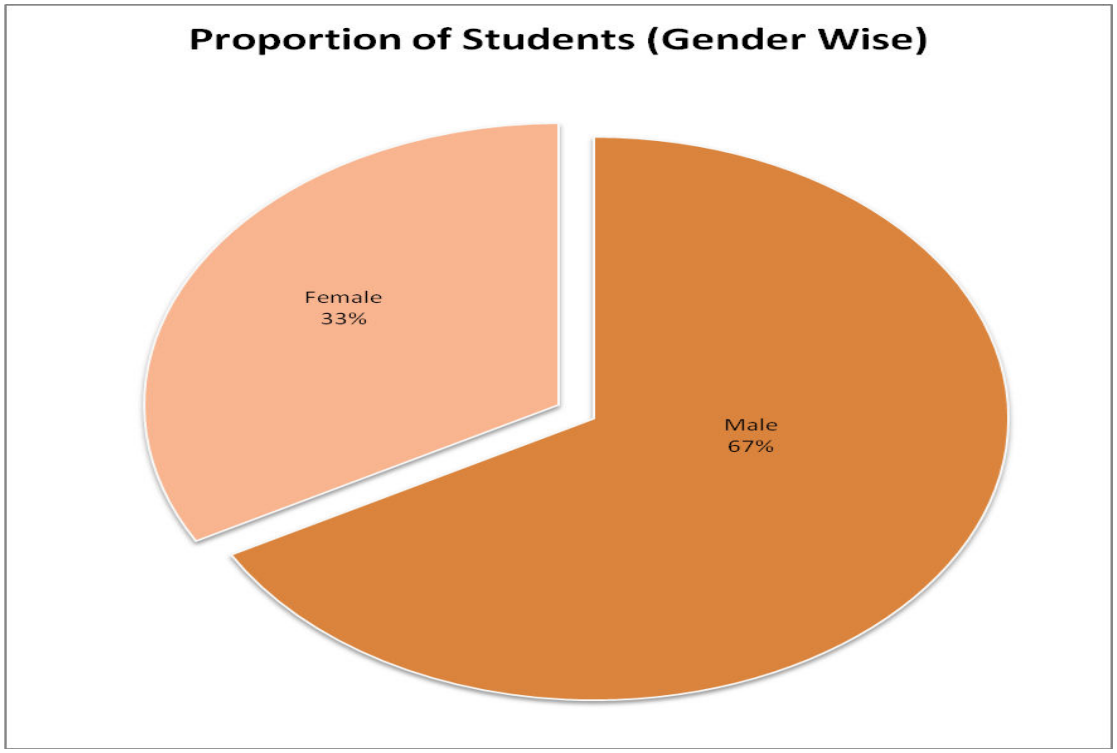

Fig 4.1: Proportion of students (gender wise)

The survey has been conducted on 445 students among them 33% of the population were female and 67% of the population were male.

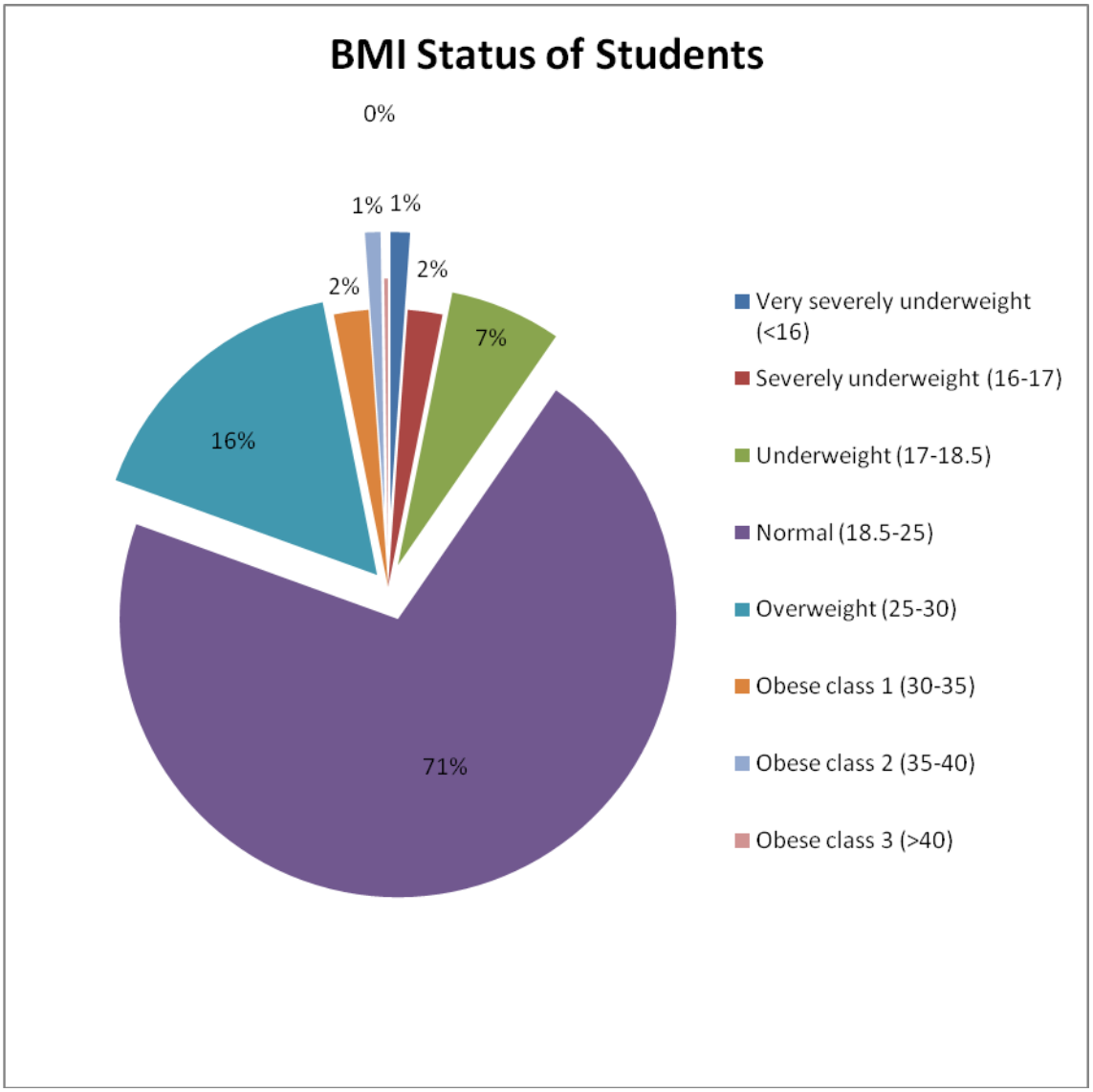

Fig 4.2: BMI status of students

Among 445 students 1% was very severely underweight, 2% severely underweight, 7% underweight, 71% healthy weight, 16% overweight, 2% were obese class I and 1% were obese class II.

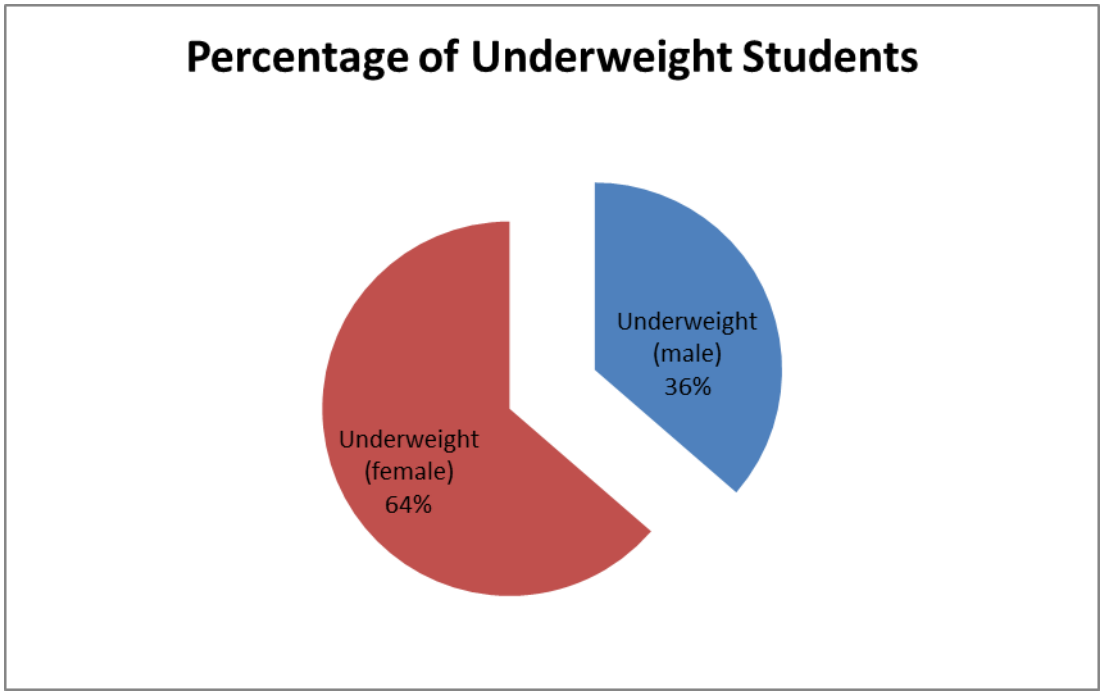

Fig 4.3: Percentage of Underweight Students

In this study some students were found who had very severely underweight. Among them 64% were female and 36% were male.

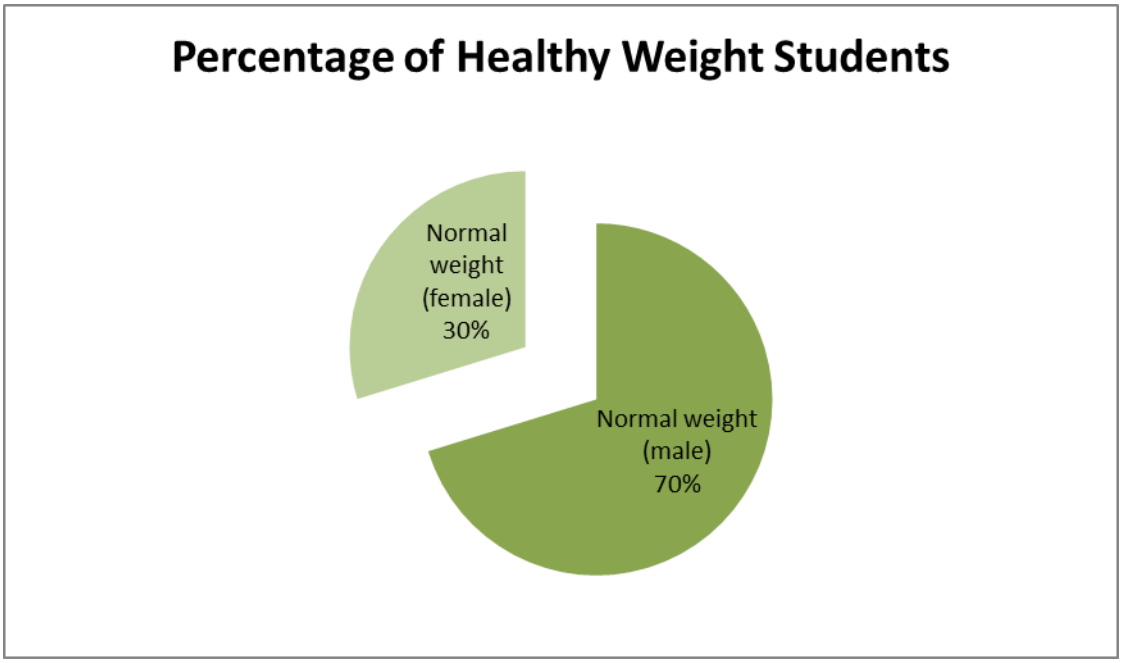

Fig 4.4: Percentage of Healthy Weight Students

In this study 289 students were found healthy. Among them 30% were female and 70% were male.

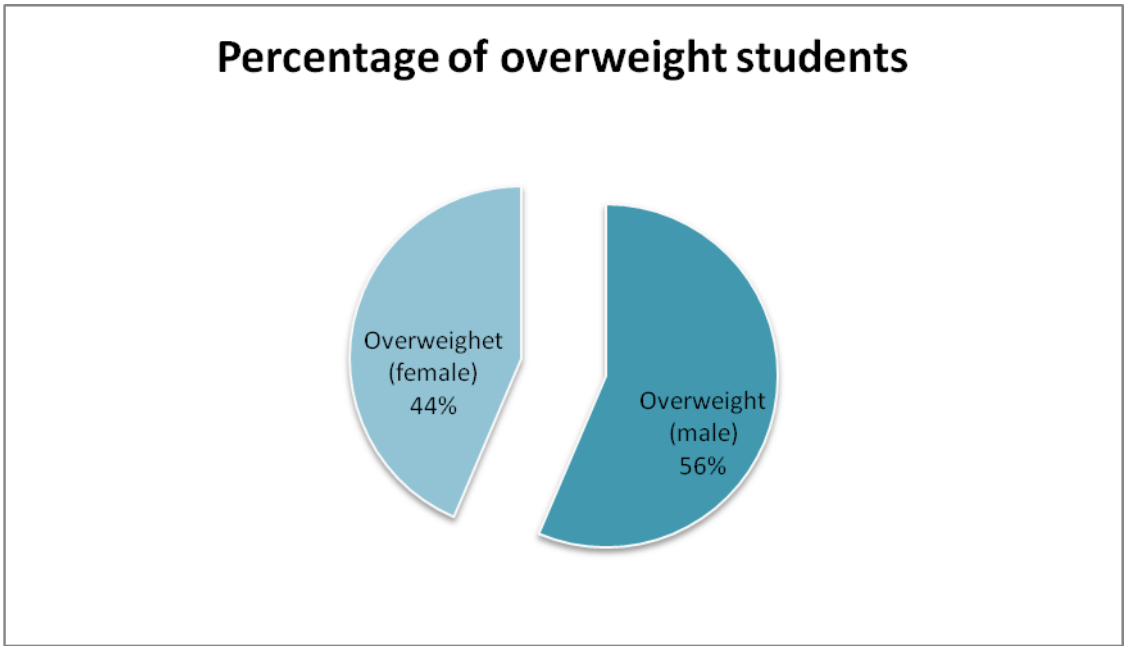

Fig 4.5: Percentage of Overweight Students

In this study 49 students were found who were overweight. Among them 44% were female and 56% were male.

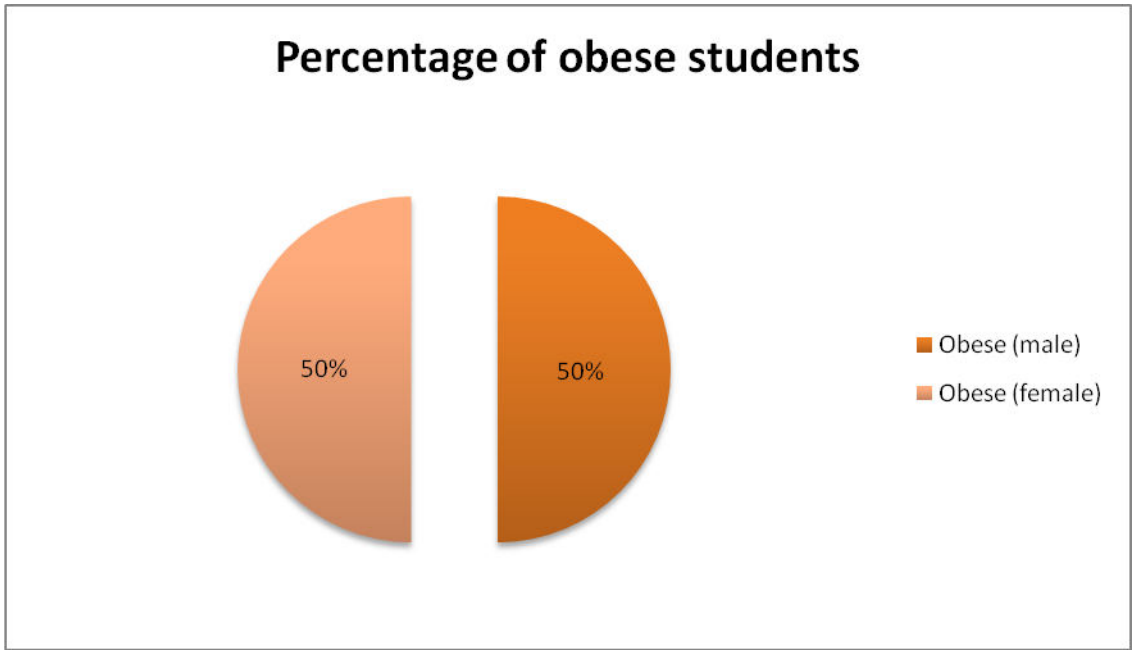

Fig 4.6: Percentage of Obese students

In this study 14 students were found who were obese. Among them 50% were female and 50% were male.

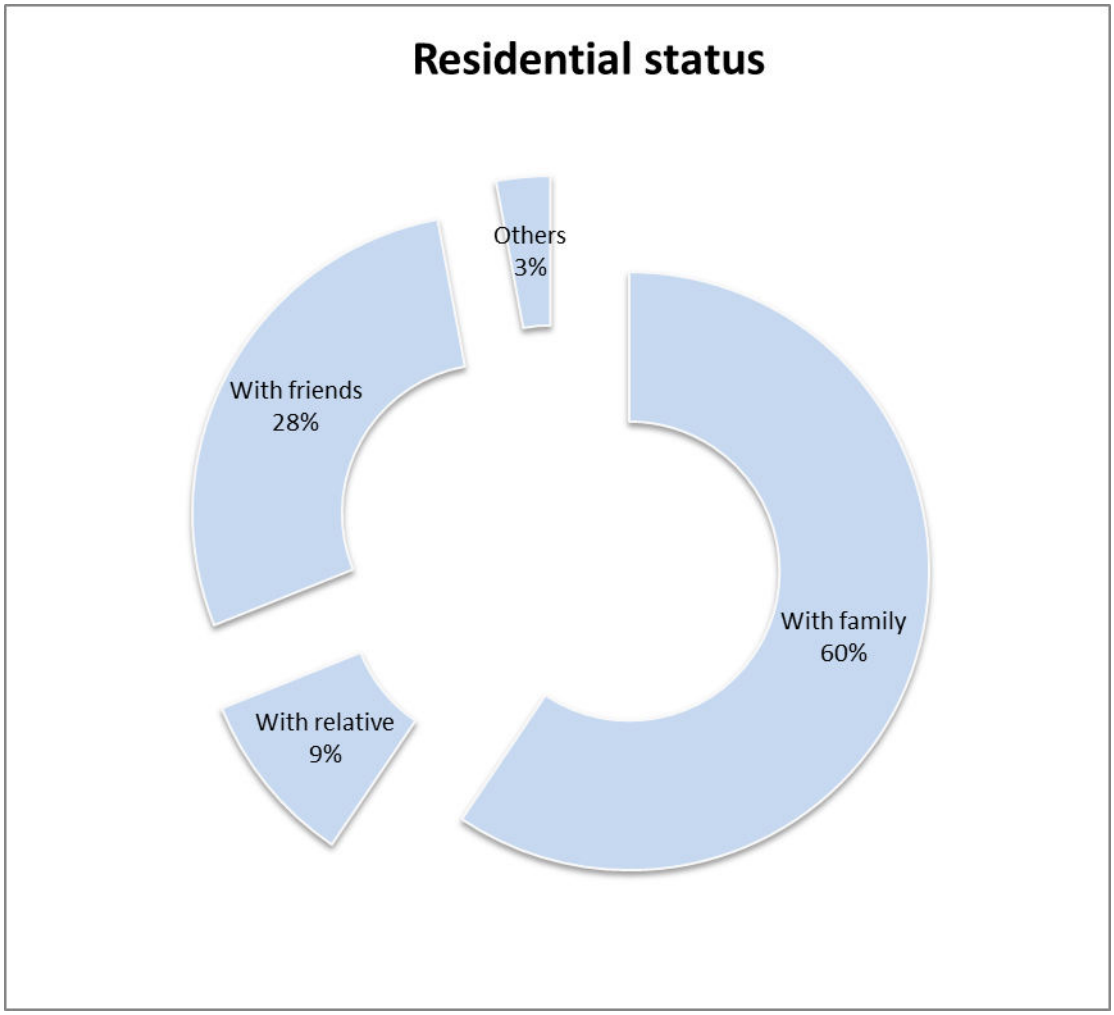

Fig 4.7: Residential status of the Students

Among the 445 students 60% lived with family, 9% lived with relative, 28% lived with friends and 3% in others category like lived alone, in hostel etc.

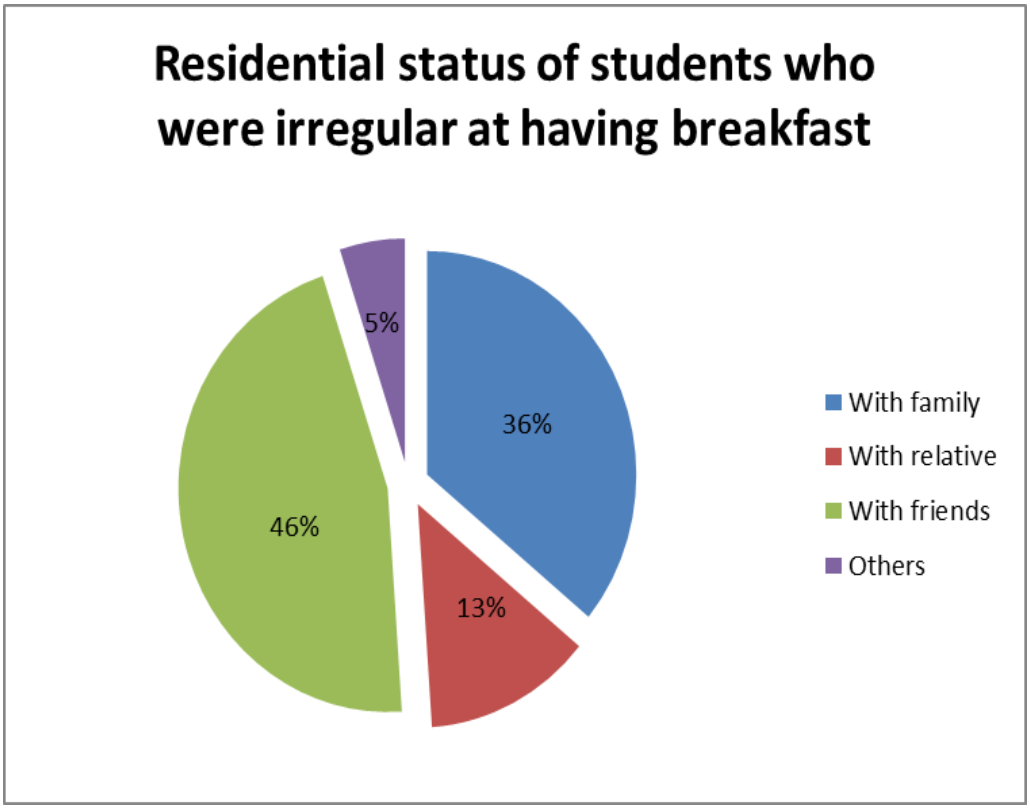

Fig 4.8: Residential status of students who were irregular at having breakfast

46% of the students who did not have their breakfast regularly lived with friends, 36% with family, 13% with friends and 5% of the students who did not have their breakfast regularly lived in other places.

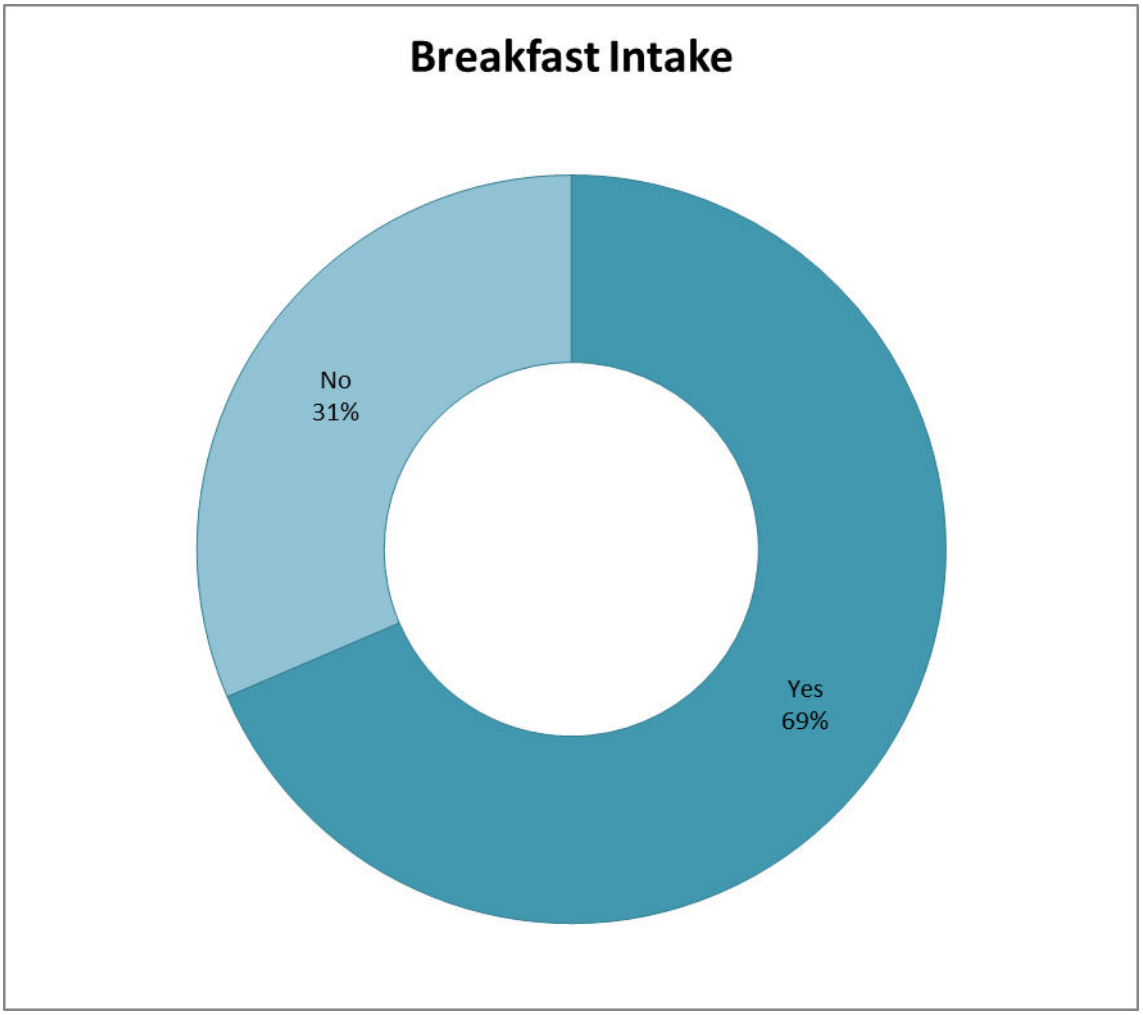

Fig 4.9: Breakfast Intake

Among 445 students, 69% of the students had their breakfast regularly and 31% did not have their breakfast regularly.

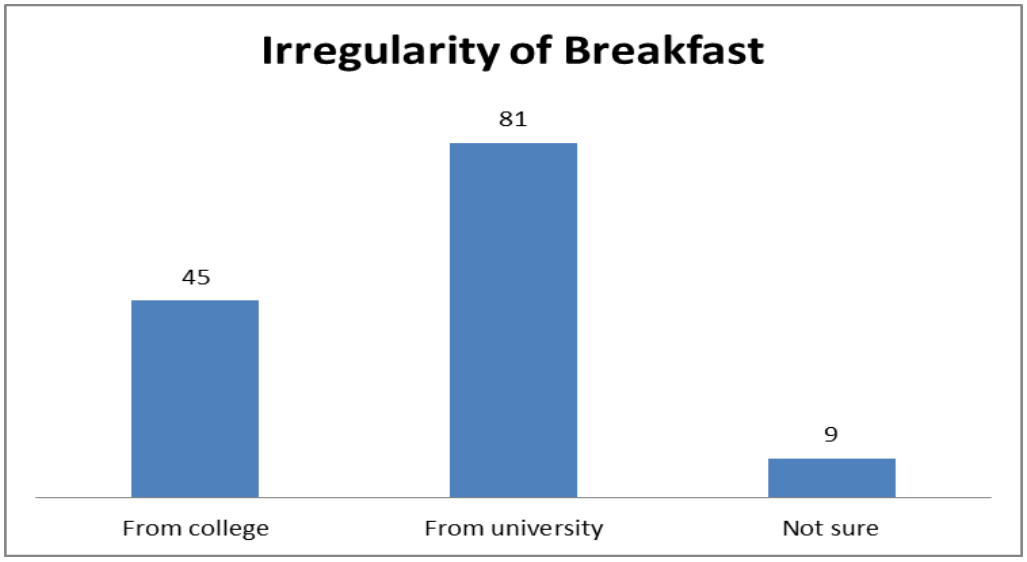

Fig 4.10: Irregularity of breakfast

45 students started taking their breakfast irregularly from college, 81 from university and 9 students were not sure.

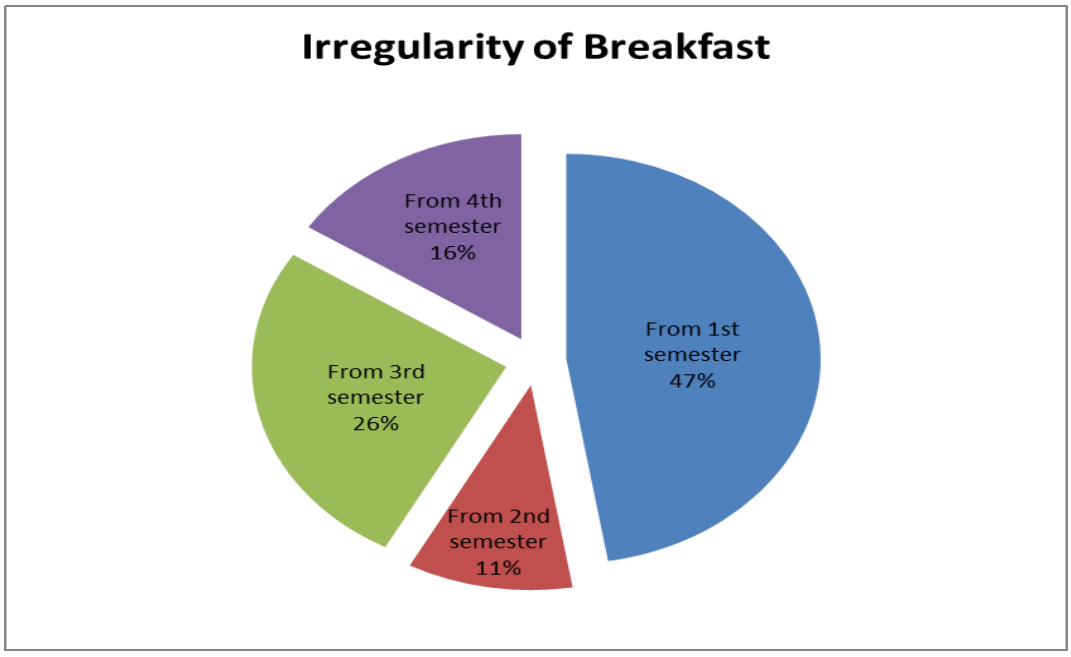

Fig 4.11: Irregularity of breakfast

Over here are the percentage of students who were assure from which semester they started having breakfast irregularly 47% from 1st semester, 11% from 2nd semester, 26% from 3rd semester and 16% from 4th semester.

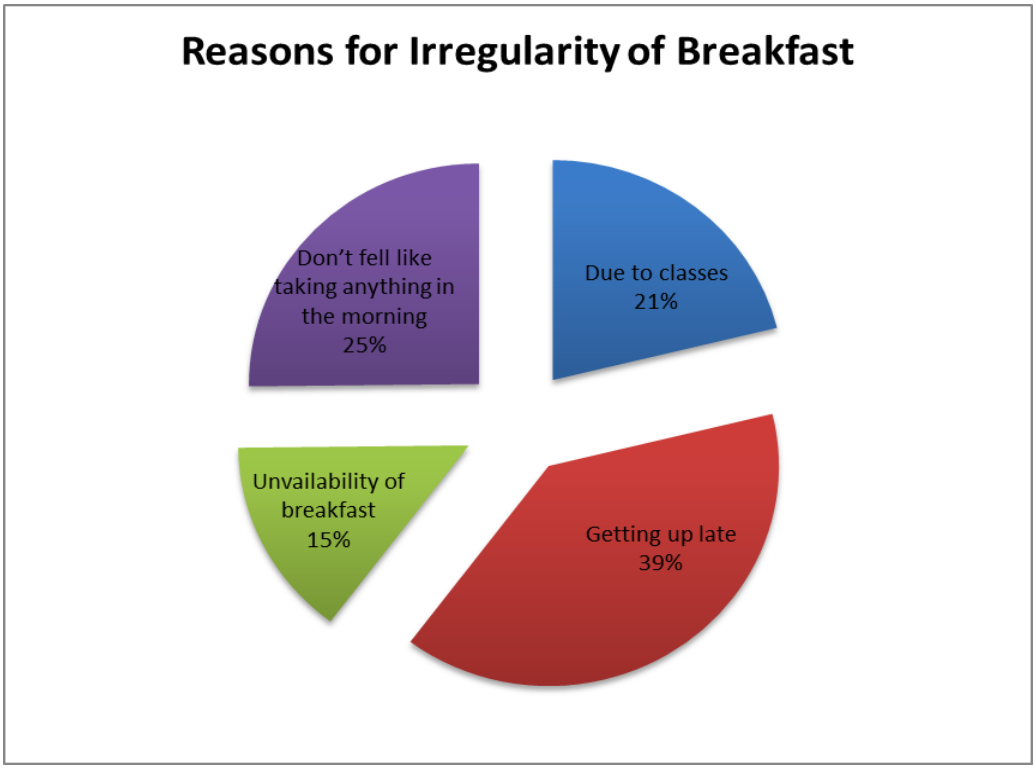

Fig 4.12: Reasons for Irregularity of Breakfast

Due to getting up late in the morning 59 students did not take breakfast, 22 students for unavailability of breakfast, 32 students due to classes and 38 students did not like to take breakfast in the morning.

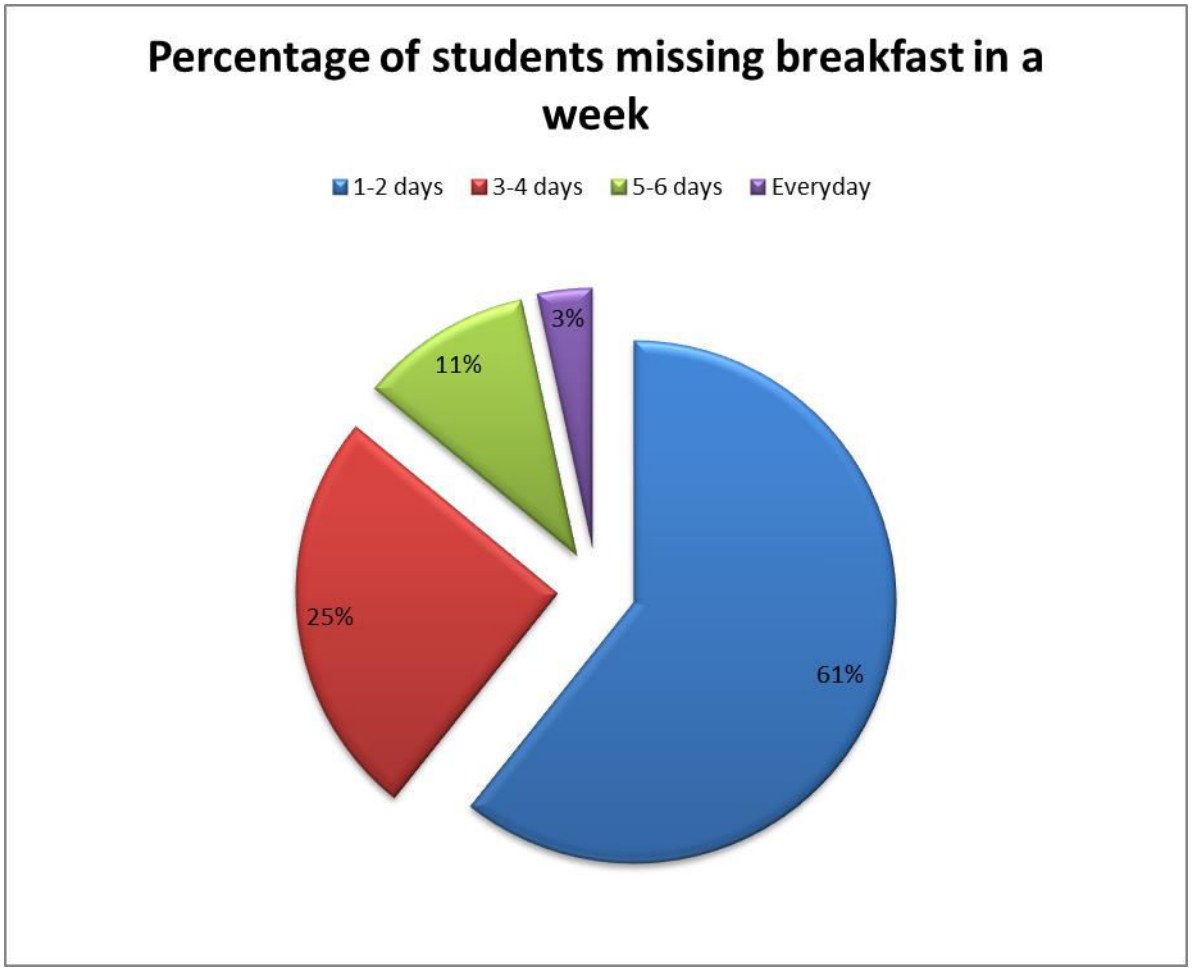

Fig 4.13: Percentage of students missing breakfast in a week

61% of the students with breakfast irregularity missed their breakfast 1-2 days in a week, 25% of them 3-4 days in a week, 11% students 5-6 days in a week and another 3% students missed their breakfast regularly.

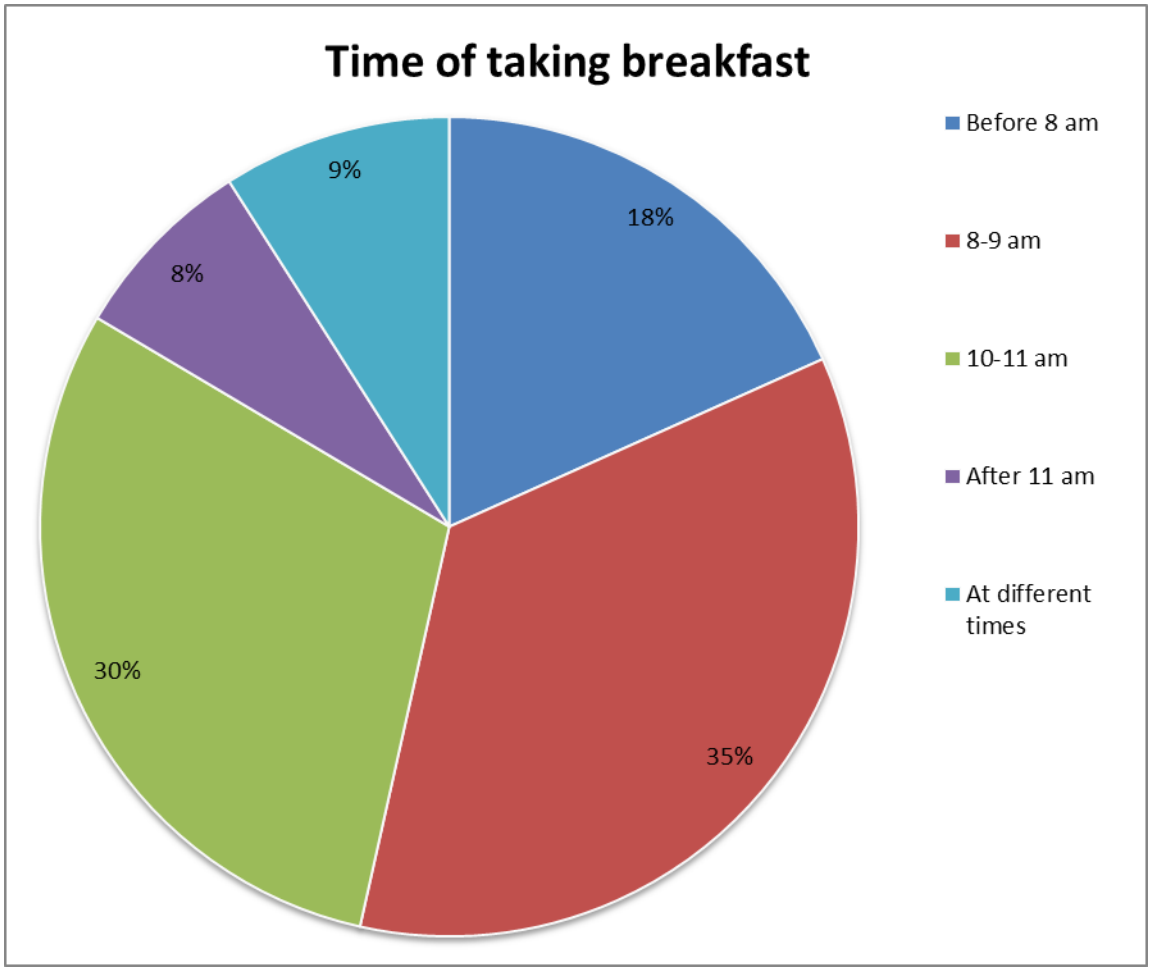

Fig 4.14: Time of taking breakfast

Among 445 students, 18% had their breakfast before 8 am, 35% had their breakfast between 8-9 am, 30% between 10-11 am, 8% had their breakfast after 11 am and another 9% had their breakfast at different times.

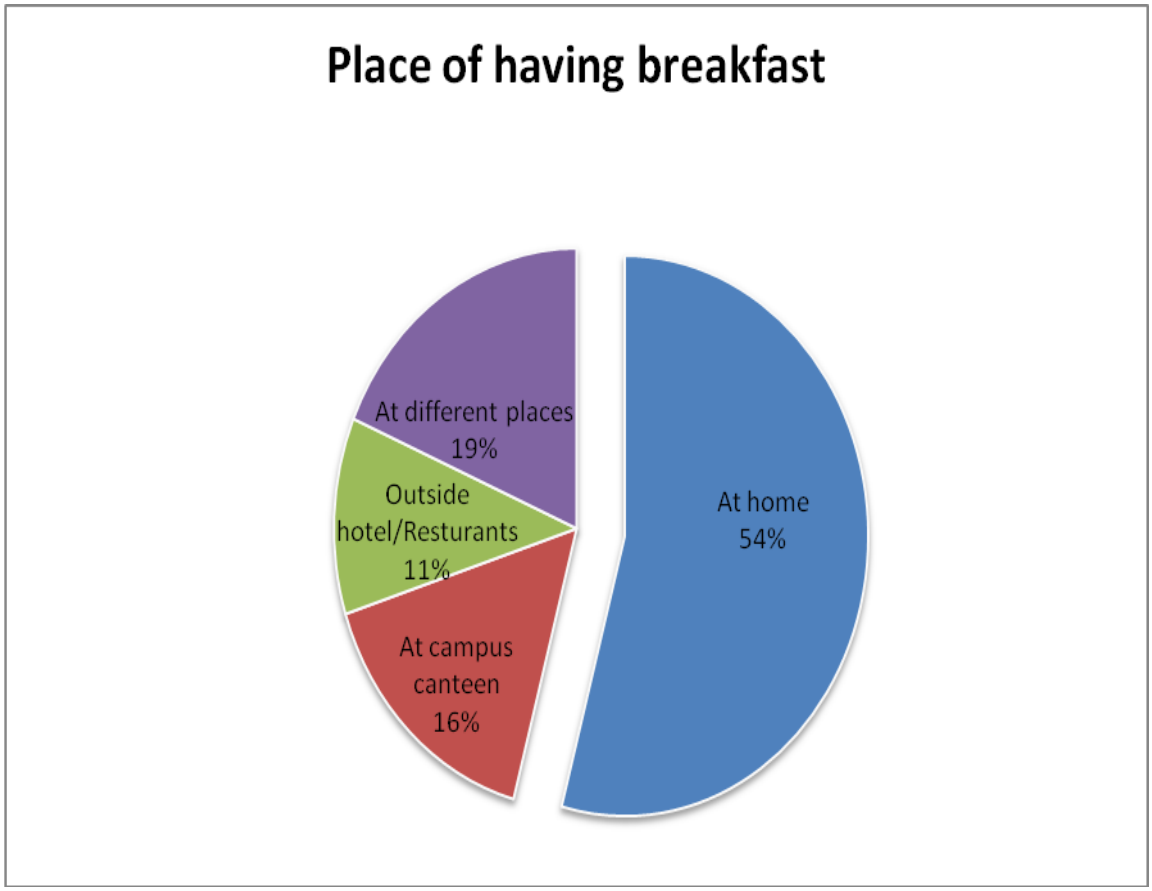

Fig 4.15: Place of having breakfast

Among 445 students 54% of the students had their breakfast at home, 16% at the campus canteen, 11% at outside hotel/restaurants, and 19% at different places.

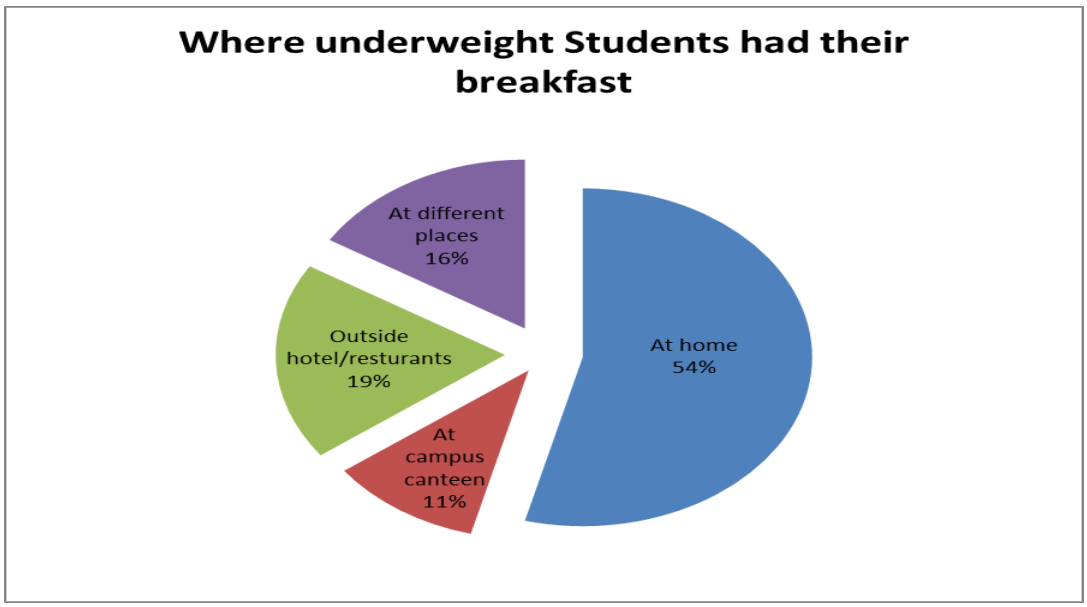

Fig 4.16: Where underweight Students had their breakfast

54% of the students found underweight had their breakfast at home, 19% at outside hotel/restaurants, 16% at different places and 11 % at campus canteen.

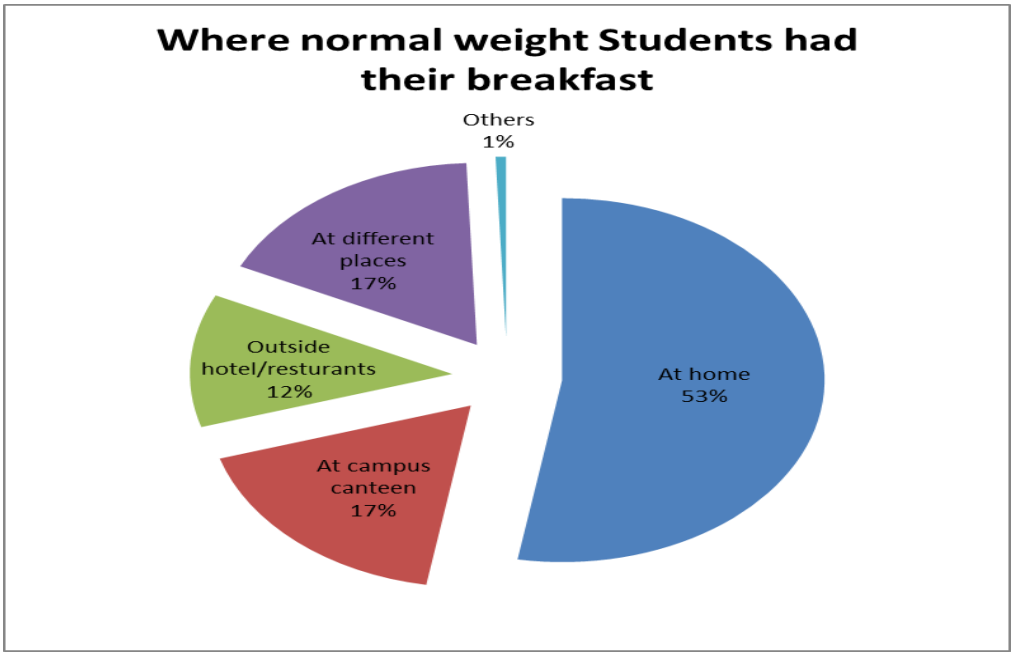

Fig 4.17: Where normal weight Students had their breakfast

53% of the students found normal weight had their breakfast at home, 12% at outside hotel/restaurants, 17% at different places, 17 % at campus canteen and 1% in other places.

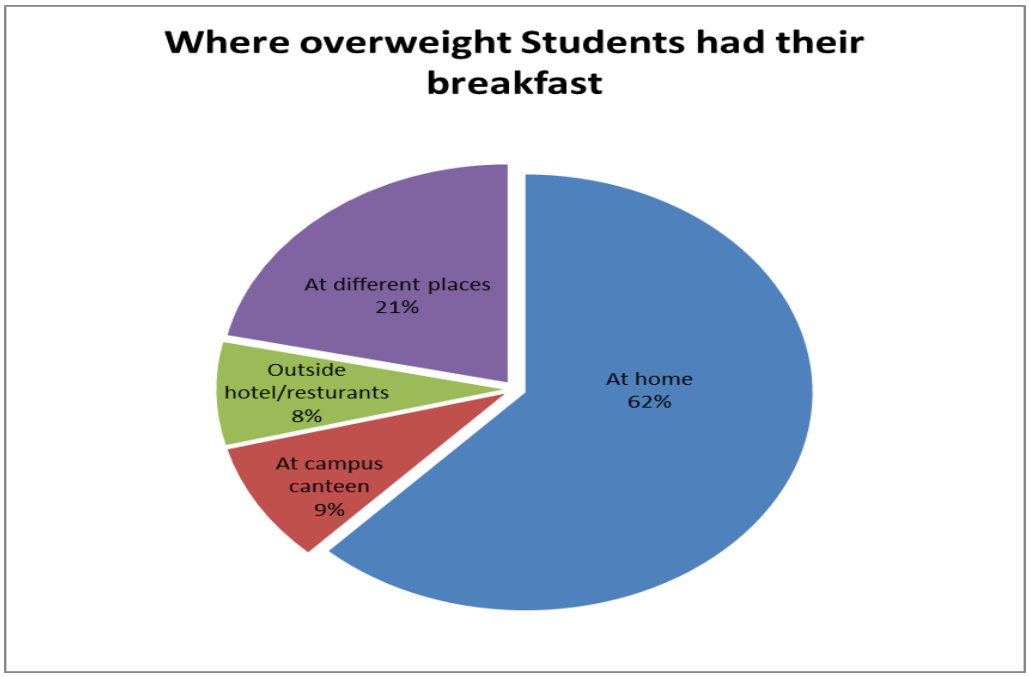

Fig 4.18: Where overweight Students had their breakfast

62% of the students found overweight had their breakfast at home, 8% at outside hotel/restaurants, 21% at different places and 9 % at campus canteen.

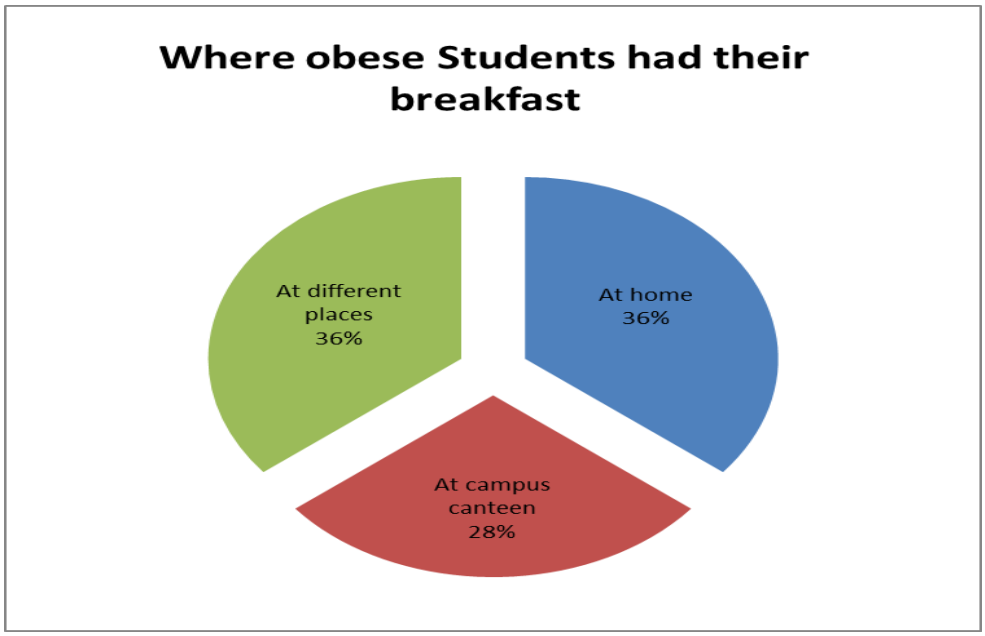

Fig 4.19: Where obese Students had their breakfast

36% of the students found obese had their breakfast at home, 36% at different places and 28 % at campus canteen.

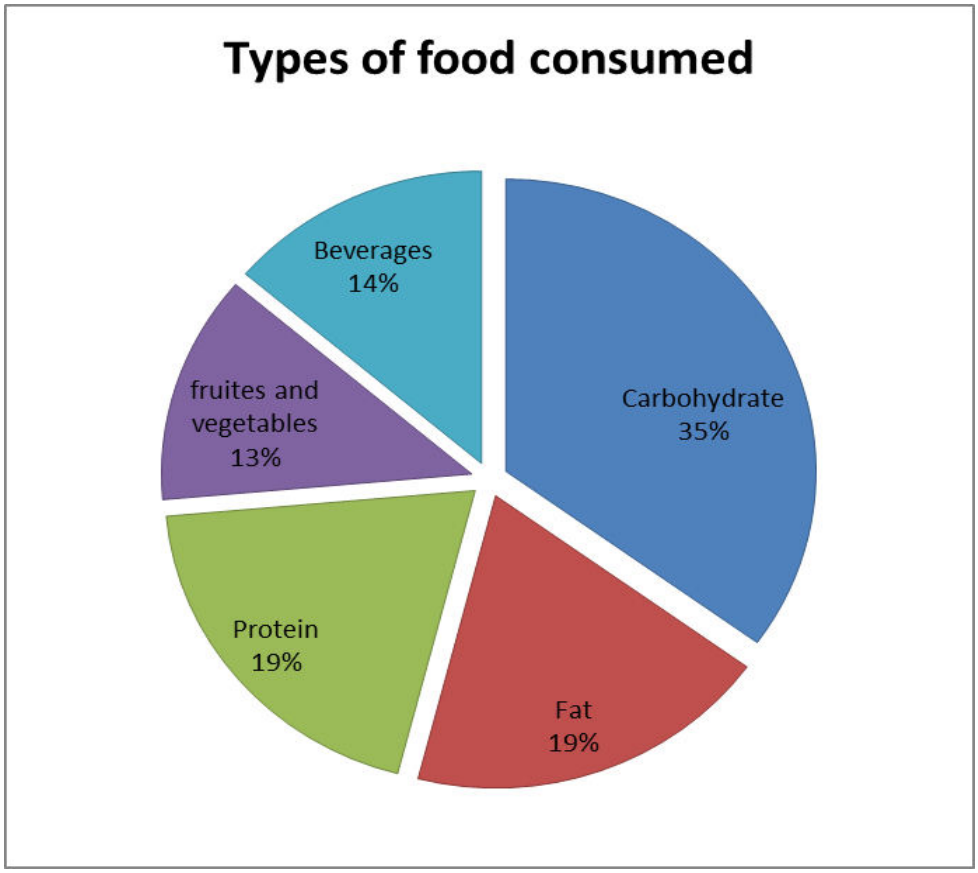

Fig 4.20: Types of food consumed

Among 445 students 35% of them took carbohydrate, 19% protein, 19% fat, 13% fruits and vegetables, and the rest of 14% drunk beverages at their breakfast.

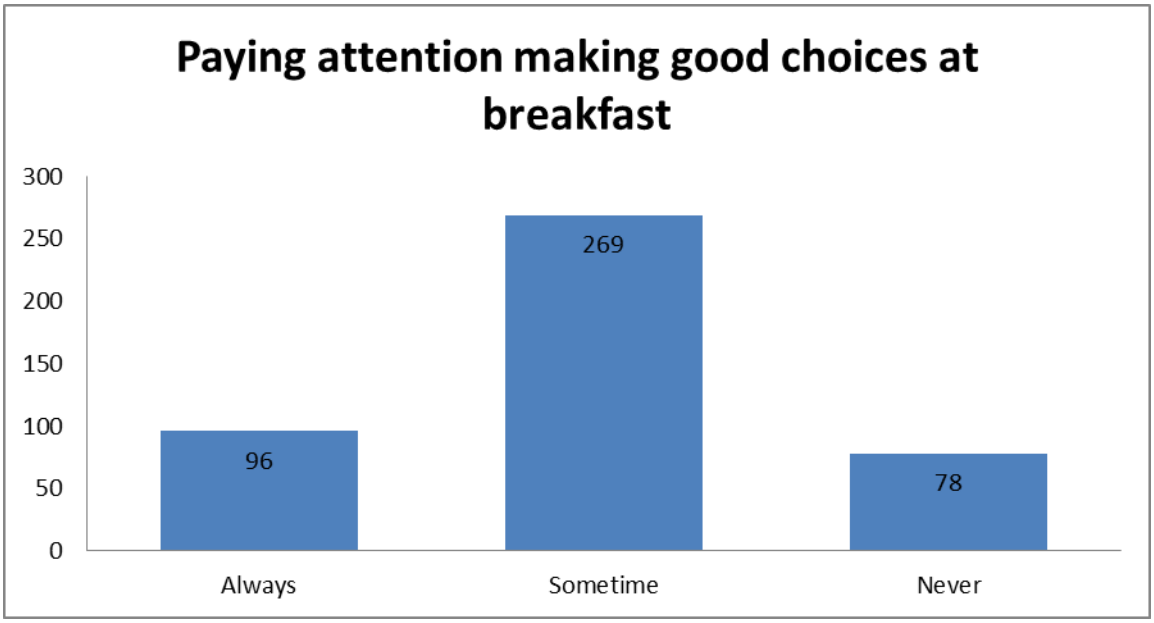

Fig 4.21: Paying attention making good choices at breakfast

Among the students, 96 students always paid attention in choosing a good breakfast, 296 students sometimes paid attention in choosing good breakfast, and 78 students never paid attention in choosing good breakfast.

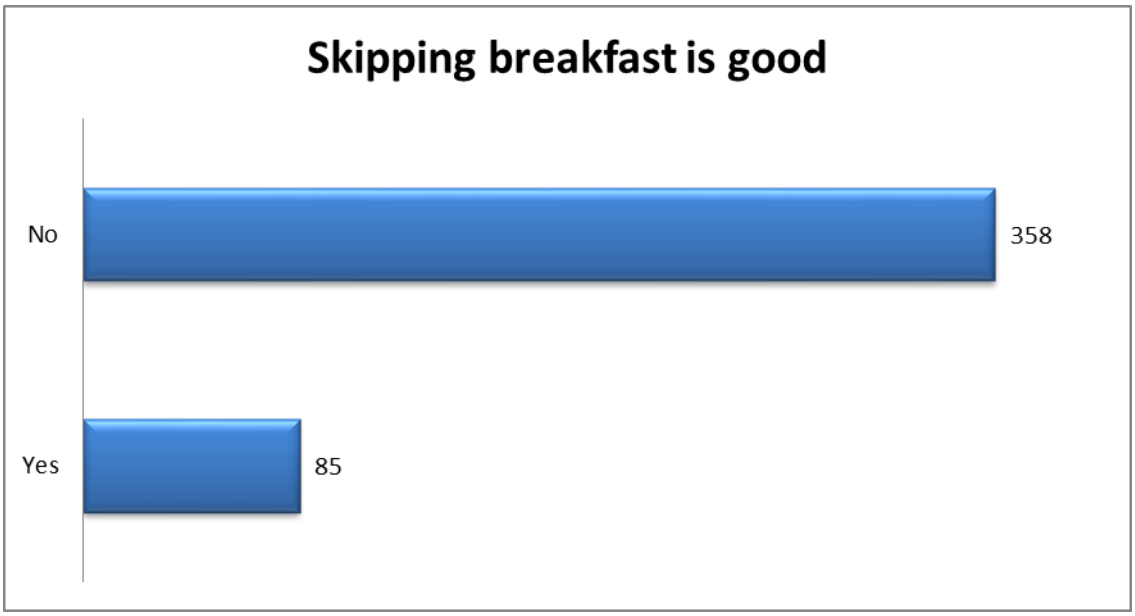

Fig 4.22: Skipping breakfast is good

Among the students; 358 students thought that skipping breakfast was not good and 85 students thought that skipping breakfast was good.

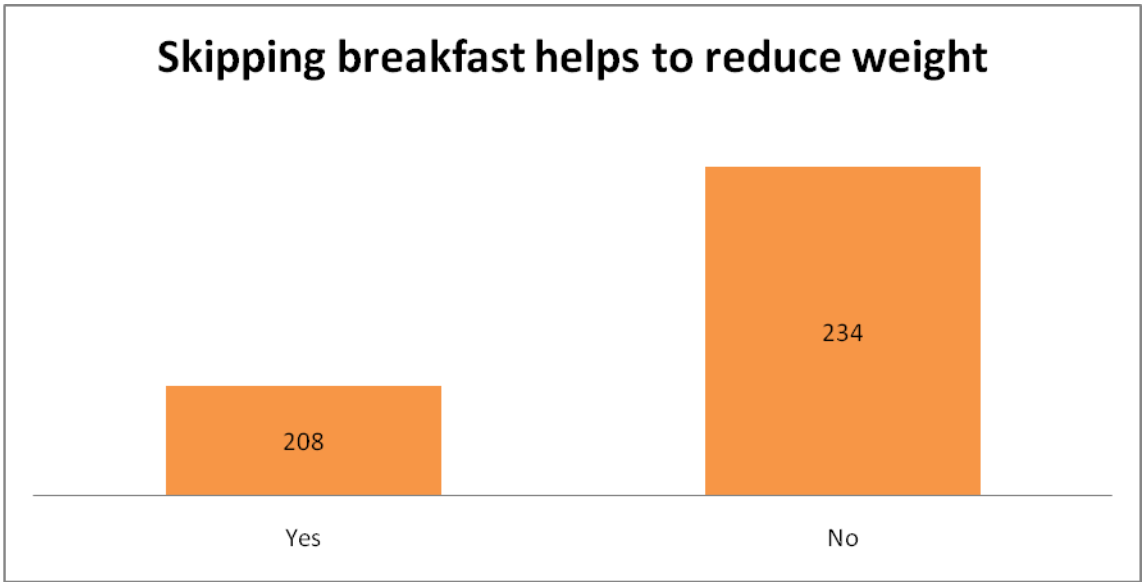

Fig 4.23: Skipping breakfast helps to reduce weight

Among 445 students, 208 students thought that skipping breakfast will reduce their weight but 234 students thought that it did not help to reduce their weight.

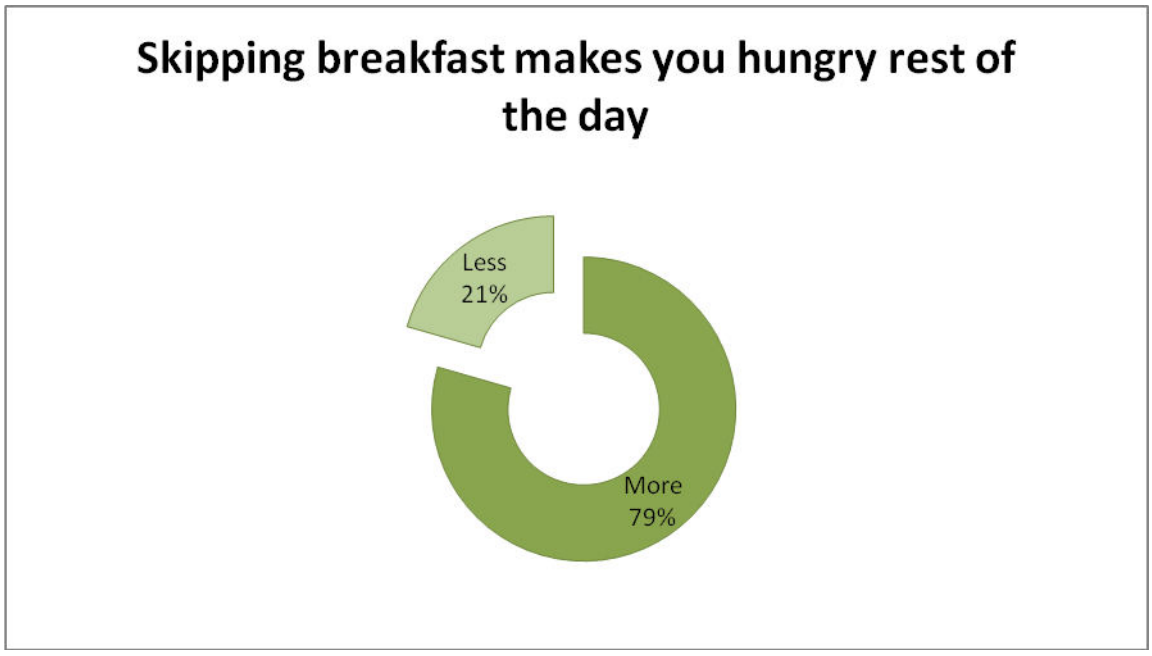

Fig 4.24: Skipping breakfast makes you hungry rest of the day

Among 445 students 79% students felt hungrier rest of the day due to not taking their breakfast and 21% students felt less hungry rest of the day due to not taking their breakfast.

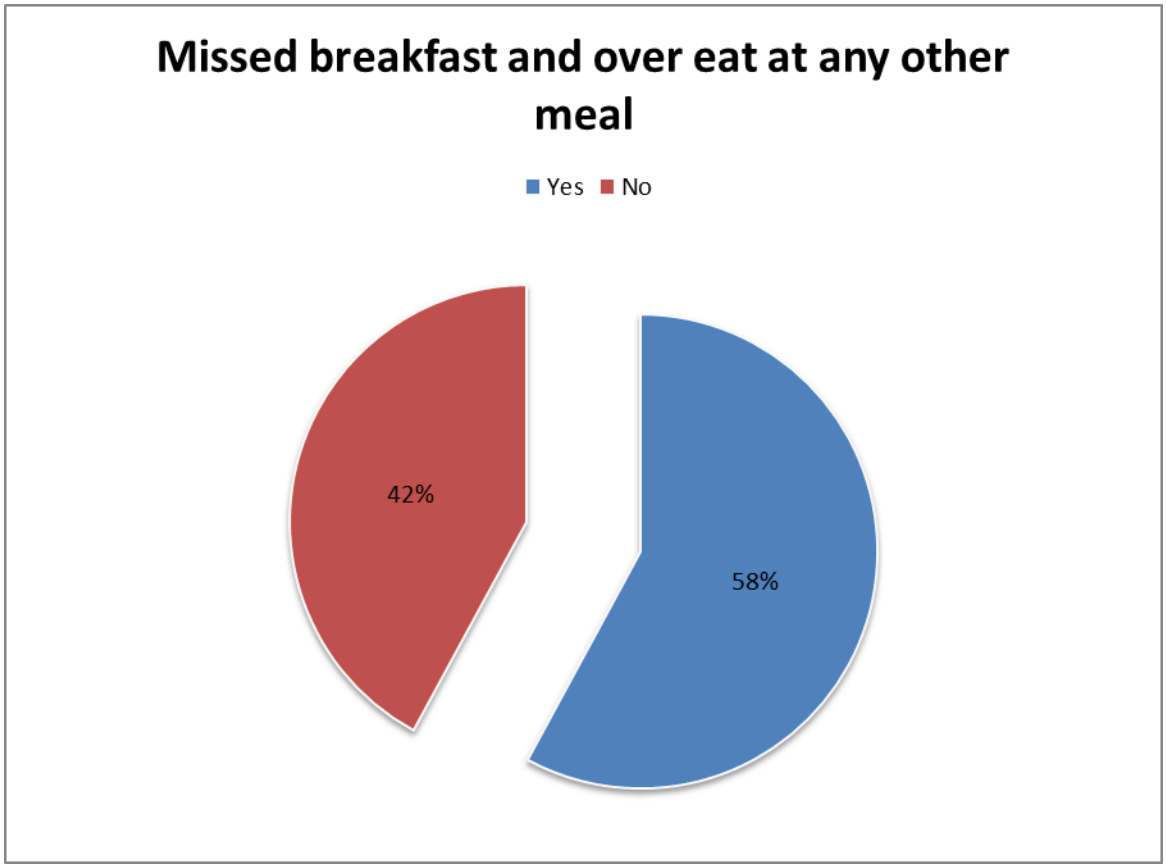

Fig 4.25: Missed breakfast and over eat at any other meal

Among 445 students 58% students missed their breakfast and over ate at any other meals and 42% did not miss their breakfast and overeat at other meals.

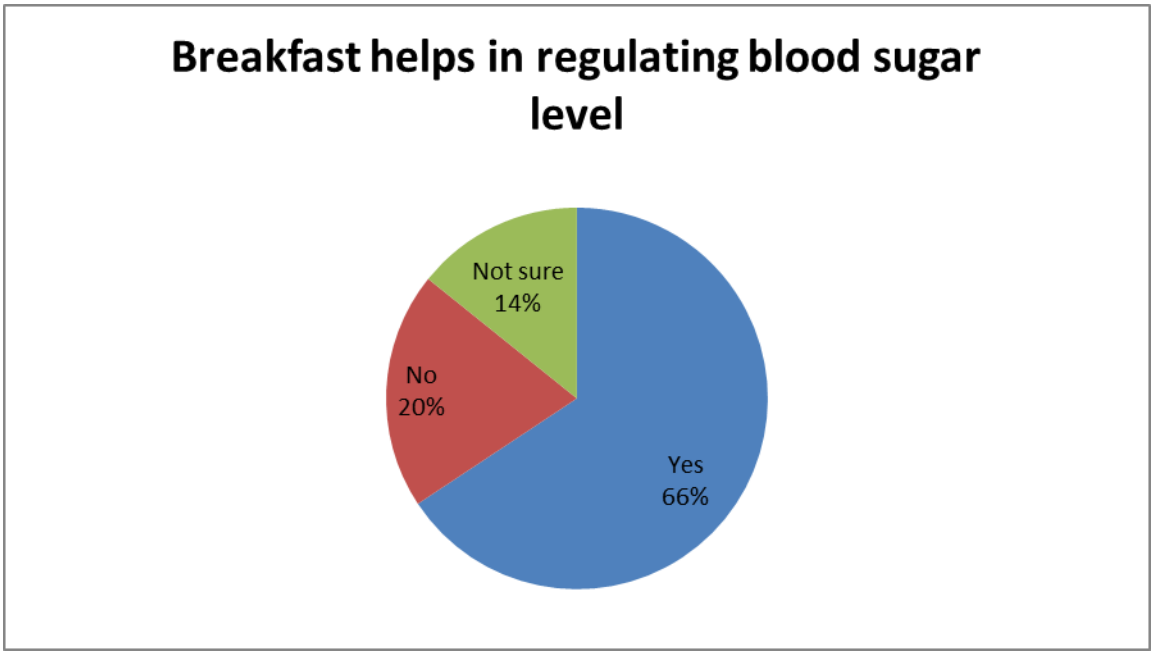

Fig 4.26: Breakfast helps in regulating blood sugar level

Among 445 students, 66% knew that breakfast helps in regulating blood sugar level, 20% did not know and 14% was not sure about this.

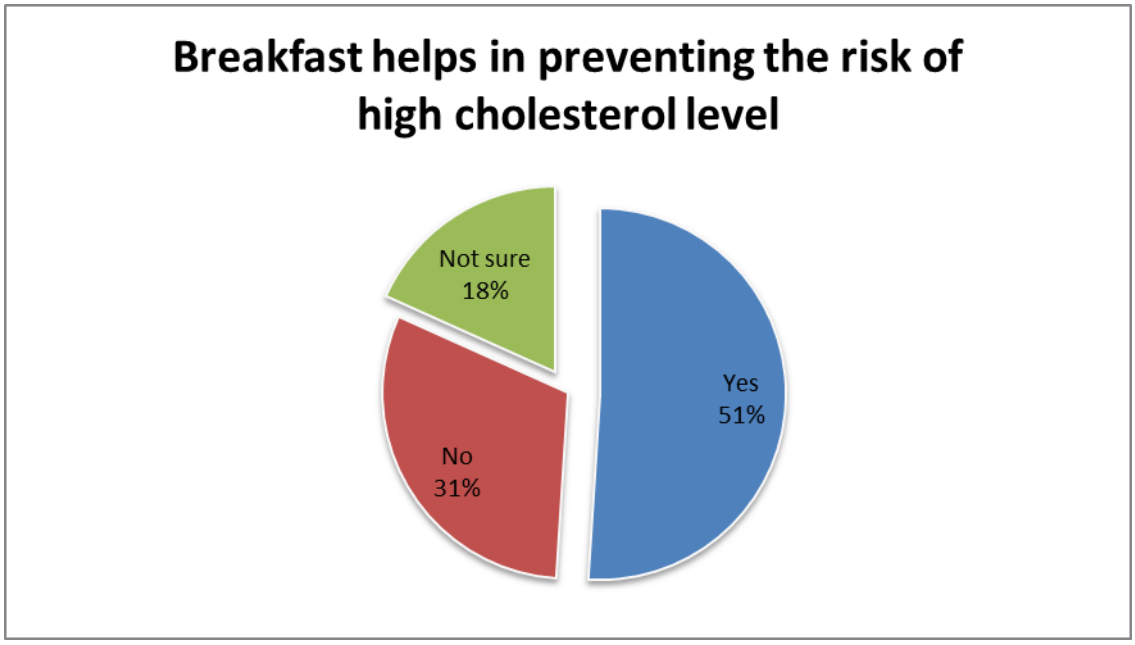

Fig 4.27: Breakfast helps in preventing the risk of high cholesterol level

Among 445 students, 51% knew that breakfast helps in preventing the risk of high cholesterol level, 31% did not know and 18% was not sure about this

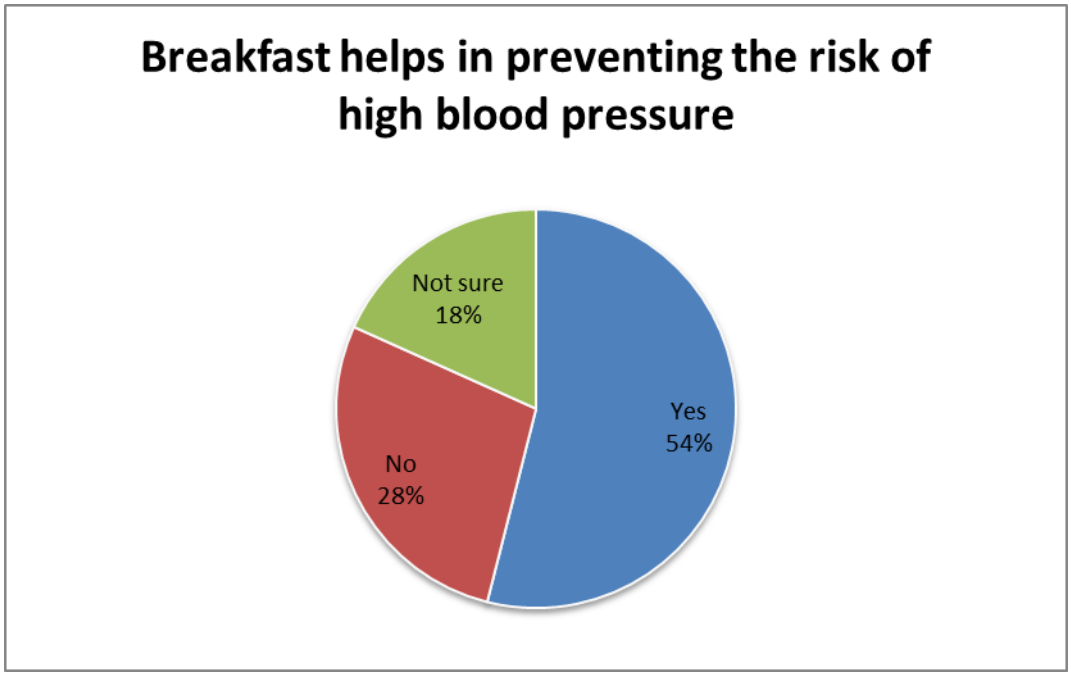

Fig 4.28: Breakfast helps in preventing the risk of high blood pressure

Among 445 students, 54% knew that breakfast helps in preventing the risk of high blood pressure, 28% did not know and 18% was not sure about this.

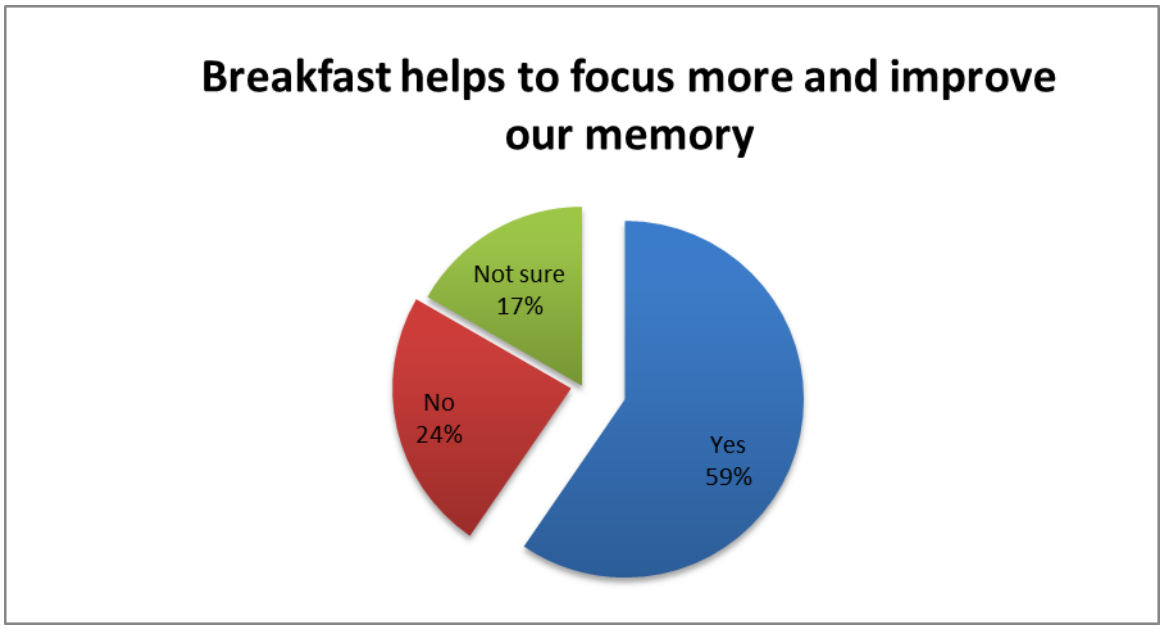

Fig 4.29: Breakfast helps to focus more and improve our memory

Among 445 students, 59% knew that breakfast helps to focus more and improve our memory, 24% did not know and 17% was not sure about this.

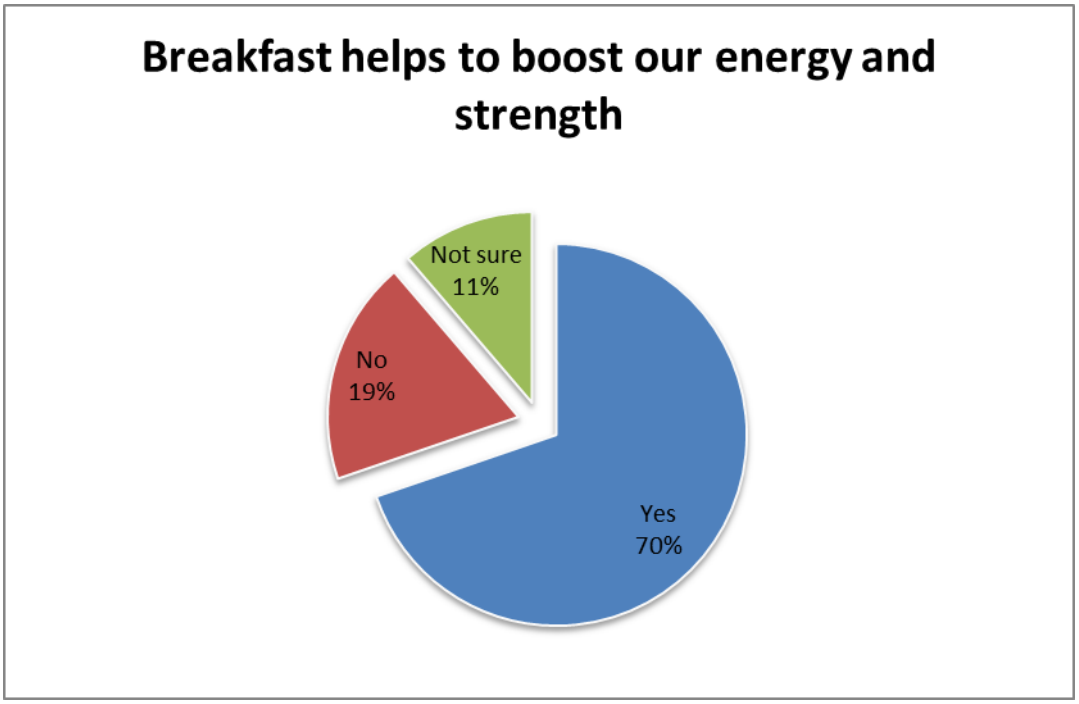

Fig 4.30: Breakfast helps to boost our energy and strength

Among 445 students, 70% knew that breakfast helps to boost our energy and strength, 19% did not know and 11% was not sure about this.

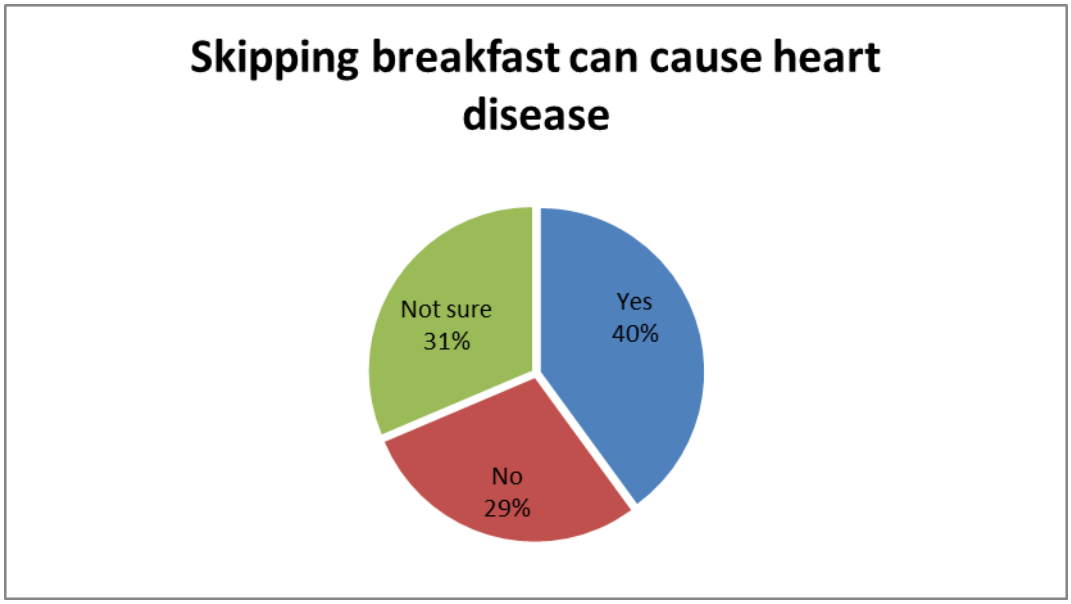

Fig 4.31: Skipping breakfast can cause heart disease

Among 445 students, 40% knew that skipping breakfast can cause heart disease, 29% did not know and 31% was not sure about this.

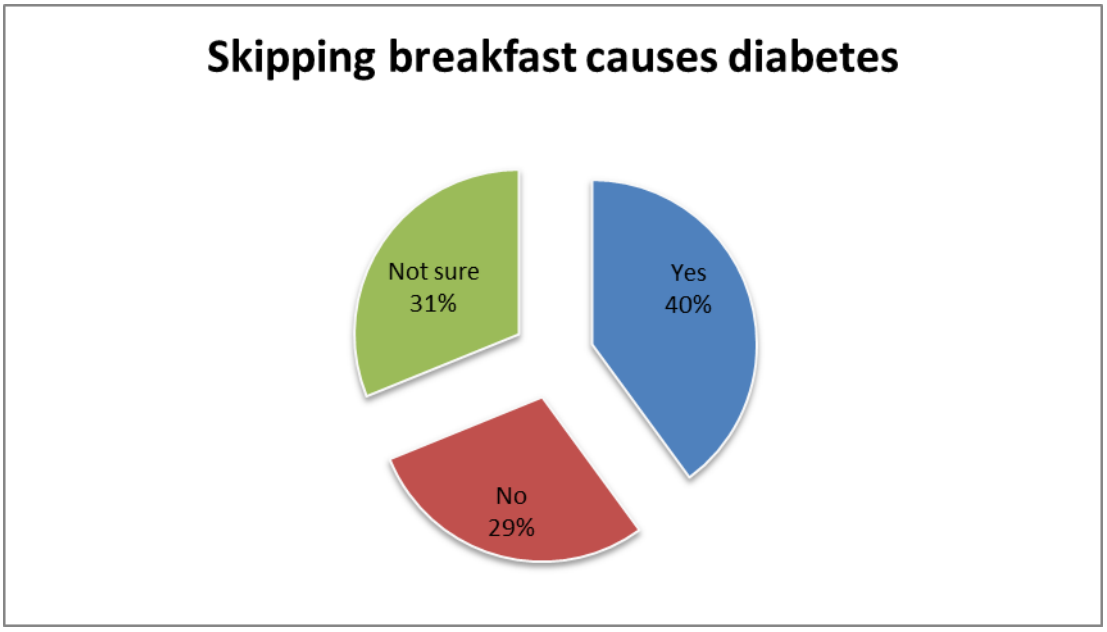

Fig 4.32: Skipping breakfast causes diabetes

Among 445 students, 40% knew that skipping breakfast causes diabetes, 29% did not know and 31% was not sure about this.

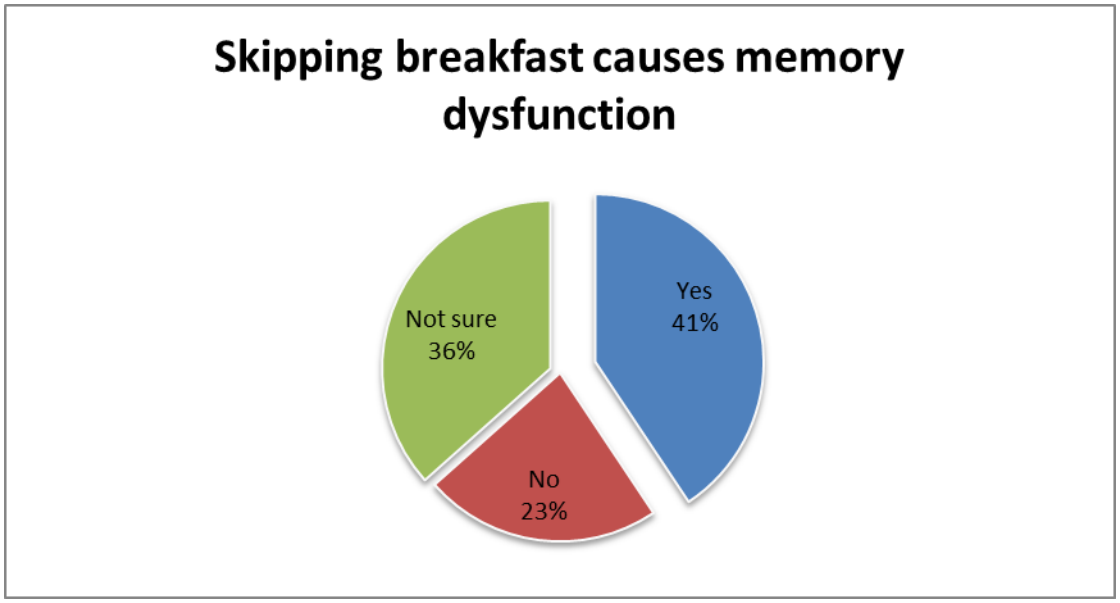

Fig 4.33: Skipping breakfast causes memory dysfunction

Among 445 students, 41% knew that skipping breakfast causes memory dysfunction, 23% did not know and 36% was not sure about this.

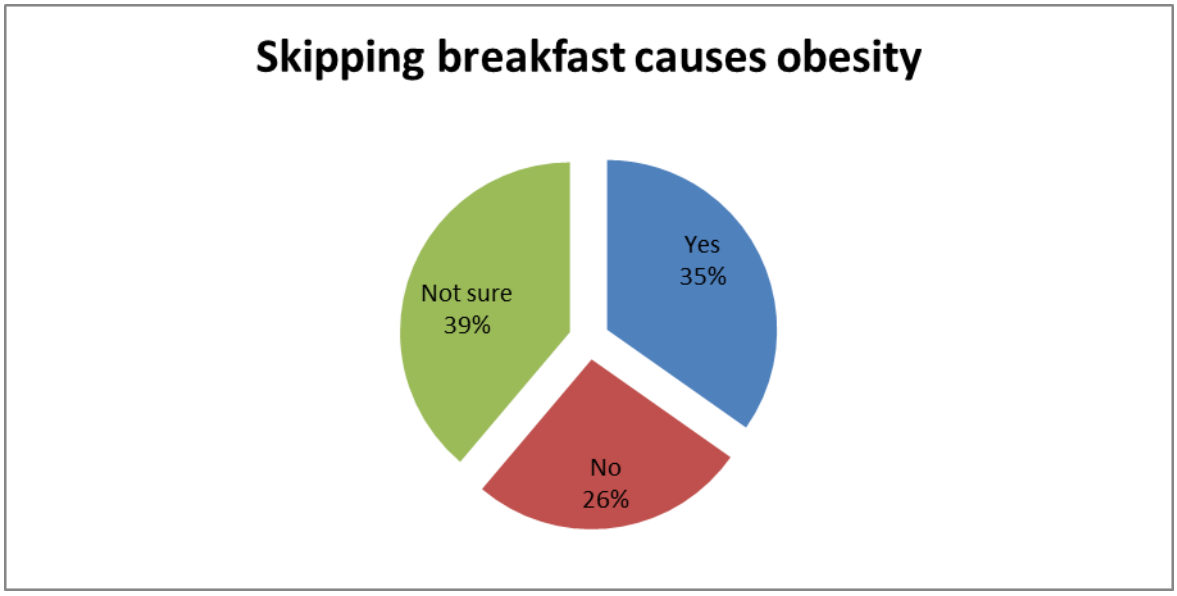

Fig 4.34: Skipping breakfast causes obesity

Among 445 students, 35% knew that skipping breakfast causes obesity, 26% did not know and 39% was not sure about this.

CHAPTER-5

DISCUSSION

The study was carried out to assess the breakfast consumption habit and nutritional status of undergraduates in Ekiti State, Nigeria. Two hundred and fifty students comprising of 186 female and 64 male were randomly selected in two higher institutions. A self-administered questionnaire which elicits information on socio-demographic data and breakfast habit of the students was used. Nutrients intake of the respondents was assess using 24 hour dietary recall while the Body Mass Index (BMI) was used to assess the nutritional status of the respondents. The result revealed that 76.2% of the respondents were female while 23.8% were male.(Adesola, MotunrayoAyodeji and Akorede, 2017). The survey has been conducted on 445 students among them 33% of the population were female and 67% of the population were male. Among them 10% was underweight, 71% was healthy, 16% was overweight, and 3% was obese.

The objectives of this study were to determine the percentage of students who ate breakfast and who did not eat breakfast; identify reasons given by students for not eating breakfastOne Hundred students from Northstar Middle School in Eau Claire, Wisconsin were asked to respond to the twelve-item survey. The survey results indicated that 72% of the participants did eat breakfast, 28% did not eat breakfast. Of this 72%, 79% indicated that they lived with both parents and 65% also stated that the parents were present during breakfast. Eighty-one percent of the respondents indicated that they prepared their own breakfast. (Ruth A, 2017) Among 445 students 69% of the students had their breakfast regularly and 31% did not have their breakfast regularly among them 40% of the students did not live with their family, 60% lived with their family.

The most common items apparently consumed at breakfast were cereal (68 per cent) usually with milk (61 per cent). Nearly a third of the children had sugar as well. Small numbers reported eating during the rest of the morning, most often in the mid-morning break when 447 (48 per cent) had a snack and 135 (14 per cent) had a drink. (Val Box and Landman,

2017) Among 445 students 35% of them took carbohydrate, 19% took protein, 19% took fat, 13% took fruits and vegetables, and the rest of 14% drunk beverages as their breakfast.

There is little information on how breakfast choices are associated with dietary intakes in Australian boys. (i) To determine the proportion of breakfast skippers, ready-to-eat cereal (RTEC) consumers and non-RTEC consumers at breakfast; (ii) to compare breakfast, and daily nutrient intakes and nutrient density, between the three groups; and (iii) to compare daily nutrient intakes against nutrient recommendationsCross-sectional analysis of 12 to 16-year-old boys (n = 781) from the 2007 Australian National Children's Nutrition and Physical Activity Survey. Forty-two percent of boys consumed RTEC at breakfast; 38% did not consume RTECs; and 20% skipped breakfast. (GriegerJA and L, 2017) Among the 445 students 61% of them missed their breakfast 1-2 days in a week, 25% of them 3-4 days in a week, 11% students 5-6 days in a week and another 3% students missed their breakfast regularly.

A nationally representative sample of 1068 adults completed a web-based survey, combining standardised scales and self-designed questionnaire statements.. The survey found that breakfast eaters strongly believe that breakfast helps weight control and weight loss. Breakfast eaters were more likely to partake in vigorous exercise, although there was no significant difference in BMI. (Reeves, Halsey and McMeel, 2017). Among 445 students, 208 students thought that skipping breakfast will reduce their weight but another 234 thought that it didn’t help to reduce their weight.

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CHAPTER-6

CONCLUSION

Breakfast is an important factor to give us a good kick to start a beautiful day with strength. Not taking breakfast may lead to severe problems like type-2 diabetes, weight gain, forgetfulness, metabolism problem, concentration problem, bad mood etc (WebMD, 2017). During this study it has been observed that majority of the university students of East West University, Dhaka are conscious about their health and they took their breakfast regularly. But many students found that they didn't take their breakfast regularly and many of them also didn't take their breakfast at all. Many of them believed that skipping breakfast will help them to reduce their weight rather than making them feel hungrier and eat more at any other meal. Skipping breakfast is more common among students who did not live with their family and also who got up late. This study was done only on the students of East West University so it only represents the breakfast status of this university student. The data would be effective if more data were collected from different university students. Doing survey on different students on different part of Bangladesh can expand the study. The expanded study will represent the Breakfast habit among students of whole Bangladesh.

CHAPTER-7

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