

# Prevalence of Lifestyle Diseases among the Overweight and Obese Individuals in Mohammadpur

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A project report submitted to the Daffodil International University,  
Dhaka. For the fulfillment of the Nutrition & Food engineering

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## **Submitted To**

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**Date of Submission: 08-04-2021**

## LETTER OF TRANSMITTAL

8<sup>th</sup> April 2021

Dr. Sheikh Mahatabuddin

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**Subject: Submission of project work report.**

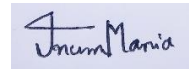
Dear Sir,

It is a great pleasure and honor for me to have the opportunity to submit my project work report on Prevalence of Lifestyle Diseases among the Overweight and Obese Individuals in Mohammadpur.

I have prepared this report based on the acquired experience and knowledge during my Project Period. This report is based on. " Prevalence of Lifestyle Diseases among the Overweight and Obese Individuals in Mohammadpur " I have got the opportunity to work in your University under the supervision of Ms. Fouzia Akter (Assistant Professor, Department of Nutrition and Food Engineering).

I therefore, request and expect that you will appreciate me with any sort of recommendation and valued suggestion and will cordially receive this report for your kind assessment.

Sincerely Yours,



Inum Maria

171-34-603

## APPROVAL CERTIFICATION

This is to certify that the dissertation entitled “**Prevalence of Lifestyle Diseases among the Overweight and Obese Individuals in Mohammadpur**” submitted by Inum Maria, a regular student of B.Sc. in Nutrition and Food Engineering, Faculty of Allied Health Science, Daffodil International University, student ID: 171-34-603 successfully carried out her project work program two month under Pustibid Private Limited, Muhammadpur- Dhaka.

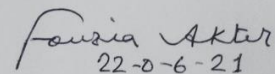
Then she completed her report writing on the base of her data on march 2021 under my direction. We aware that **Inum Maria** completed her report under observation of her supervisor. In addition, we ensure that her report is a worth of fulfilling the partial requirements of NFE program.



28/06/2021

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22-0-6-21

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Dhaka.

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All the praises and gratitude to the Almighty Allah for good health and wellbeing that were needed to complete this project work. I would like to thank honorable teacher

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I am very thankful to all my teachers of Department of Nutrition and Food Engineering, Daffodil International University for their help encouragement during the study.

I am extremely grateful to my family members, friends, for their enthusiastic support.

\_\_\_\_ Inum Maria

# **Dedication**

This study is wholeheartedly dedicated to my beloved parents. They are my source of inspiration and they give me strength when I think of giving up. They continually provide moral, spiritual, emotional, and financial support.

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## Abstract

The main purpose of this study is to assess the prevalence of lifestyle diseases among obese and overweight individuals in Mohammadpur. 58 people have participated in this study. They were of different ages and they all from Mohammadpur. Uncontrolled food habits are the major reason behind obesity. This study finds that after middle age, obese people face various types of diseases like Gallstones, diabetes, cardiovascular disease, high blood pressure, etc. In this study, 85% of overweight people are suffering from other diseases. And 54% of individuals are taking medicine for diseases. 18% of respondents suffering from diabetes. 17% of participants suffering from cardiovascular disease. 61% of people suffering joint pain. 62% of female respondents suffering irregular periods. 30% of people suffering from high blood pressure. 28% sample people suffering from gallstones. It's visible during this study that 35% of people take milk daily. Interestingly 13% of individuals take meat daily. About sweeten foods, cold drinks, heavy food- almost every adolescent takes it 4-5 times per week but most older people aren't able to take it because they already suffering many varieties of diseases and doctor restricted them from these varieties of food. Information about the dietary history of this study showing that 70% of respondents have a good appetite, 30% of individuals have a fair appetite. 70% of the total participate are take meals 3 times per day. 2% individuals taking of meals 6 times per day. 15% people take their meal 2 times per day because they suffering from disease and doctor suggest them to take 2 times meal per day. 34% are taking 3 times snacks per day. This study finds 2% of respondents take 5 snakes per day. This study finds that people with overweight or obesity often suffer from various diseases like hypertension, diabetes, cardiovascular disease, etc. probable cause of these diseases is uncontrolled food habits and lifestyle. For example, they don't consume their meals in an appropriate way, they watch TV while having a meal, people used to lay down right after having a meal.

**Key Words:** *Overweight, Obese, Diet, Food habits, Rich food, Lifestyle disease*

# Chapter 1

## 1.1 Introduction

Overweight is a complicated health condition that can be caused by a range of factors, including behavior, physiology, and human factors. Physical activity, inactivity, dietary habits, drug use, and other exposures are all possible activities. Obesity is a key risk factor for cancer, cardiovascular disease, diabetes, and chronic obstructive pulmonary disease, all of which are significant non-communicable diseases that are on the increase globally. According to the WHO's 2016 national profile for Bangladesh, 17 percent of deaths occurred in the nation were caused by coronary diseases, ten percent by cancer, eleven percent by respiratory diseases, three percent by diabetes, and eighteen percent by other non-communicable diseases. The major cause of obesity is uncontrolled diet. This study found that various risk factors, such as lack of physical exercise, inability to eat meals on time, and overeating, are linked to overweight and obesity. A large percentage of young individuals have been found to be overweight or obese, which is quite concerning for our country. Young people should be encouraged to participate in a variety of physically active recreational activities and adopt healthy eating habits in order to avoid future illness. We must constantly remind both groups of the importance of reducing obesity and overweight disorders.

According to World Health Organization (WHO) figures, the national average obesity rate in Dhaka is 24.2 percent for women and 16.4 percent for males. According to the WHO national profile for Bangladesh, 17 percent of fatalities worldwide occurred in 2016, with 10 percent due to cardiovascular diseases, 10 percent due to cancer, 11 percent due to lung diseases, 3 percent due to diabetes, and 18 percent due to other non-communicable diseases. <sup>[1]</sup>

## 1.2 Risk factors

Adverse health effects such as cancer, diabetes, osteoarthritis, cardiovascular disease, and chronic kidney disease. When the BMI of an individual reaches 23, it rises. In 2010, it was estimated that obese and overweight had Globally, 3.4 million deaths were caused, the bulk of which were from cardiovascular causes. The increase in obesity could contribute to potential decreases in life expectancy. <sup>[2]</sup>

Obesity is described as a weight that is higher than what is considered a healthy weight for a person of a certain height. The Body Mass Index, or BMI, is used to determine whether or not a person is obese.

### 1.3 BMI (Body Mass Index)

Body Mass Index is a simple calculation method that can measure present body weight status by using a person's height and weight.

$$\text{BMI} = \text{Kg} / \text{m}^2$$

Here,

BMI= Body mass index

m= mass (weight in kilograms)

h= height (in meters)

The equation is  $\text{BMI} = \text{kg}/\text{m}^2$ , where kg in kilograms is the weight of a human and  $\text{m}^2$  in meters' square is their height. Although the normal value of BMI is 18.5 to 24.9, a BMI of 25 or more than 25 is overweight.

#### BMI (Body Mass Index) Range for Adults

The weight in kilograms divided by the square of height in meters is needed to measure the BMI (Body Mass Index). A predictor of high body fatness could be a high BMI.

BMI	Weight Status
Below 18.5	Underweight
18.5—24.9	Normal
25.0—29.9	Overweight
30.0 and Above	Obese

Obesity is often subdivided into classifications:

- Class 1: BMI from 30 to < 35
- Class 2: BMI from 35 to < 40
- Class 3: BMI of 40 or above. Obesity in class 3 is often graded as "extreme" or "severe" obesity.

## **1.4 Justification of the study**

As my work was the Prevalence of Lifestyle Diseases among the Overweight Individuals of different ages people who live in the Mohammadpur area. For leading a healthy life everyone needs to know that what actually needs to eat and what is the proper way to eat and obviously need to maintain timing for meals. This study aims to collect life style disease and dietary information of overweight and obese people and find out the probable causes of those who have life style disease among these people. In this work I asked them some questions and also I advised some tips that can be helpful for controlled weight. For example, some of them used to eat food with watching television or using the phone. Some of them after eating they lie down. Some of them they used to eat very fast. I suggest them it's wrong, those can be responsible for overweight. When I give them some information they are also showing interested in my work. Because they also can able to found out what fact is responsible for their overweight. In this urban life, we consume heavy food as entertainment, mostly the young generation. Some young people they going to restaurants only for sharing food reviews. And they randomly do it. So that when they turn older, they face lots of physical problems. So, it's high time to raise awareness about consuming food. that's why I made a survey which is related to food habits, overweight people, lifestyle diseases.

## **1.5 Operational Definition**

### **Overweight**

The terms "overweight" and "obesity" refer to body weight that is higher than what is considered normal or healthy for a certain height. Furthermore, the extra weight is linked to an excess of body fat. Overweight, on the other hand, can be caused by extra fat, bone, or fluids. Obese persons usually have a lot of body fat. <sup>[3]</sup>

### **Lifestyle diseases**

Lifestyle diseases are illnesses that are linked to, and in some cases induced by, how individuals spend their lives. There are some diseases that are not spreadable. Lack of physical activity, improper eating, drinking, medicines, and smoking are all factors that contribute to heart disease, stroke, obesity, type II diabetes, and lung cancer.

Obesity, atherosclerosis, asthma, cancer, chronic liver disease or cirrhosis, chronic obstructive pulmonary disease, colitis, irritable bowel syndrome, type 2 diabetes, coronary disease, hypertension, metabolic syndrome, chronic kidney failure, and osteoporosis are some of the diseases that are becoming more common as countries become more developed and citizens live longer. <sup>[4]</sup>

## **Balanced diet**

A diet that comprises a variety of food kinds and provides appropriate amounts of nutrients for good health.

For example: Fruit: vegetables and legumes (beans). Cereals and seeds. Fresh meat, poultry, fish, chickens, tofu, almonds, beans, legumes.

## **Uncontrolled diet**

An uncontrolled diet is described as the consumption of large amounts of food with a sensation of loss of control over food.

It can be concluded, based on numerous studies, that excessive food consumption linked to uncontrolled eating leads to weight gain and becoming overweight or obese. <sup>[5]</sup>

## **Rich Food**

Rich food means the presence of a high amount of kilocalorie is a small amount of food. Although it contains a lot of calories, it is not nutritious. Rich food, as applied to food, means fatty, oily or sweet, or high in plant nutrients, or highly seasoned, according to one dictionary. Apparently, texture has a lot to do with the sense of richness, which explains the described fruits, and so does sweetness. <sup>[6]</sup>

## **Wrist Circumference**

It is the measurement technic by using measuring tape. At first, need to Wrap the forearm around the string until it's snug and mark where the end would intersect. To find the measurement, straighten out the string and place it against a ruler. Write down the measurement in order not to lose it. Don't apply any extra distances to the calculation. <sup>[7]</sup>

## **1.7 Research Questions**

- What is the prevalence of lifestyle diseases among overweight and obese individuals in Mohammadpur?
- What percentage of people take food ideally?
- How many people have higher appetite?
- What are the diseases obsessed people usually suffer?

## **1.9 General Objective**

To found out the lifestyle diseases among the overweight individuals in Mohammadpur and their food habits.

## 1.10 Specific objectives

- To identify the Socioeconomic information of respondent's family
- To access the background information's of respondents
- To access the Knowledge about Anthropometric parameters of respondents
- To access the supplements or medical history of respondents
- To access the information about the dietary history of respondents
- To identify food frequency habits of respondents

## 1.11 Acronyms

CHO = Carbohydrate

CM= Centimeter

LDL= Low density lipoproteins

HDL=High density lipoproteins

WC =Waist circumference

WHO =World Health Organization

## Chapter 2

### Literature Review

The terms "overweight" and "obesity" refer to body weight that is higher than what is considered normal or healthy for a certain height. Furthermore, the extra weight is linked to an excess of body fat. Overweight, on the other hand, can be caused by extra fat, bone, or fluids. Obese persons often have a lot of body fat.

The body mass index (BMI) is a basic weight-for-height index that is often used to categorize overweight and obesity in individuals. It's calculated by dividing a person's weight in kilograms by the square of his height in meters (kg/m<sup>2</sup>). Adults with a BMI of more than or equal to 25 are considered overweight, while those with a BMI of higher than or equal to 30 are considered

obese. By using BMI methods, it can be useful for both gender and all adults ages people for determining overweight, obese or normal weight.

Overweight and obesity statistics: In 2016, about 1.9 billion individuals aged 18 and above were overweight. Over 650 million adults were overweight or obese.

A study, that published in 2016 showed that the adults aged were 18 and over they were 39% of overweight. There were 39% of men and 40% of women. For the whole population in the world, 13% of people were obese. That was alarming because it was nearly tripled between 1975 to 2016. Obesity and overweight are on the rise in low- and middle-income nations, particularly in metropolitan areas, when they were once considered a high-income nation concern. Since 2000, the number of overweight children under the age of five has climbed by about 24% throughout Africa. In 2019, Asia was home to over half of the children under the age of five who were overweight or obese. In 2016, nearly 340 million children and adolescents aged 5 to 19 years old were overweight or obese.

Overweight and obesity among children and adolescents aged 5 to 19 years old has increased considerably, from 4% in 1975 to slightly over 18% in 2016. Both boys and girls have become overweight in recent years: in 2016, 18% of women and 19% of boys were overweight. In 1975, just over 1% of children and adolescents aged 5 to 19 were obese; by 2016, over 124 million children and adolescents (6 percent of women and eight percent of boys) were fat. Wade around the globe Obesity and overweight cause more fatalities than underweight. Obesity outnumbers underweight individuals globally - this is true in every region excluding portions of geographical area and Asia.

The fundamental reason for obesity and overweight is that people consume more calories than they require and do not burn off as many calories as they should. That means the energy imbalance between calorie intake and calories loss. In the whole world have some common fact for overweight and obesity that are consuming high energy like, high fat and sugar. Did not doing proper physical activities. Increasing urbanization, shifting ways of transportation, and a huge variety of jobs. Environmental and societal changes related to the event, as well as a lack of supportive policies in sectors such as health, agriculture, transportation, urban planning, environment, food processing, distribution, marketing, and education, often result in changes in dietary and physical activity patterns.

Increased BMI may be a major risk factor for non-communicable illnesses such as cardiovascular illnesses (mostly stroke), which were the leading cause of death in 2012; diabetes; musculoskeletal disorders (particularly osteoarthritis – a debilitating joint condition); and various malignancies (including endometrial, breast, ovarian, prostate, liver, gallbladder, kidney, and colon). With an increase in BMI, the risk of certain non-communicable diseases rises. Obesity in childhood is linked to future obesity, early mortality, and impairment in adulthood. Obese children, in addition to increasing future dangers, have respiratory problems, a higher risk of fractures, hypertension, early indications of distress, insulin resistance, and psychological consequences.



Inadequate prenatal, newborn, and young child nutrition is more common in low- and middle-income nations. These youngsters are exposed to high-fat, high-sugar, high-salt, energy-dense, and micronutrient-poor diets at the same time, which are lower in cost but lower in the nutrition quality.

Obesity and overweight, as well as the disorders associated with them, are mostly avoidable. People's choices are shaped by supportive settings and communities, which make healthy diets and frequent physical exercise the best option (the one that is most accessible, available, and inexpensive), reducing overweight and obesity.

Individuals may restrict total fats and sugars in their diets, boost fruit and vegetable consumption, as well as legumes, whole grains, and nuts, and participate in regular physical activity (60 minutes on a daily basis for youngsters and 150 minutes spread through the week for adults).

Individual responsibility can only be fully realized if individuals have access to a healthy way of life. As a result, at the societal level, it's critical to encourage individuals to follow the aforementioned suggestions by enacting evidence-based and population-based policies that make regular physical exercise and healthy eating choices more accessible and inexpensive, and easily available to everyone, especially the poorest people. A tax on sugar-sweetened beverages is one example of such a policy.

The food industry can play an important role in promoting healthy diets by lowering the fat, sugar, and salt content of processed foods; ensuring that healthy and nutritious options are available and affordable to all or any consumers; and restricting the marketing of high-sugar, high-salt, and high-fat foods, particularly those aimed at children and teenagers. as well as assuring the availability of healthy food options and encouraging frequent physical exercise in the workplace.<sup>[8]</sup>

## Chapter 3

### 3.1 Materials

NO.	Equipment's	Purpose
1.	Paper	To making a questionnaire
2.	Measurement tape	To measure the Wrist Circumference
3.	SPSS	To analyze the data To make frequency in data For making data chat and table
4.	Microsoft	For report writing To making presentation
5.	Computer	Whole report making by using some software
6.	Fund	The thesis work is done by self-funding

### 3.2 Methodological Approach

#### Study Location

My study was Prevalence of Lifestyle Diseases among the Overweight Individuals in Mohammadpur area. I collected data by using three methods:

1. Collected data by visiting their house
2. Send questionnaire by using google form.
3. Collected data by phone calls.

#### Study design

The study was a cross-sectional study on overweight people, located in Mohammadpur. For this study, data collection is done by personal interview of each respondent, followed by the questionnaire system, and also collect some data by google form. For google form data collection, send the questionnaire in google form to the respondent and collected the responses or answer then only pick the overweight persons to form that needed for the study.

#### Study Population

The study was conducted on Prevalence of Lifestyle Diseases among the Overweight Individuals of different ages in Mohammadpur.

**Study period**

November 2020 to February 2021.

**Data collection period**

10<sup>th</sup> November 2020 to 5<sup>th</sup> January 2021.

**Sampling method**

For this study used a systematic random sampling method.

**Sample size**

The subject of this study was Mohammadpur. In different ages people around 16 to 66 years' people. A total of 58 overweight people participate in this study. Most every individual them are affected by different types of diseases.

**Sample Size Calculation**

$$\text{Sample size} = \frac{\frac{z^2 \times P(1-P)}{e^2}}{1 + \left( \frac{z^2 \times p(1-p)}{e^2 N} \right)}$$

N= population size

e = Margin of error (percentage in decimal form)

z = z-score

[**Note:** Due to pandemic situation, it was hard to collect data form respondents. There were many restrictions due to pandemic that's why I ended up using a little less respondents.]

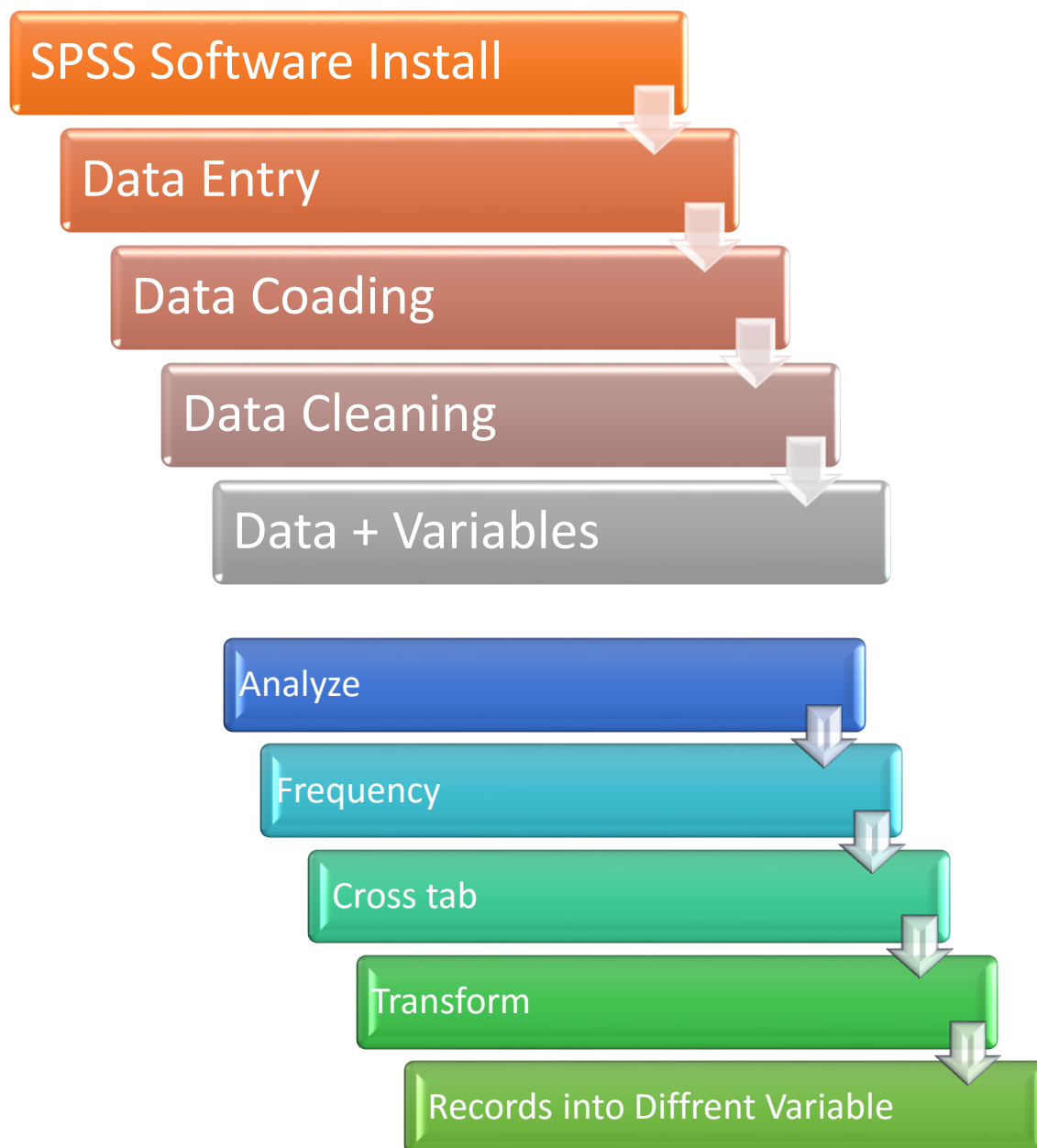
**Data collection method**

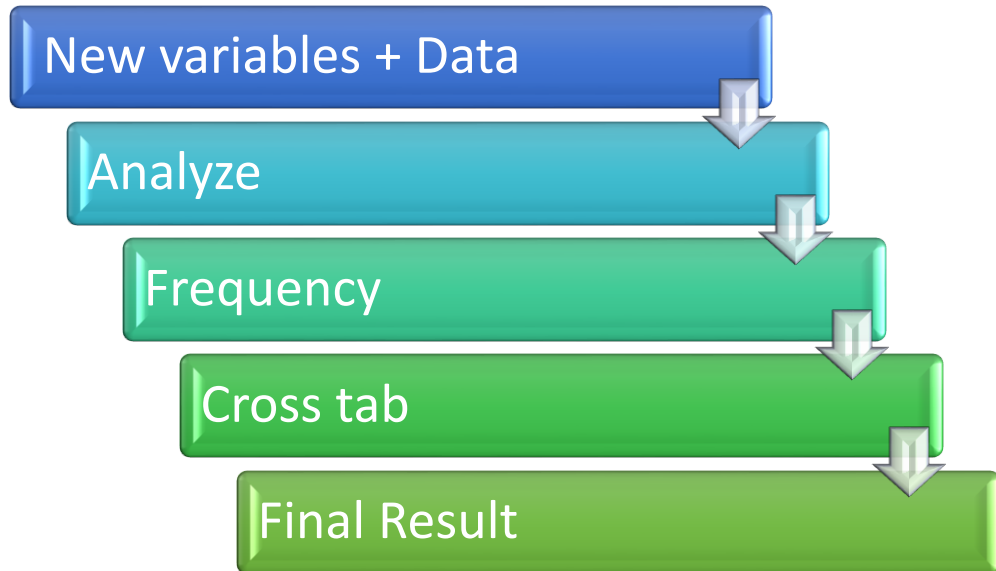
- Had to use selected the local language of the respondents.
- All the data were collected after their permission.
- Most of the data collected by taken personal interviews.
- Collected some data by using Google Form.
- For data collection interview needed 5 to 10 minutes for each respondent.
- All the answers were recorded as data.

### 3.3 Data analysis process

I used SPSS software for analyzing the data. SPSS Statistics is a statistical analysis software program that allows you to execute statistical analysis in real-time or in batches. SPSS Inc. produced it for a long time before being bought by IBM in 2009. IBM SPSS Statistics is the market name for current models (after 2015).

#### Working process with SPSS software:





### **3.4 Ethical consideration**

The purpose and benefits of the study were narrated to the respondents. Then they willingly cooperated with the study.

## **Chapter 4**

### **4.1 Result**

This chapter about the data analysis result by the collected data from overweight people in Mohammadpur. In the data collecting questionnaire at first questions about the background information of the respondents. Like the name, gender, occupation, education, etc.

In this study sample size was 58. The respondent rate according to sample size was 100%.

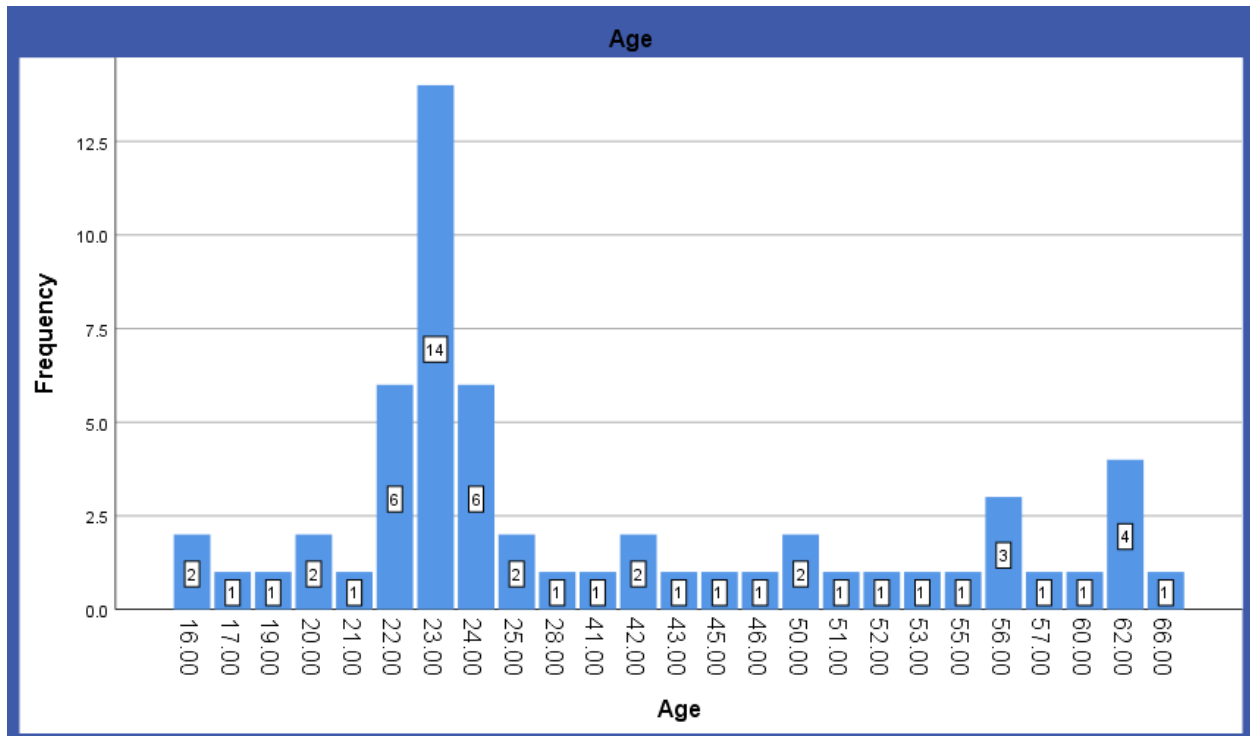
## 4.2

### 1. Background information

#### 1.1 Age

The respondents are different ages overweight peoples in Mohammadpur.

**Chart 1**



We can see that participant ages are started at 16 and up to 66 years older people. Most of them are 23 years old. 14 number of people are 23 years old.

**Table:1.2**

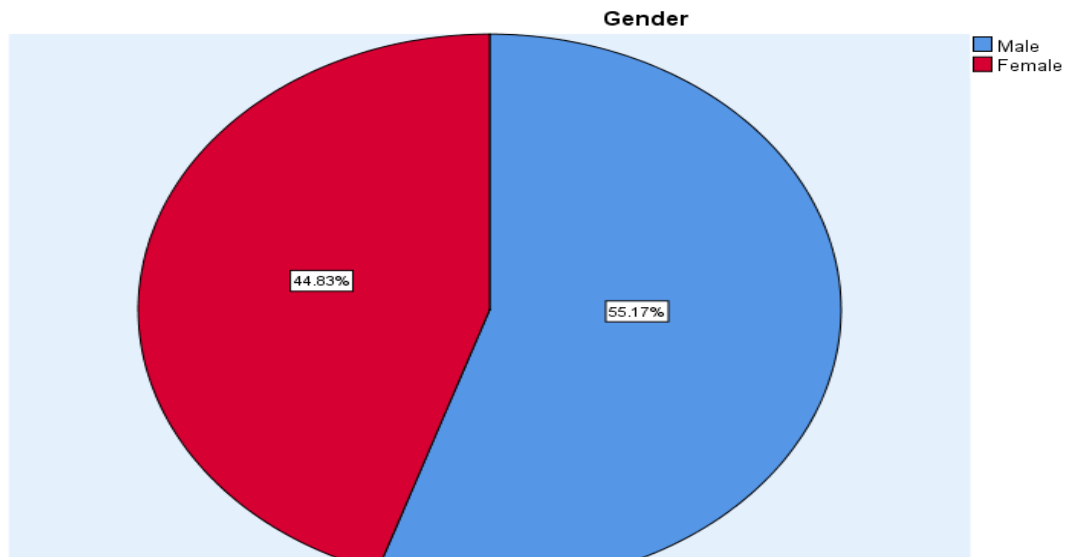
Age range	Number of people
10-20	6
21-30	30
31-40	0
41-60	22

Here,

The height number (30) of people under the age range is 21 to 30. We can say younger people age range. After that 22 number of people in the age range of 41 to 60. That means older people range.

## 1.2 Gender

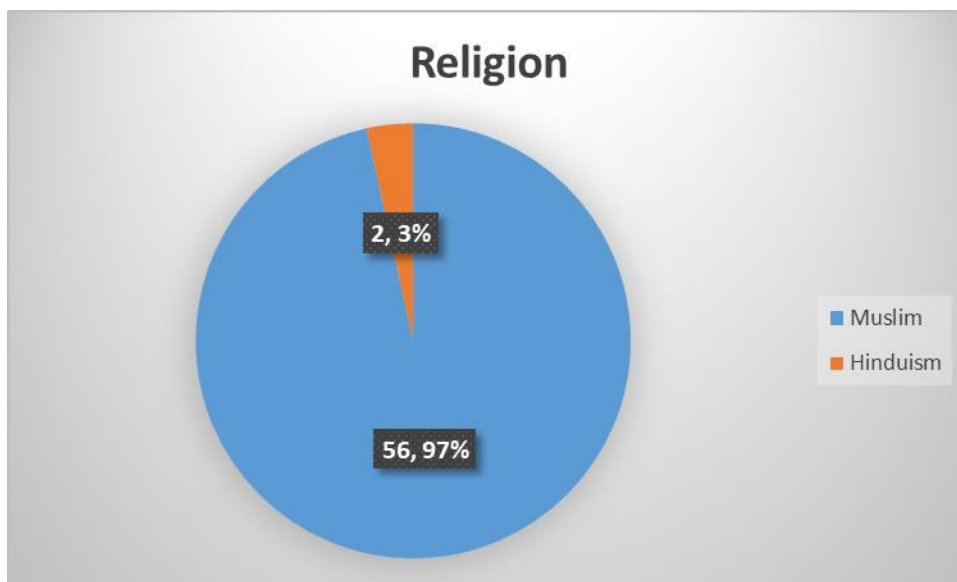
Chart 2



Of the 58 respondents, 55.17% were male and 44.83% were female. That means 32 respondents are male and 26 respondents are female.

## 1.3 Religion

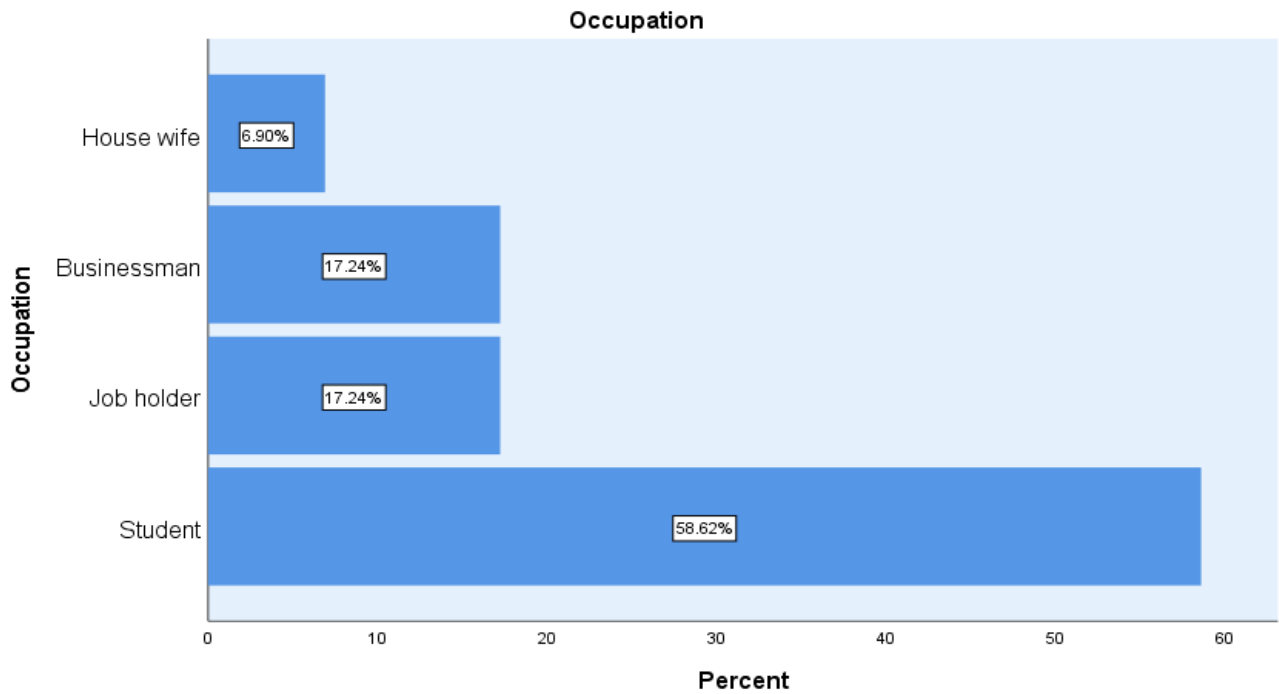
Chart 3



Here, 97% of respondents are Muslim. 3% of respondents are Hindu. 56 people are Muslim and 2 people are Hindu.

## 1.4 Respondent's occupation

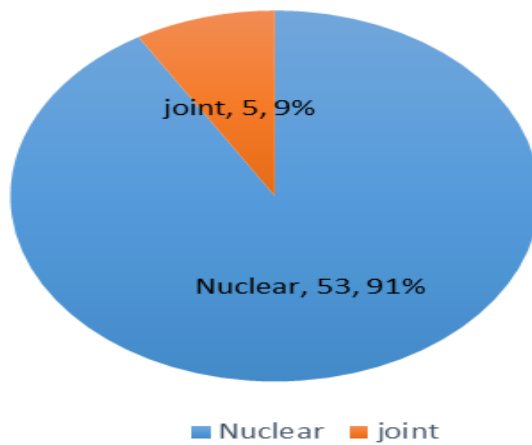
Chart 4



Here, most of them are students 58%. 17% are job holders, also 17% are businessmen. 6 % are housewives. **4.3**

## 2. Socio economic information of respondent's family

### 2.1 Family type

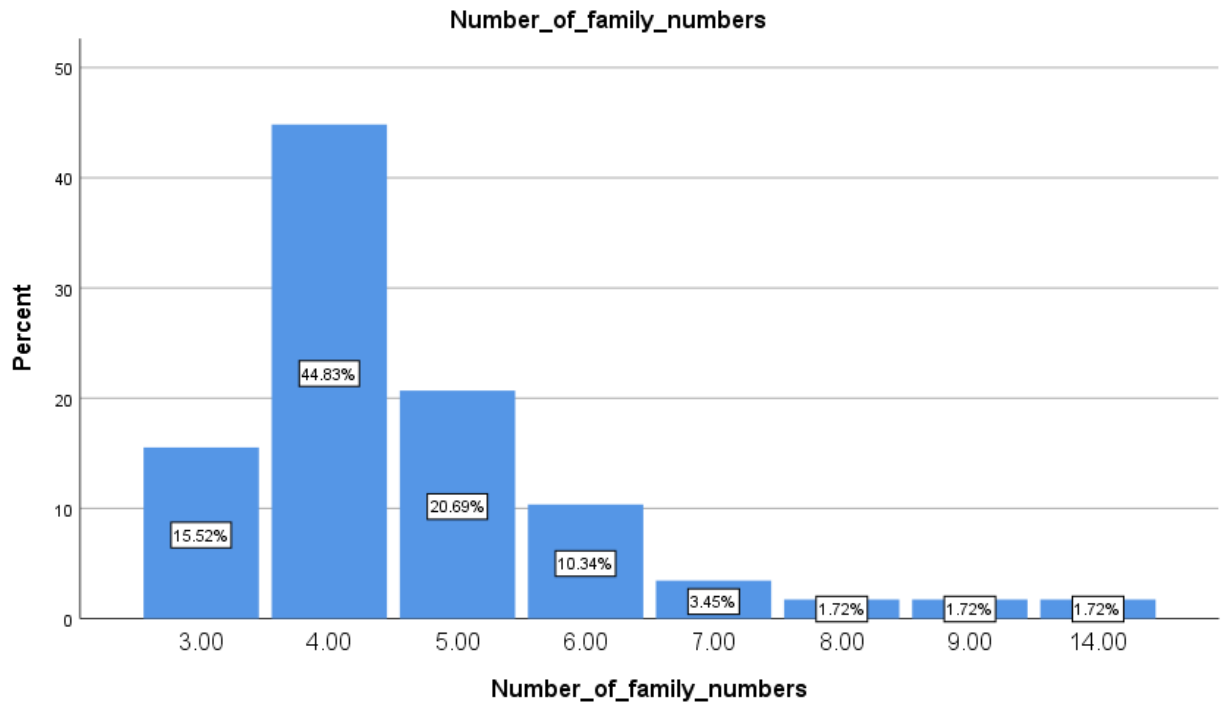


Here, we can see that most of the family were nuclear 91% and only 9% were joint family.



## 2.2 Number of family members

Chart 2.2



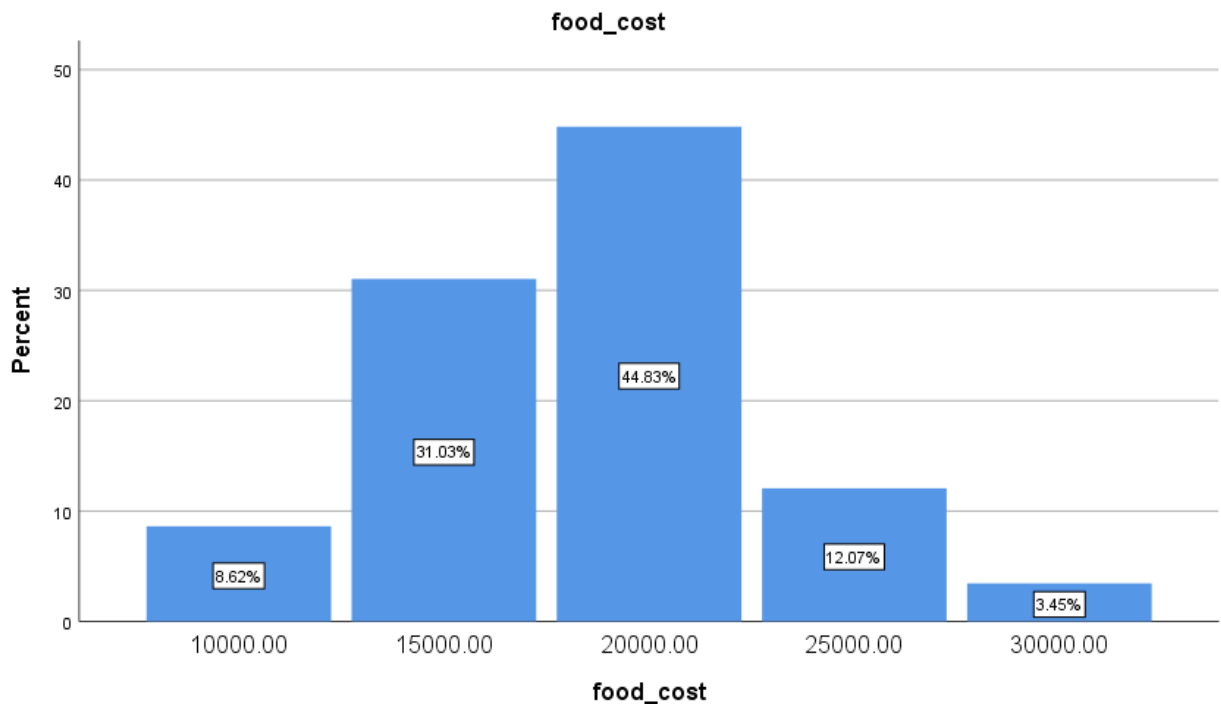
Here, the lowest number of family members is 3. Its frequency is 9, that means 9 respondents family has 3 number of a family member. Most of the families have 4 members (44%), 26 respondents have 4 members in their family and the largest number of a family members is 14.

### 2.3 Monthly Income of the family



Here, majority of family's monthly income within 60,000 BDT. (29.31% of family)

### 2.4 Food cost of respondent family



Here, most of the family of respondent (44.83%) need 20,000 BDT for buying food.

## 4.4

### 3. Anthropometric parameters

#### 3.1 Weight

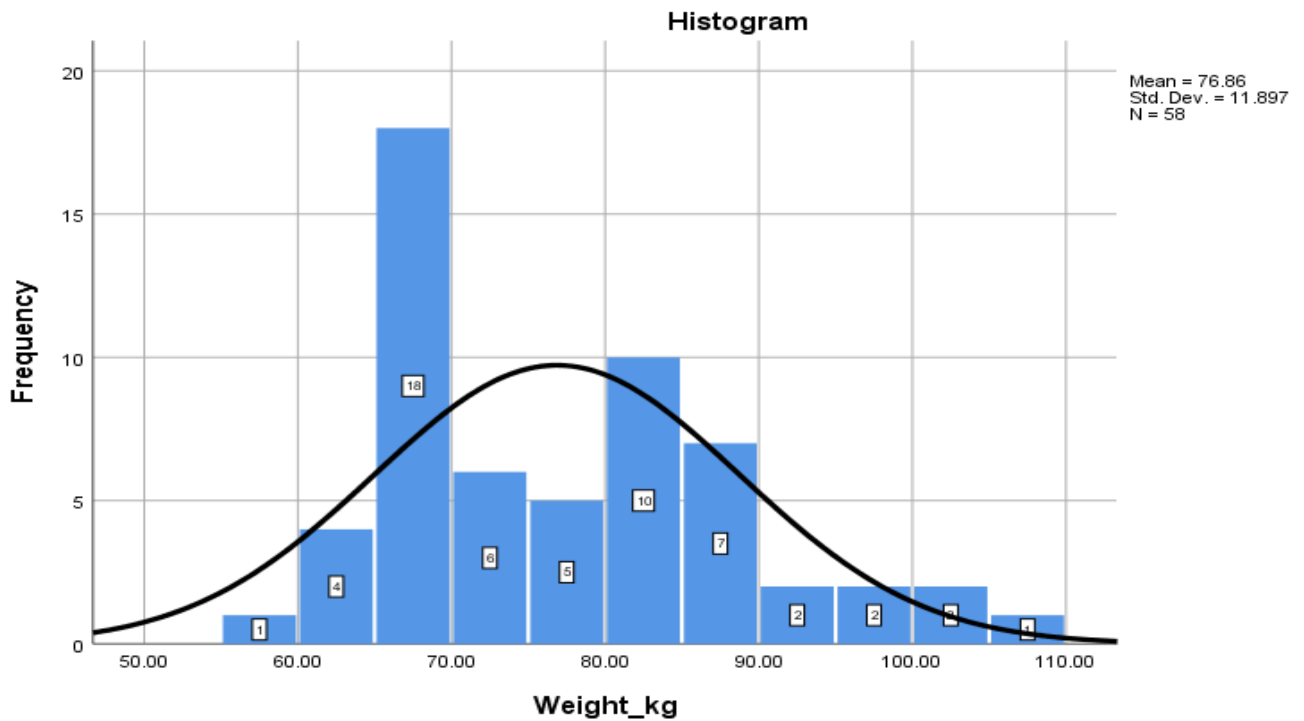
In All the respondents was found highest weight 106 kg and lowest 58kg.

**Table 3.1**

Weight (Kg)	Frequency
56-60	1
61-65	4
65-70	18
71-75	6
76-80	5
81-85	10
86-90	7
91-95	2
96-100	2
101-105	2
106-110	1

We can see that highest number of people (18) weight into 65 to 70 kg.

Chart 5



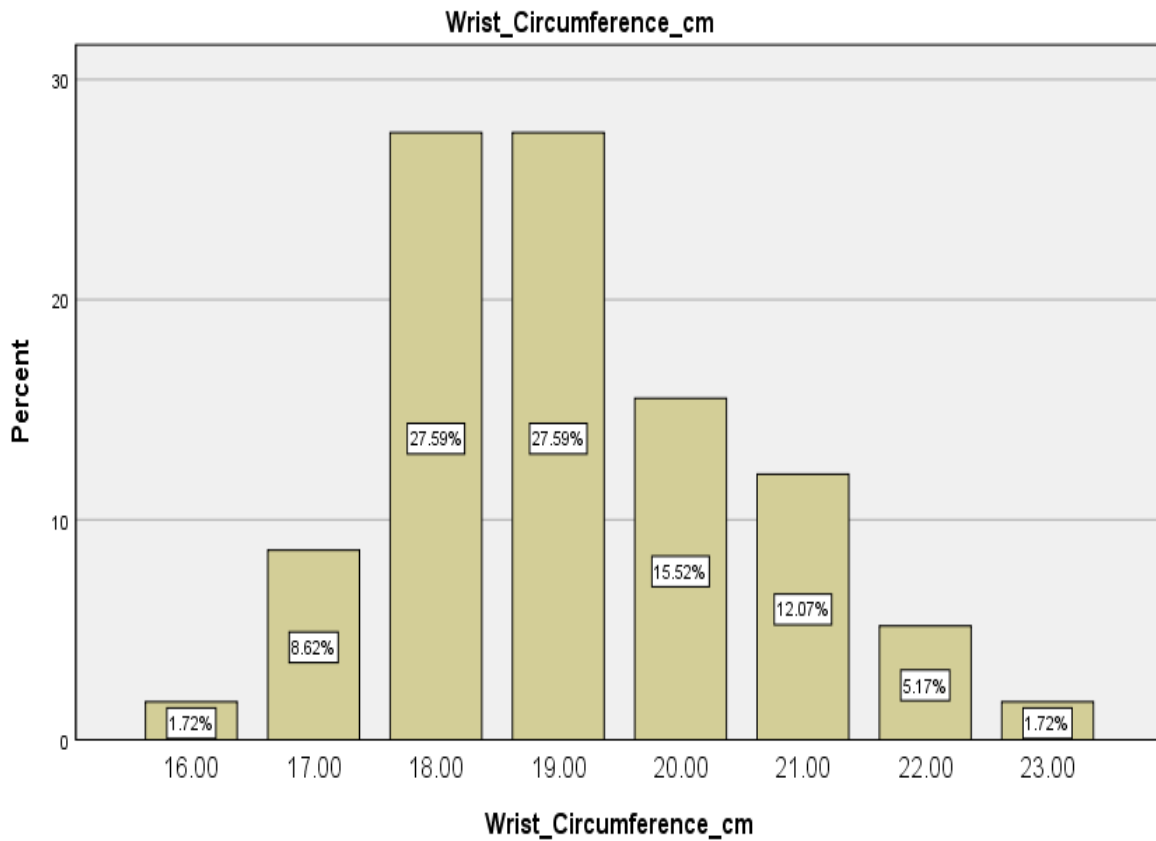
This is the frequency chart for weight, which shown the weight range and how many persons have in each range. The range started with 50 to 60 and ended off 100 to 110. In this, each range has 2 columns. In this table range gap is 10 And the Colum range is 5.

### 3.2 Wrist Circumference

For measurement, the wrist circumference needs a measurement ribbon and Just above the bone, take a measurement of the circumference of the wrist. Wrap the string around the wrist until it is snug, and label where the end overlaps. To find the measurement, straighten the string and place it against a ruler. Make a note of the calculation. Don't have any extra duration in the estimation.

This study has heights wrist circumference is 23 cm and lowest is 16 cm. most of the people are in 18 to 19 wrist circumferences.

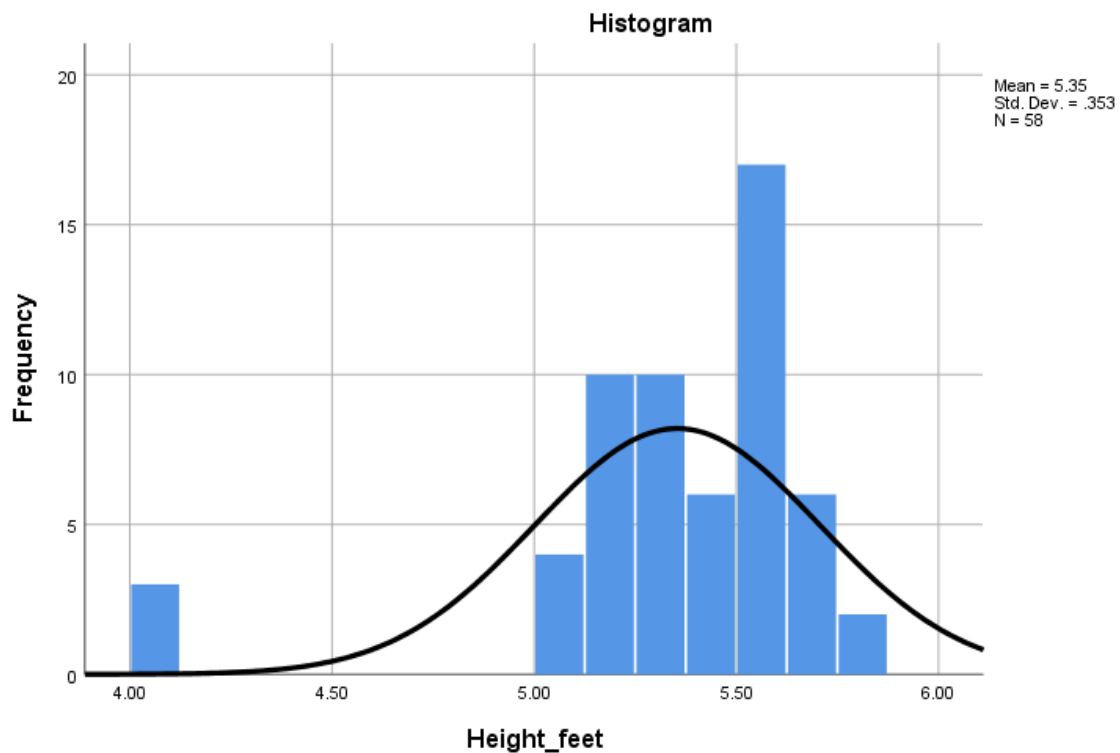
Chart 3.2



### 3.3 Height

Height range is 4 feet to 6 feet most of the respondents are 5 feet to 5.5 feet

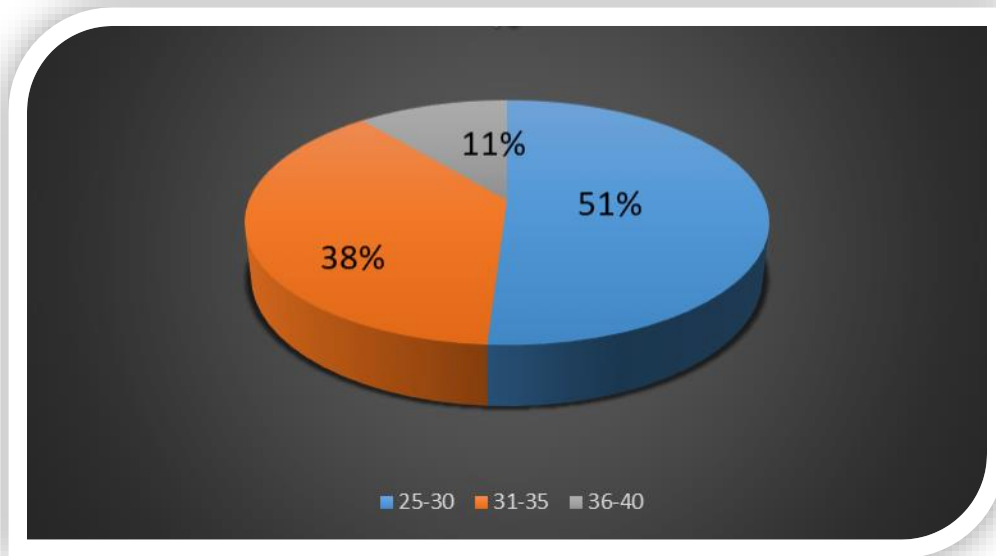
Chart 3.3



### 3.4 BMI

For BMI calculation needs to weight, age, height, gender. In general, a normal BMI is 18 to 24. In this study, BMI started at 25 which means overweight. In table 3.4 show that the height number of BMI present in 25 to 30 which is 51%, after that 38 % of people in the BMI range is 31 to 35, and 11% of people have in BMI range 36 to 40.

**Chart 3.4**



## 4.5

### 4. Present supplements or medicine and Diseases

**Table 4.1**

	Yes (%)	No (%)
Medicine	54	46
Insulin	18	82
Diseases Presence	85	15
Diabetics	18	82
Cardiovascular disease	17	82
Joint pain	61	39
Irregular periods ( female)	62	38
Gastric	33	67
High blood pressure	30	70
Gallstones	28	72
Headache	61	39
Weakness	26	74

This is the very important part in table 4.1 that 85% of overweight people are suffering diseases. And 54% of people are taking medicine for diseases. Most of them are suffering from diabetics, cardiovascular disease, irregular periods, high blood pressure, etc. those types of diseases are started from middle age. 18% of respondents have diabetics, 17% cardiovascular disease, 61% joint pain, 62% female have irregular periods, 33% gastric, 30% high blood pressure, 28% gallstones.

## 4.2Supplements

Chart 4.2

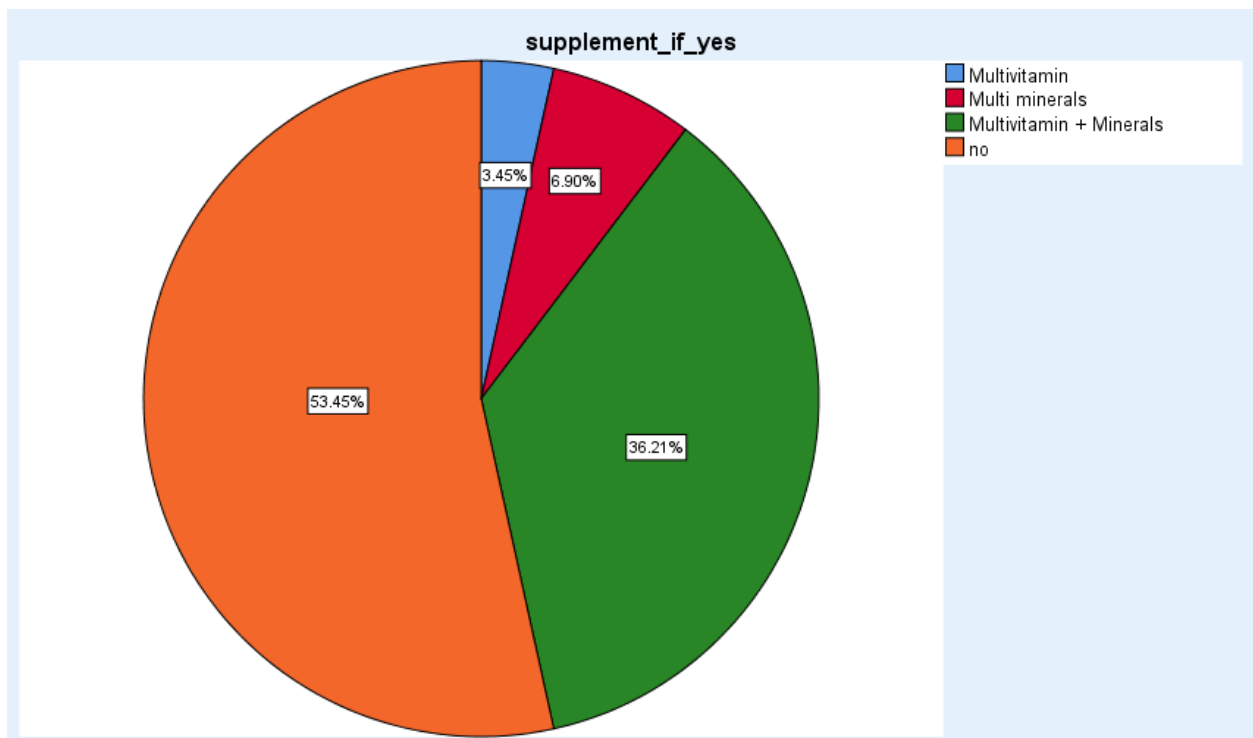


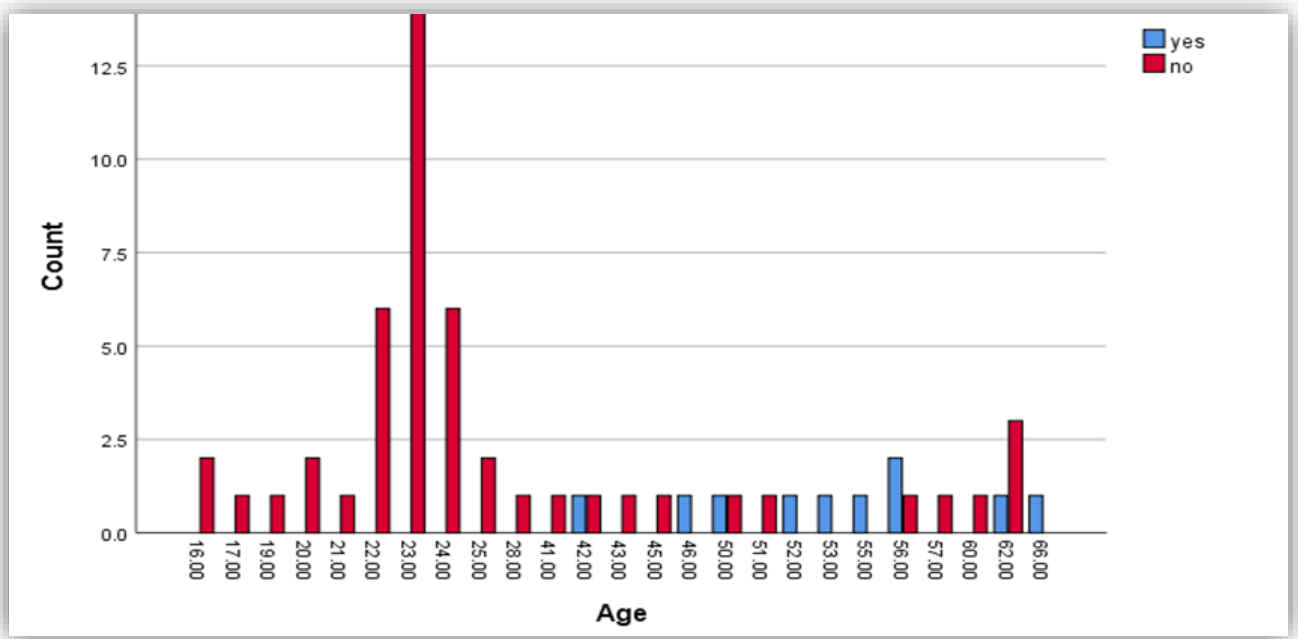
Chart 4.2 showing that 36% of people are taking multivitamins and minerals. 6% people are taking multi-minerals and 3% people are taking multivitamins regularly. 53% of people are don't take any supplements.



### 4.3 Relation Between Age and Disease

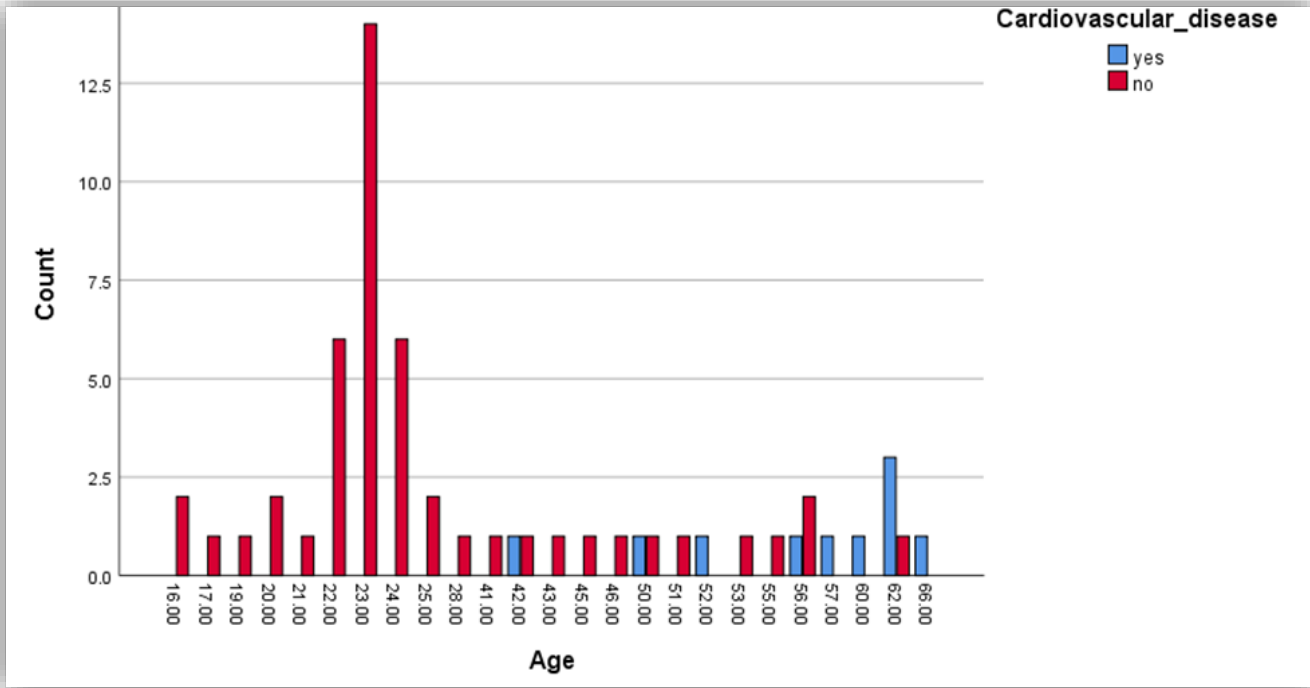
This section showing the analysis with 2 questions and finds out the desired result. Basically, here showing the relationship between age and disease. In younger people who have overweight but he did not suffer serious types of disease. But when he turns into older or middle ages then he faces lots types of disease like Gallstones, diabetics, cardiovascular disease, high blood pressure, etc.

Cross tab Chart 1



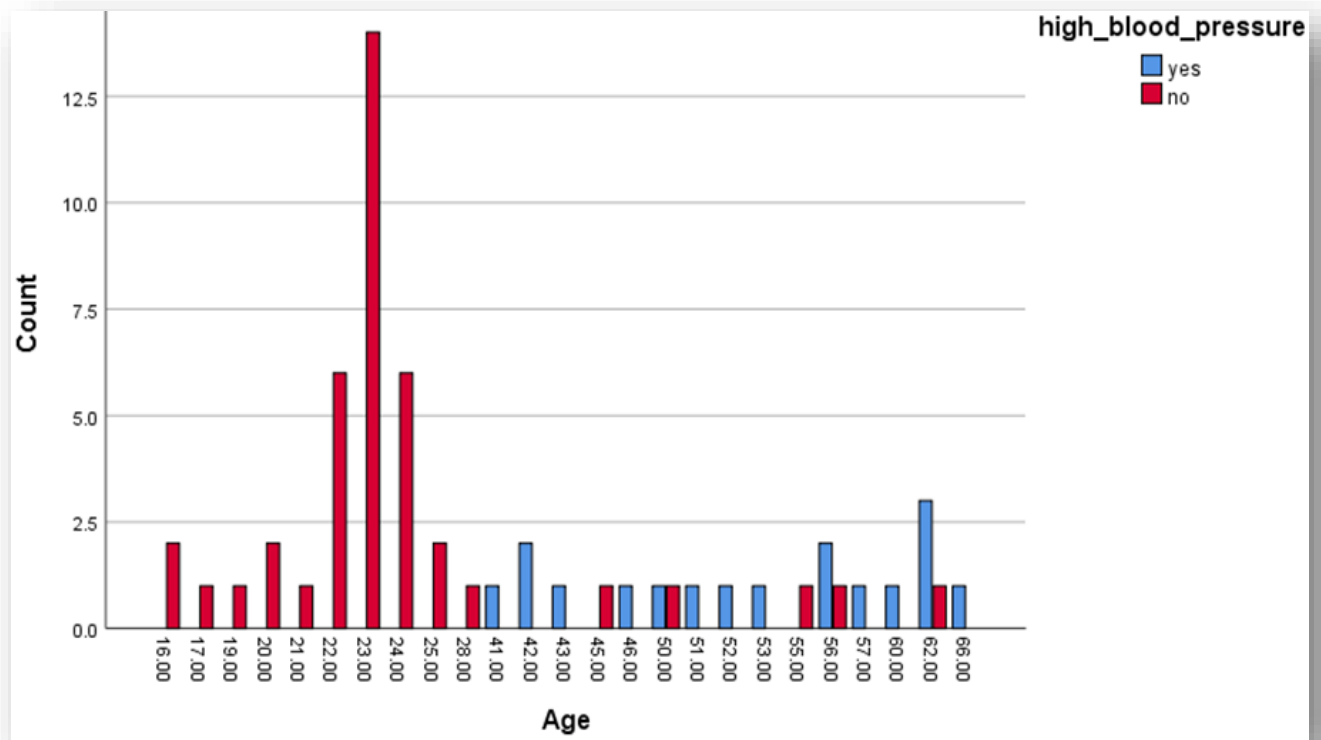
Here, clearly visible that at the age of 42 started diabetics. And in the age of 16 to 41 have no diabetics peasant.

Cross tab Chart 2



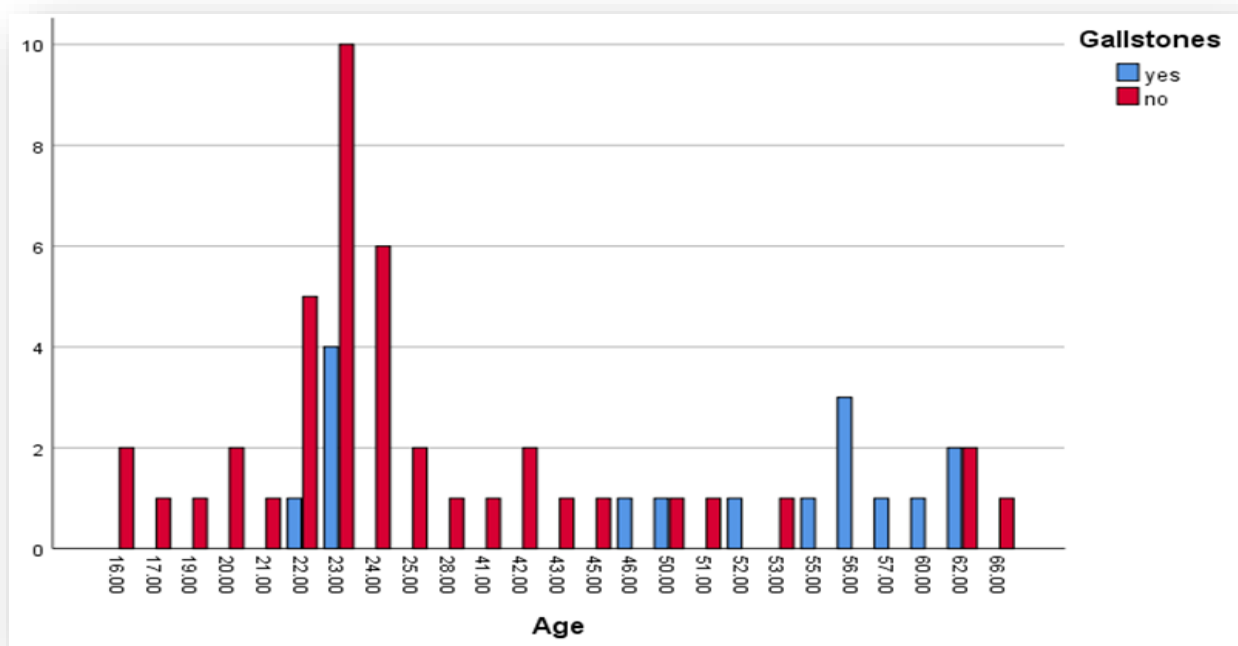
Here, showing that at the age of 42 found out cardiovascular disease peasant.

Cross tab Chart 3



In this chart visible that at the age of 41 found out high blood pressure peasant.

**Cross tab Chart 4**



In this table showing that at the age of 22 found gallstones peasant.

## 4.6

### 5. Information about dietary history

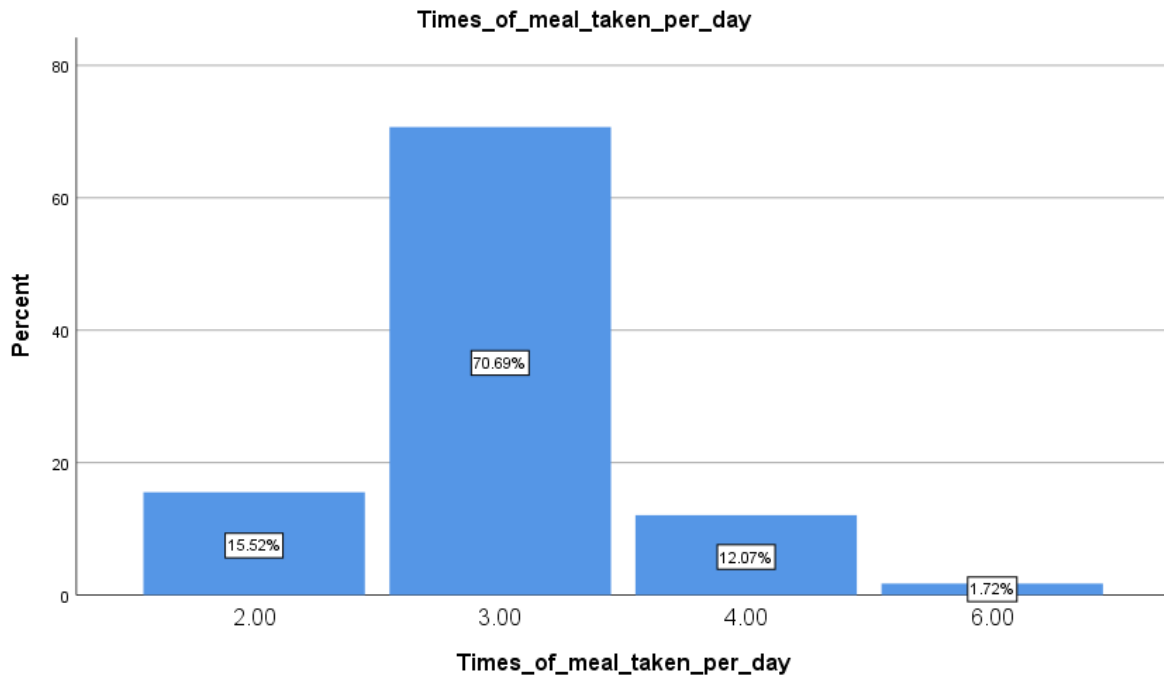
#### 5.1 Appetite

**Table 5.1**

Appetite	Frequency	Percent %
Good	41	70.7
Fair	17	29.3
Poor	0	0
Total	58	100

In table 5.1 shows that the appetite of the respondents. This question had 3 options that are good, fair, and poor. No person had a poor appetite. 70% of people are in good appetite. 30 % are in fair appetite.

**Chart 5.2**



This is the chart about times of meal taken per day. It is about how many times consuming main dishes per day. Most of the people 70 % of total participants are taken meals 3 times per day. The height number of meals found 6 times per day. 2 % of people taking of meal 6 times per day. 12 % people taken their meal 4 times per day. 15% people taken their meal 2 times per day. Mostly they have suffering disease and doctor suggest them to taken 2 times meal per day.

**Chart 5.3**

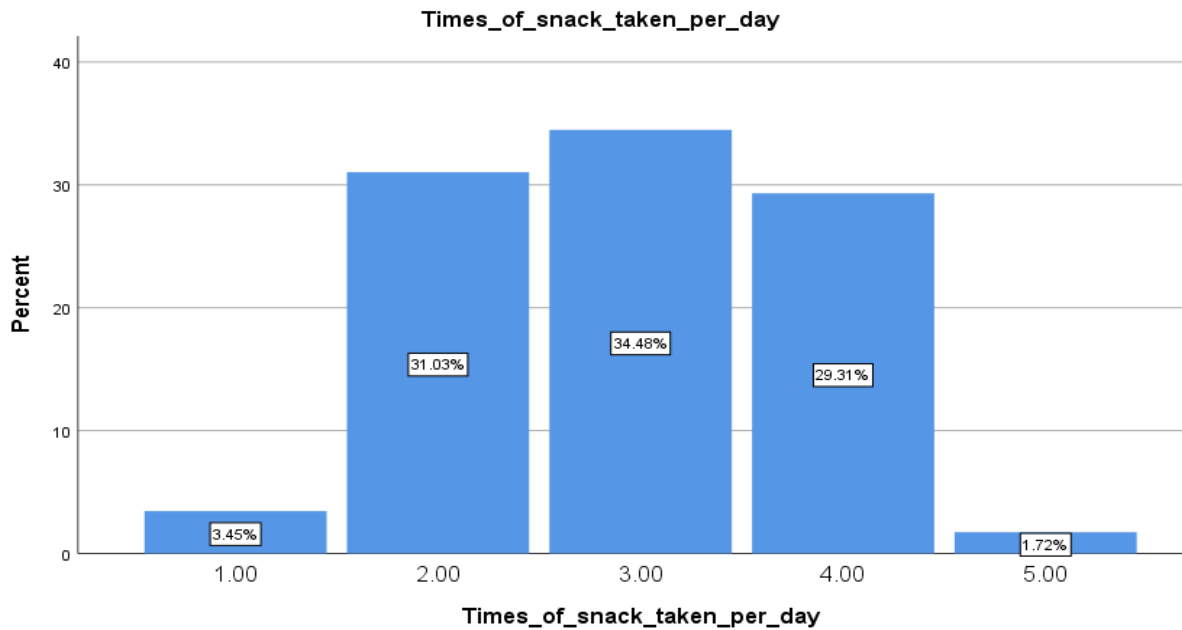


Table 5.3 visible that most of the people, 34% in this study are taking 3 times snacks per day. After that 2 times of snacks taken per day. Then 4 times snack taken per day. This study found height 5 times of snack taken per day.

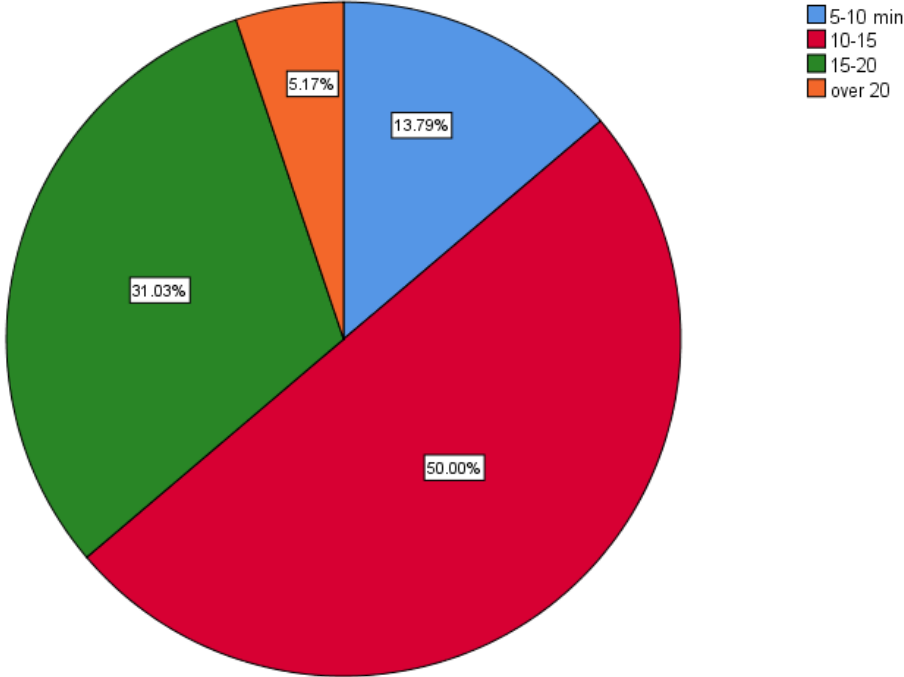
**Table 5.4**

	Yes %	No %
Extra salt consumed	33	63
Smoking	13	87
Alcohol	4	96

Here, 33% participate in consuming added extra salt in their meal. Most of them are not alcoholics.

### Chart 5.5

What time it takes to have a meal usually?



Here, 50% of people take 10 to 15 minutes to have a meal, 31% of people take 15 to 20 minutes, and 5% of respondents take over 20 minutes for their meals.

## Chart 5.6

What do you usually do after taking a meal?

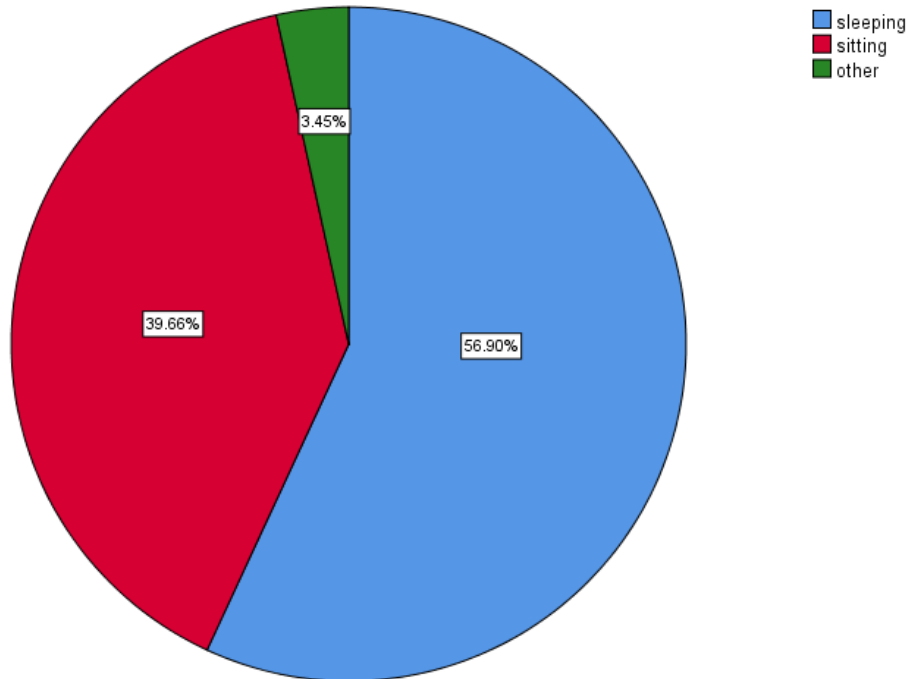


Chart 5.6 shown that 56% of people lay down after taking a meal. 40% of people sitting down after taking their meals and 4 % of people do not take rest, they usually do their work.

## 4.7

### 6. Information of the Food Frequency Questionnaire for a Week

This part of the questionnaire made a frequency questions chart for the participants. They were chosen an option and mark that option. That chart has some food names that usually consuming everyone. Also has some option that how many times they consuming those foods per week. The The option was daily, frequently, of time, rarely, none.

daily	frequency	Of time	rarely	none
7 days per week	4 to 5 times per week.	2 to 3 times per week.	1 to 3 times per week.	0 times per week.



**Table no. 6**

	Daily %	Frequently%	Of time%	Rarely%	None %
CHO Rice Bread	100	0	0	0	0
Milk	35	9	8	21	27
Meat	13	39	36	12	0
Fish	23	37	34	6	0
Eggs	75	9	10	5	1
Roots and Tubers	76	14	6	3	1
Pulses	65	8	17	10	0
Seasonal Fruits	62	18	7	13	0
Vegetables	94	6	0	0	0
Sweeten foods	40	10	18	15	17
Cold drinks	5	10	31	16	38
Teheri Biryani Vuna khicuri( heavy food)	4	4	25	51	16

This is the dietary information of respondents for a week. Here, visible that everyone takes carbohydrates daily. About milk 35% people take milk daily, 9% people take milk frequently, 8% people take of time, 21 % people take rarely and 27% people do not take milk. About meat interestingly 13% of people take meat daily, in maximum 39% people take meat frequently, 36% people take it of time, 12% people take it rarely. Nobody found that they never take meat in a week. About sweeten foods, cold drinks, heavy food- almost every young people take it frequently but most of older people do not able to take it because they already suffering many types of diseases and doctor restricted them for these types of food.

## Chapter 5

### 5.1 Discussion

Bangladesh has a national overweight and obesity prevalence of 24.2 percent for women and 16.4 percent for men, according to data from the World Health Organization (WHO). Men have a diabetes prevalence rate of 8.6%, while women have a rate of 7.4%. Hypertension is very common, with 18.6% of men and 20.7 percent of women having it. Obesity is a key risk factor for cancer, cardiovascular disease, diabetes, and chronic obstructive pulmonary disease, all of which are significant non-communicable illnesses that are on the increase globally. According to the WHO's 2016 national profile for Bangladesh, 17 percent of fatalities occurred in the nation, were caused by coronary diseases, ten percent by cancer, eleven percent by respiratory diseases, three percent by diabetes, and eighteen percent by other non-communicable diseases.

Expert says that Obesity is on the rise in Dhaka due to an evolving lifestyle trend, which including working habits. Obesity causes due to decrease in physical exercise. Additionally, Dhaka's high obesity prevalence is attributed to a high-carbohydrate diet and increased intake of foods containing starch, edible oil, and salt.

Fat and sugar levels in street food are very high. Moreover, the snacks are often cooked in burnt blackened oil, which causes cancer. <sup>[9]</sup>

The study of Prevalence of Lifestyle Diseases among the Overweight Individuals in Mohammadpur founded the age range of respondents was 16 to 66. There were different ages of people. So they have different food habits, different lifestyles, different works activities. Also, they have different weights. But they all have more than normal BMI so they all are overweight. In this study, the age range 10 to 20 has 6 people. In the age range of 21 to 30 have 30 people. There is nobody in the age range of 31 to 40. In the age range of 41 to 60 have 22 people. [Table 1.2]

This study has shown that from all respondents all most equal to male and female, 55.17% were male and 44.83% were female.

Most of the respondents are Muslim found in this study. 97% of respondents are Muslim. 3% of respondents are Hindu. 56 people are Muslim and 2 peoples are Hindu. [Table 3.1]

Occupation help to measure the physical activity of a person. Of all of the respondents, most of them 58% are students. 17% are job holders, also 17% are businessmen. 6 % are housewives. [Table 4.1]

Nowadays family became to turn into smaller from the past days. From this study the percentage of joint family only 9% but 91% of the family was nuclear.

This study found out that most families have 4 members. 44% of families have 4 members. The lowest number of family members is 3. 15% of respondents have 3 family members. 20% of respondents have 5 family members. 10% have 6 families members. 3% have 7 family members. All those families are nuclear families. And other families found in a joint family. 8 number of family members found 1.7% of respondents. And also 1.7% of respondents have 9 family members. [Table 2.2]

Obesity and overweight are defined as an abnormal or unwanted buildup of fat that is harmful to one's health. Overweight and obesity in adults are defined as follows by the World Health Organization (WHO): Overweight is defined as a BMI of 25 or higher, while obesity is defined as a BMI of 30 or higher.

BMI is the most useful population-level predictor of overweight and obesity since it is the same for all genders and both ages of individuals. It can, however, be used as a rough guide because it does not result in the same level of fatness in all people. When describing overweight and obesity in children, age must be taken into consideration. <sup>[10]</sup>

The study of Prevalence of lifestyle diseases among the obesity and overweight individuals in Mohammadpur founded the respondent's height weight was 106kg. And lowest was 58. The

highest number of respondents in the weight range is 65 to 70. After that heights number of people in the weight range of 81 to 85. [ Table 3.1]

For the purpose of calculation Wrist Diameter with the underside of the wrist pointing up, put the metal tip of a tailor's tape in the middle of the wrist and draw the tape around the wrist so it matches snugly. The metal's tip should be aligned with the measurement that is nearest to the tape.

In this study founded highest wrist circumference was 23 centimeters. 1.72% of people have a 23cm wrist circumference. 5.17% of people have a 22cm wrist circumference. 12.07% of people have a 21cm wrist circumference. After that 15.52% of people's wrist circumference is 20. Then 28% of people's wrist circumference 18cm and 19cm both. 17 wrist circumference have 6.62% people. And last 16 cm wrist circumference present in 1.72% of people. [ Chart 3.2]

Height is important to question because if one wants to know to calculate BMI for a person needs to his height. In this study height was 5.8 and the lowest one was 4.11. In all of the respondents, 5.17% of the respondent's height was 4.11. After those 5.1 feet heights had 6.90% respondents. Then 5.2 feet height had 17.24% respondents. Also, 17.24% of people had 5.30 feet height. Then 10.34% of respondent's height had 5.50. the height number of respondents 18.97% height had 5.60. Then 5.70 feet height had 10.34% respondent. The last one 5.8 feet height had 3.45% respondents.

By using the calculation of BMI found out overweight people from all of the respondents in this study. Body mass index (BMI) is computed by multiplying the weight in kilograms by the square of the height in meters. The following are the BMI categories: BMI (underweight is 18.5 pounds, normal weight is 18.5–24.9 pounds, overweight is 25–29.9 pounds, and obesity is 30 pounds or above). In this study about overweight people, every respondent is overweight. 51% people in the BMI range of 25 to 30. 38% of respondents in the BMI range of 31 to 35. And 11% are in the BMI range of 36 to 40. Over than 30 BMI people are obese. So it's clearly visible that 49% of people in this study are obese.

It is very alarming that from all respondents 85% of overweight people have to suffer from the disease. 54% of respondents take medicine for their own disease. And every person who is above 40 years old, all of them take medicine regularly. Diabetics, Cardiovascular disease, Joint pain, Irregular periods (female), Gastric, High blood pressure, Gallstones, Headache, Weakness those are the common disease that they are suffering.

In this study cross tab showing the relationship between age and disease. At the age of near 40 or above they start to suffering Diabetics, Cardiovascular disease, High blood pressure, Gallstones, Weakness those types of disease.

Information about the dietary history of this study showing that 70% of respondents had a good appetite, 30% of people had a fair appetite, and 0% of people had a poor appetite. Most of the people 70 % of total participate takes meal 3 times per day. The height number of meals they take is 6 times per day. 2 % of people taking of meal 6 times per day. 12 % people takes their meal 4 times per day. 15% people takes their meal 2 times per day. Mostly they have suffering

decrease and doctor suggest them to take 2 times meal per day. Table 5.3 visible that most of the people, 34% in this study are taking 3 times snacks per day. After that they takes 2 times of snacks per day. Then 4 times snacks per day. This study finds highest 5 times of snack per day.

## **Chapter 6**

### **6.1 Conclusion**

This study shows that the causes of obesity and life style diseases are related to food habit, life style, appetite of a person. This study was carried out with 58 respondents. It is done with obese people from Mohammadpur. This study discusses about the food habits, appetite of these people and collects information of their lifestyle disease like hyper tension, diabetes, cardiovascular disease, joint pain, high blood pressure, irregular periods(female), gallstones. One of the major causes of obesity is uncontrolled diet. This study demonstrated that several risk factors like do not take meals at the proper time, overeating is related to overweight and obesity. it had been observed that a major number of young people are overweight and obese which is just too much alarming for our country. A healthy dietary practice of young people should be encouraged which may prevent any future sickness. we must always alert both groups to scale back obesity and overweight problems. This study might be better but due to pandemic I was unable to do it in a more efficient way. In future if I have a scope, I can explore different angles of this study.

## Chapter 7

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## 7.2 Questionnaire

### Questionnaire on

#### “Prevalence of Lifestyle Diseases among the Overweight and Obese Individuals in Mohammadpur”

##### A) Background information

Serial No :

1. Name of the respondent:
2. Respondent's age:
3. Respondent's sex: Male / Female
4. Religion:
5. Educational qualification of the respondent:
6. Respondent's occupation:

##### B) Socio economic information of respondent's family

7. Name of the household head:
8. Household head's occupation
9. Family type: Nuclear / Joint
10. Number of family numbers:
11. Monthly income of the family:
12. Monthly expenditure of the family: a) education cost:    b) food cost:    c) total cost:

**C) Anthropometric parameters**

- 13. Weight: \_\_\_\_\_ Kg
- 14. Wrist Circumference: ----- cm
- 15. Height: \_\_\_\_\_ cm
- 16. BMI: \_\_\_\_\_

**D) Present supplements or medicine**

- 17. Provide supplement:  Yes  NO
- 18. If yes,  Multivitamin  Multi minerals  
Multivitamin + Minerals
- 19. Present Insulin: Yes  NO
- 20. Medicene: Yes  NO
- 21. If yes, Types \_\_\_\_\_
- 22. Reason \_\_\_\_\_ .

23. Others diseases (Presence / Absence)

24. If presence, types of diseases

25. How many days/years suffering:

26. When started this disease-

**E) Information about dietary history**

- 27. Appetite:  Good  Fair  Poor
- 28. Presence of food allergies /intolerance : \_\_\_\_\_(type)
- 29. Times of meal taken per day :
- 30. Times of snack taken per day :
- 31. Extra salt consumed : YES NO
- 32. Smoking : YES NO
- 33. Alcohol : YES NO
- 34. Do you watch TV or using mobile phone during meals?
- 35. What time it takes to have a meal usually?
- 36. What do you usually do after taking a meal?  
a) Sleeping b) sitting c) others

**F) Information of the Food Frequency Questionnaire for the Last Week**

<b>Food items</b>	<b>Daily</b>	<b>Frequently (4/5 times per week)</b>	<b>Of time (2/3)</b>	<b>Rarely (1-2 times)</b>
<b>Rice/Bread/ CHO</b>				
<b>Milk</b>				
<b>Meat</b>				
<b>Fish</b>				
<b>Eggs</b>				
<b>Roots and Tubers</b>				
<b>Pulses</b>				
<b>Seasonal Fruits-- - (Mango/---</b>				
<b>Vegetables</b>				
<b>Others (Names)</b>				

**Signature**  
**Date: .....**