IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 24, Issue 12 Ser. 1 (December. 2025), PP 82-97
www.iosrjournals.org

Awareness Among Al-Baha Residents About The Importance Of Diet In The Prevention Of Chronic Diseases

Dr. Ali Dakhel Ali Alghamdi, Shaker Saad Ali Alghamdi.
Family Medicine Consultant

Date of Submission: 01-12-2025 Date of Acceptance: 11-12-2025

I. Introduction:

A healthy diet plays a central and irreplaceable role in preserving human health and preventing a wide range of chronic non-communicable diseases such as obesity, diabetes mellitus, cardiovascular diseases, hypertension, some types of cancer, and osteoporosis. These diseases have become major public health challenges worldwide due to their increasing prevalence, high mortality rates, and the significant economic burden they impose on healthcare systems. Numerous scientific studies have shown that unhealthy dietary habits — such as excessive consumption of processed foods, refined sugars, saturated fats, and sodium — are among the primary risk factors contributing to the development of chronic illnesses.

A nutritious and balanced diet provides the body with essential macronutrients (carbohydrates, proteins, and fats) and micronutrients (vitamins and minerals) necessary for optimal physiological function. It enhances the immune system, supports hormonal balance, strengthens bones and muscles, and helps maintain normal metabolic processes. Moreover, it assists the body in detoxification, tissue repair, and the regeneration of damaged cells. A healthy diet rich in antioxidants and fiber — especially from fruits, vegetables, whole grains, and legumes — also protects the body from oxidative stress and inflammation, which are known to be key contributors to chronic disease development.

Weight management is another crucial benefit of a healthy diet. Maintaining a proper balance between calorie intake and energy expenditure reduces the risk of obesity and its related complications such as type 2 diabetes, heart disease, and certain cancers. However, weight control should not rely solely on calorie restriction; instead, individuals should adopt sustainable dietary patterns that emphasize nutrient-dense foods and portion moderation. The Mediterranean and DASH diets, for example, have been widely recognized for their positive effects on cardiovascular health and longevity.

According to the World Health Organization (WHO), promoting healthy dietary behaviors across all age groups is fundamental for achieving optimal public health. The WHO recommends consuming a variety of foods from all major food groups in appropriate proportions to ensure adequate nutrient intake. It also advises limiting the intake of sugars to less than 10% of total daily energy, reducing salt consumption to less than 5 grams per day, and replacing saturated fats with unsaturated ones derived from fish, nuts, and plant-based oils.

In addition to proper nutrition, engaging in regular physical activity plays a complementary role in preventing chronic diseases. Physical exercise helps regulate blood sugar levels, strengthens cardiovascular and respiratory systems, and improves mental well-being. Routine medical check-ups and laboratory investigations, including blood glucose and lipid profile tests, are also essential for early detection and prevention of metabolic disorders.

Furthermore, raising public awareness about the importance of healthy eating is critical, especially in specific communities such as the Al-Baha region. Awareness campaigns, school health programs, and community-based initiatives can help educate individuals about the impact of dietary habits on long-term health outcomes. Encouraging people to make informed food choices and promoting access to fresh and affordable healthy foods can substantially reduce the prevalence of diet-related diseases.

In conclusion, the promotion of healthy dietary habits is not merely a personal responsibility but a societal goal that requires collaboration among individuals, healthcare providers, and policymakers. By fostering a culture of nutrition awareness, supporting preventive health programs, and ensuring the availability of nutritious food options, communities such as Al-Baha can move toward a healthier, more sustainable future — free from the burden of chronic diseases.

Justification:

Chronic diseases such as diabetes, hypertension, obesity, cardiovascular diseases, and certain types of cancer are among the leading causes of morbidity and mortality worldwide. These diseases are largely preventable through the adoption of a healthy diet and lifestyle. However, many individuals lack sufficient awareness of the critical role that nutrition plays in disease prevention and long-term health maintenance.

Evaluating the level of health awareness regarding dietary practices in the Al-Baha region is essential to identify existing knowledge gaps and to design effective educational interventions. This study aims to assess how well the population of Al-Baha understands the importance of diet in preventing chronic diseases, and to explore factors influencing their eating behaviors and attitudes toward healthy nutrition.

Objectives of the Research:

- To determine the level of awareness among the people of Al-Baha region regarding the importance of a healthy diet in preventing chronic diseases.
- To identify the relationship between dietary habits and awareness levels among the population.
- To highlight the role of health education programs in promoting proper nutritional practices.
- To provide recommendations for improving public health initiatives that encourage healthy eating in the Al-Baha region.

II. Research Methods

Study Design:

This research will adopt a cross-sectional analytic study design with a prospective approach, aiming to evaluate current dietary awareness and behaviors among the target population.

Study Area:

The study will be conducted in the Al-Baha region, located in the southwest of Saudi Arabia. The region is known for its diverse population and unique dietary patterns, which makes it an ideal area for this type of research.

Sample Size:

A total of 300 participants will be selected from the city of Al-Baha using a random sampling technique to ensure representativeness across different age groups, genders, and educational backgrounds.

Data Collection:

Data will be collected through a structured questionnaire specifically designed for this study. The questionnaire will be developed in Arabic and translated into English to ensure clarity and comprehension. It will include sections on demographic information, dietary habits, awareness of chronic diseases, and attitudes toward healthy nutrition.

Analysis procedure:

Data analysis will primarily be descriptive in nature. Statistical analysis will be performed using the Statistical Package for the Social Sciences (SPSS) software for Windows. Frequencies, percentages, means, and standard deviations will be calculated to describe the data, while inferential statistics (such as chi-square tests and correlation analysis) may be used to determine associations between dietary awareness and demographic factors.

Ethical consideration:

Prior to data collection, official permission and ethical approval will be obtained from the relevant health authorities and institutional review board. Participation will be voluntary, and all participants will be informed about the purpose of the study. Confidentiality and anonymity will be strictly maintained. Written informed consent will be obtained from all respondents before completing the questionnaire.

Problem statement:

Lack of public awareness regarding the importance of a healthy diet contributes significantly to the high prevalence of chronic diseases. Educating the community about the role of nutrition in disease prevention can help reduce the incidence and complications associated with these conditions. This study seeks to investigate the level of awareness among the population of Al-Baha region and to identify effective strategies to enhance their dietary behaviors.

Rational:

The majority of individuals suffering from chronic diseases experience long-term complications that could have been prevented through healthier dietary choices and better awareness. Many people are unaware of how nutrition affects disease progression and prevention. By understanding the level of public awareness, health authorities and policymakers can develop targeted interventions to improve dietary habits, reduce disease burden, and enhance quality of life in the Al-Baha region.

Research questions:

- What is the level of awareness among the population of Al-Baha regarding the importance of a healthy diet in preventing chronic diseases?
- Does increased awareness of the long-term complications of chronic diseases lead to reduced incidence and better disease control?

Hypotheses:

There is a positive relationship between awareness of healthy dietary practices and the prevention of chronic diseases.

Higher awareness of the long-term complications of chronic diseases helps limit their spread and severity**.**

Research timeframe									
Research Project	**90 Days**								
Develop Research Proposal									
Ask for permission to access to Statistics									
Correspondent Statistics department									
Bring statistic from statistical department									
Administer instrument(s)									
Ongoing data collection and analysis									
Final collection of data									
Research Report									

3 Months

III. Literature Review:

1. Introduction and General Discussion

Scientific evidence consistently shows that diet is one of the most significant modifiable risk factors associated with the development of non-communicable chronic diseases such as obesity, type 2 diabetes, cardiovascular diseases, certain cancers, and osteoporosis. Global studies have demonstrated that poor dietary patterns — including low intake of whole grains, fruits, vegetables, and nuts, combined with high consumption of added sugars, saturated fats, and salt — substantially contribute to the global burden of disease and mortality.

2. Recommendations from International Health Organizations

The World Health Organization (WHO) and other global health authorities recommend that a healthy diet should include a variety of food groups, restricted intake of added sugars, reduced salt and saturated fats, and replacement of unhealthy fats with unsaturated ones. Energy intake should also be balanced with energy expenditure. These guidelines form the foundation for any health awareness program aimed at promoting healthy dietary behaviors and reducing the risk of chronic diseases.

3. Evidence on the Impact of Healthy Dietary Patterns

Systematic reviews and meta-analyses have shown that adherence to healthy dietary models — such as the Mediterranean diet, the DASH diet, and the EAT-Lancet reference diet — is strongly associated with lower risks of heart disease, type 2 diabetes, and several types of cancer, as well as improved metabolic and mortality outcomes. These findings highlight the importance of focusing public health efforts on promoting evidence-based dietary patterns.

4. The Situation in Saudi Arabia — Evidence and Challenges

National and regional studies conducted in Saudi Arabia indicate a rising prevalence of obesity and diet-related risk factors. Social, economic, and behavioral influences — including the growing impact of social media

on dietary choices — play a major role in shaping nutrition behaviors. Furthermore, studies assessing nutrition knowledge and practices among different population groups (such as students, adults, and healthcare providers) reveal a noticeable gap between nutritional awareness and actual behavior. Many individuals possess knowledge of healthy diets but fail to translate that knowledge into consistent healthy practices.

5. Research Conducted in the Al-Baha Region

Few studies have specifically examined nutritional awareness within the Al-Baha region. Some research has addressed limited topics such as mothers' knowledge of complementary feeding or general nutrition awareness across the Saudi population. However, there appears to be a lack of comprehensive studies assessing the overall public awareness of the role of diet in preventing chronic diseases among Al-Baha residents, especially using a large representative sample (e.g., 3,000 participants). This highlights a clear local research gap that justifies the present study.

6. Research Gaps and the Need for the Study

From the literature reviewed, the following points emerge:

- There is strong global evidence linking diet and chronic disease prevention, yet the application of this evidence varies across cultural and socioeconomic contexts, such as those in the Al-Baha region.
- Previous Saudi studies have explored nutritional awareness among specific subgroups but have not adequately addressed geographic and cultural diversity or the link between knowledge and actual adherence to healthy dietary practices.
- There is a need for standardized KAP (Knowledge, Attitude, and Practice) assessments linked with health indicators (such as BMI or laboratory results) to determine the real impact of awareness on health outcomes.

7. Implications of Literature for the Proposed Study Design

- Based on the existing literature, the proposed study in Al-Baha is justified for several key reasons:
- It will fill a local research gap by providing representative data on dietary awareness among Al-Baha residents.
- It will identify cognitive and behavioral barriers that prevent individuals from turning nutritional knowledge into practice — a challenge identified in other Saudi populations.
- It will support the development of structured, community-based health education interventions (such as school programs, social media campaigns, and public health initiatives) based on WHO recommendations and internationally recognized dietary guidelines.

8. Summary and Research Implications

Global and regional evidence confirms that a healthy diet can significantly reduce the burden of chronic diseases; however, local variations in awareness and behavioral translation remain substantial. Given the limited availability of representative studies in the Al-Baha region, the proposed study — involving a sample of 3,000 participants, an Arabic questionnaire translated into English, and analysis using SPSS — will make an important scientific and practical contribution. The findings can help guide local public health policies and nutrition awareness strategies to promote long-term community health.

Abstract:

A healthy lifestyle consists of several positive and deliberate choices that promote well-being, including engaging in regular physical activity, avoiding harmful habits, and—most importantly—adopting a balanced and nutritious diet. A healthy eating plan supports weight management, enhances physical and mental health, and reduces the risk of many chronic diseases. Choosing a variety of nutrient-rich foods is essential for maintaining the body's physiological balance and sustaining good health over time.

In recent years, nutrition and food consumption have increasingly been recognized as essential and unique components in maintaining overall health and preventing disease. Numerous studies have confirmed that a balanced diet plays a crucial role in reducing the risk of developing chronic diseases such as diabetes, cardiovascular disease, hypertension, stroke, and certain types of cancer. Conversely, poor dietary habits—such as excessive intake of processed foods, sugars, and unhealthy fats—are major contributors to the global rise in obesity and chronic illnesses.

Healthy eating practices should begin early in life. Breastfeeding, for example, promotes healthy growth, supports optimal cognitive development, and offers long-term benefits such as reducing the risk of being overweight or obese and lowering the likelihood of developing chronic diseases later in adulthood. Encouraging healthy habits from infancy helps establish a strong foundation for lifelong health.

Maintaining a proper energy balance—that is, the relationship between calories consumed and calories expended—is a cornerstone of nutritional health. To avoid unhealthy weight gain, total fat intake should not exceed 30% of total daily energy intake, while saturated fats should account for less than 10%, and trans fats

should remain below 1% of total energy intake. Health experts recommend replacing saturated and trans fats with unsaturated fats from plant-based oils, fish, and nuts, with the ultimate goal of eliminating industrially produced trans fats entirely.

Limiting free sugar intake to less than 10% of total daily energy is recommended, with further reduction to below 5% offering additional health benefits such as lowering the risk of dental caries and obesity. Similarly, sodium (salt) consumption should not exceed 5 grams per day (equivalent to less than 2 grams of sodium), as this helps prevent high blood pressure and reduces the risk of heart disease and stroke among adults.

A calorie is a unit of energy used to measure the energy content of food and beverages. Consuming more calories than the body expends leads to weight gain, while consuming fewer results in weight loss. Therefore, it is important to consume an amount of calories appropriate for one's body weight, height, age, gender, and physical activity level.

- For example, an average adult woman needs approximately 2,000 calories per day to maintain her weight and around 1,500 calories per day to lose about 0.45 kg (1 pound) per week.
- An average adult man requires approximately 2,500 calories per day to maintain his weight and about 2,000 calories per day to lose the same amount of weight weekly.

To maintain a healthy diet, it is essential to limit foods and beverages high in:

- Saturated fats, added sugars, and sodium (salt).
- Consume less than 10% of total daily calories from added sugars.
- Consume less than 10% of total daily calories from saturated fats.
- Limit sodium intake to less than 2,300 mg per day.

In addition to these dietary recommendations, individuals are encouraged to increase their consumption of fruits, vegetables, whole grains, legumes, and lean protein sources, while drinking plenty of water and minimizing sugary beverages. Establishing consistent meal times, avoiding overeating, and practicing mindful eating can also enhance digestive and metabolic health.

Finally, consulting a nutrition specialist or dietitian—especially in healthcare facilities available in the Al-Baha region—can significantly improve dietary habits. Professional dietary assessment helps individuals develop personalized nutrition plans based on their caloric needs, medical conditions, and lifestyle factors. Such guidance contributes to achieving optimal nutrition, preventing chronic diseases, and promoting long-term health and well-being across the community.

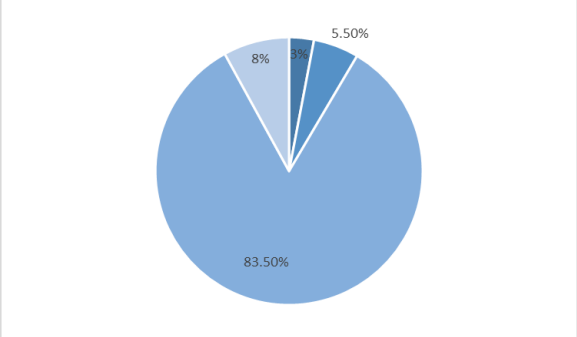
Methodology:

- A cross-sectional web-based survey was conducted among the residents of the Al-Baha region.
- The questionnaire consisted of several sections focusing on participants' socio-demographic characteristics and various aspects related to dietary habits and health awareness.
- A total of 300 responses were collected from participants residing in Al-Baha city.
- A specially designed structured questionnaire was developed specifically for this study in Arabic and subsequently translated into English to ensure clarity and consistency of content.

IV. Results:

A total of 300 questionnaires were completed. The results for Question 1: "Do you have diabetes?" are summarized as follows:

- Type 1 diabetes: 3% of respondents reported having type 1 diabetes.
- Type 2 diabetes: 5.5% of respondents reported having type 2 diabetes.
- No diabetes: 83.5% of respondents reported not having diabetes.
- Don't know: 8% of respondents were unsure whether they had diabetes.



Based on the statistic of question 1 percentage People with type 1 diabetes = 3%, people with type 2 diabetes 5.5%, so it is necessary to educate the community about the importance of healthy food to prevent diabetes and calculate calories for the meals that the body needs per day.

And based on the statistics of question 1, the percentage of those who do not know that they have or do not have diabetes = 10%, so it is necessary to spread awareness of the importance of conducting rapid tests and laboratory tests.

Diabetes is a chronic condition characterized by elevated levels of glucose (sugar) in the blood. Early detection is crucial, as prolonged high blood glucose can lead to serious long-term complications affecting the heart, kidneys, eyes, and nerves.

The early symptoms of diabetes can be subtle, particularly in type 2 diabetes, and some individuals may not notice them until complications arise. In contrast, type 1 diabetes typically develops rapidly over a few days or weeks, and its symptoms are generally more severe.

Early Signs of Diabetes

Both type 1 and type 2 diabetes share several common warning signs, including:

- Frequent urination (polyuria): Increased urination, especially at night.
- Excessive thirst (polydipsia): Persistent and intense thirst.
- Fatigue: Feeling unusually tired or lacking energy.
- Unexplained weight loss: Losing weight without intentional changes in diet or exercise.
- Genital itching or recurrent infections: Such as thrush.
- Slow-healing cuts and wounds.
- Blurred vision.
- Increased hunger (polyphagia).

Most Common Symptoms

Symptoms can vary between individuals, and not everyone will experience all signs. However, the most frequently reported symptoms among people with diabetes are: increased thirst, frequent urination, fatigue, and unexplained weight loss.

Risk Factors for Diabetes

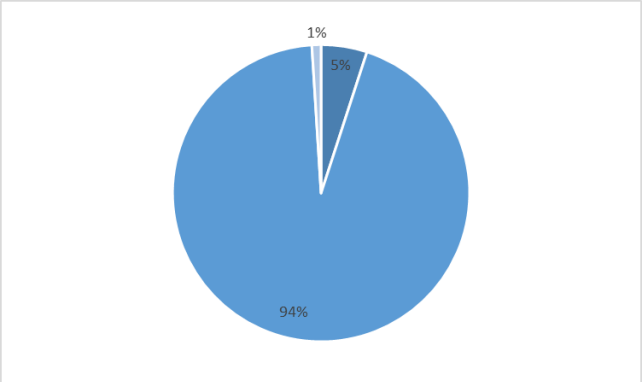
Certain individuals are at higher risk of developing diabetes due to a combination of genetic, ethnic, and lifestyle factors. These include:

- Family history of diabetes.
- Obesity or overweight.
- Sedentary lifestyle.
- Unhealthy diet high in sugars and saturated fats.
- Certain ethnic backgrounds that are more prone to type 2 diabetes.

Understanding these early signs and risk factors is essential for timely diagnosis and effective management of diabetes, thereby reducing the likelihood of long-term complications and improving overall health outcomes.

Question 2: “Do you have hypertension?”

- Yes: 5% of respondents reported having hypertension.
- No: 94% of respondents reported not having hypertension.
- Don’t know: 1% of respondents were unsure whether they had hypertension.



Based on the statistics of question 2, the percentage of people with Hypertension disease = 5%, so it is necessary to educate the community about the importance of healthy food to prevent Hypertension disease and to calculate the calories of the meals that the body needs daily.

Based on the statistics of the first question, the percentage of those who do not know that they have or do not have Hypertension disease = 1%, so it is necessary to spread awareness of the importance of conducting examinations.

Blood pressure is the force exerted by circulating blood against the walls of the body's arteries, which are the major blood vessels. Hypertension (high blood pressure) occurs when this force is consistently too high.

Blood pressure is expressed as two numbers:
- The first number, systolic pressure, represents the pressure in the blood vessels when the heart contracts or beats.
- The second number, diastolic pressure, represents the pressure when the heart rests between beats.

Diagnosis of Hypertension:
Hypertension is diagnosed if measurements taken on two different days show:
- Systolic blood pressure ≥ 140 mmHg and/or
- Diastolic blood pressure ≥ 90 mmHg

Common Symptoms of Hypertension

Hypertension is often referred to as the "silent killer", because many individuals remain unaware they have the condition due to the absence of noticeable symptoms. For this reason, regular blood pressure measurement is essential.

When symptoms do appear, they may include:
- Early morning headaches
- Nosebleeds
- Irregular heart rhythms
- Vision changes
- Ringing in the ears (tinnitus)

Severe hypertension can cause additional symptoms such as:
- Fatigue
- Nausea and vomiting
- Confusion and anxiety
- Chest pain
- Muscle tremors

The only reliable method to detect hypertension is measurement by a health professional. While automated home devices are available, professional assessment is crucial to evaluate risks and associated conditions.

Complications of Uncontrolled Hypertension
If left uncontrolled, hypertension can lead to serious complications affecting multiple organs:

Cardiovascular Complications:
- Chest pain (angina): Reduced blood and oxygen flow to the heart due to hardened arteries.
- Heart attack (myocardial infarction): Occurs when blood supply to the heart is blocked, causing death of heart muscle cells.
- Heart failure: The heart cannot pump enough blood and oxygen to meet the body's needs.
- Arrhythmias: Irregular heartbeats that may lead to sudden cardiac death.

Cerebrovascular Complications:
- Hypertension can rupture or block arteries supplying blood and oxygen to the brain, causing a stroke.

Renal Complications:
- Hypertension can damage the kidneys, potentially leading to kidney failure.

Risk Factors for Hypertension
Modifiable Risk Factors:
- Unhealthy diet (excessive salt, high saturated and trans fats, low intake of fruits and vegetables)
- Physical inactivity
- Tobacco and alcohol use
- Overweight or obesity

Non-Modifiable Risk Factors:
- Family history of hypertension
- Age over 65 years
- Co-existing conditions such as diabetes or kidney disease

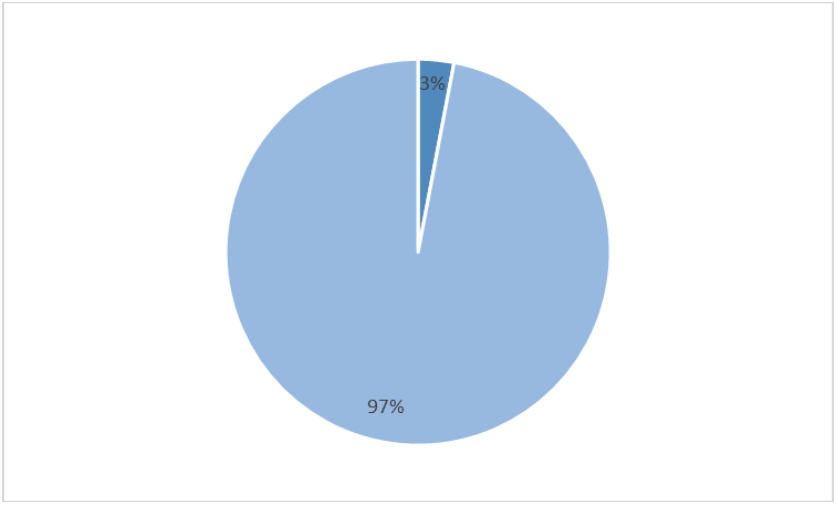
Reducing the Burden of Hypertension

Effective management and prevention of hypertension significantly reduce the risk of heart attack, stroke, kidney damage, and other health problems.

Prevention Strategies:
- Reduce salt intake to less than 5 grams per day
- Consume more fruits and vegetables
- Engage in regular physical activity
- Avoid tobacco use
- Limit alcohol consumption
- Reduce intake of foods high in saturated fats
- Eliminate or reduce trans fats in the diet

Management Strategies:
- Reduce and manage stress
- Regularly monitor blood pressure
- Treat elevated blood pressure as advised by healthcare providers
- Manage co-existing medical conditions

Question 3: "Do you have heart disease?"
- Yes: 3% of respondents reported having heart disease.
- No: 97% of respondents reported not having heart disease.



Based on the statistics of question 3, the percentage of people with heart disease = 3%, so it is necessary to educate the community about the importance of healthy food to prevent heart disease, and it is necessary to spread awareness of the importance of conducting examinations and analyzes.

Heart Disease: Types, Symptoms, Risk Factors, and Management

Heart disease refers to a range of conditions that affect the heart and its associated blood vessels. Common types of heart disease include:

- Coronary artery disease (blood vessel disease)
- Arrhythmias (irregular heartbeats)
- Congenital heart defects (heart problems present at birth)
- Cardiomyopathy (disease of the heart muscle)
- Heart valve disease (valvular heart disease)

Symptoms of Heart Disease
The symptoms of heart disease vary depending on the type and severity of the condition.

1. Coronary Artery Disease (Blood Vessel Disease)

Coronary artery disease is caused by the buildup of cholesterol deposits (plaques) in the arteries, a condition known as atherosclerosis. This reduces blood flow to the heart and other parts of the body and can lead to angina (chest pain), heart attack, or stroke. Symptoms may differ between men and women:
- Men: More likely to experience chest pain.
- Women: May experience chest discomfort along with shortness of breath, nausea, or extreme fatigue.

Common symptoms include:
- Chest pain, tightness, or pressure (angina)
- Shortness of breath
- Pain in the neck, jaw, throat, upper abdomen, or back
- Pain, numbness, weakness, or coldness in the arms or legs if blood vessels are narrowed

Coronary artery disease may remain undiagnosed until a serious event, such as a heart attack, angina, stroke, or heart failure, occurs. Regular health checkups are essential for early detection.

2. Heart Arrhythmias (Irregular Heartbeats)
Heart arrhythmias occur when the heart beats too fast, too slow, or irregularly. Symptoms include:
- Chest pain or discomfort
- Dizziness or lightheadedness
- Fainting or near-fainting (syncope)
- Palpitations or fluttering in the chest
- Shortness of breath
- Rapid heartbeat (tachycardia) or slow heartbeat (bradycardia)

3. Congenital Heart Defects
Serious congenital heart defects are often identified shortly after birth and may cause:
- Cyanosis (pale, gray, or bluish skin and lips)
- Swelling in the legs, abdomen, or around the eyes
- Difficulty breathing during feeding in infants, leading to poor weight gain

Less severe congenital defects may be diagnosed later and cause:
- Shortness of breath during activity
- Fatigue during exercise
- Swelling of hands, ankles, or feet

4. Cardiomyopathy (Heart Muscle Disease)
Symptoms may not appear in early stages but can develop as the condition worsens:
- Dizziness, lightheadedness, or fainting
- Fatigue
- Shortness of breath during activity or at rest
- Nighttime breathlessness or waking up short of breath
- Irregular or rapid heartbeats
- Swelling of legs, ankles, or feet

5. Valvular Heart Disease (Heart Valve Problems)

Heart valve disease occurs when one or more of the heart's valves (aortic, mitral, pulmonary, or tricuspid) are damaged. This can result in:
- Chest pain
- Fainting

- Fatigue
- Irregular heartbeat
- Shortness of breath
- Swelling of feet or ankles

Endocarditis, an infection of the heart valves and inner lining (endocardium), can cause:
- Persistent cough
- Fever
- Heartbeat changes
- Shortness of breath
- Skin rashes or unusual spots
- Swelling of legs or abdomen
- Weakness or fatigue

When to Seek Medical Attention
Immediate medical care is required if experiencing:
- Chest pain
- Shortness of breath
- Fainting

Risk Factors for Heart Disease
Non-modifiable risk factors:
- Age (older age increases risk of arterial damage and weakened heart muscle)
- Sex (men are at higher risk; post-menopausal women's risk increases)
- Family history of early heart disease

Modifiable risk factors:
- Smoking (tobacco damages arteries and increases heart attack risk)
- Unhealthy diet (high in fat, salt, sugar, and cholesterol)
- High blood pressure (can harden arteries and reduce blood flow)
- High cholesterol (promotes atherosclerosis)
- Diabetes
- Obesity
- Physical inactivity
- Chronic stress
- Poor dental hygiene (can lead to endocarditis)

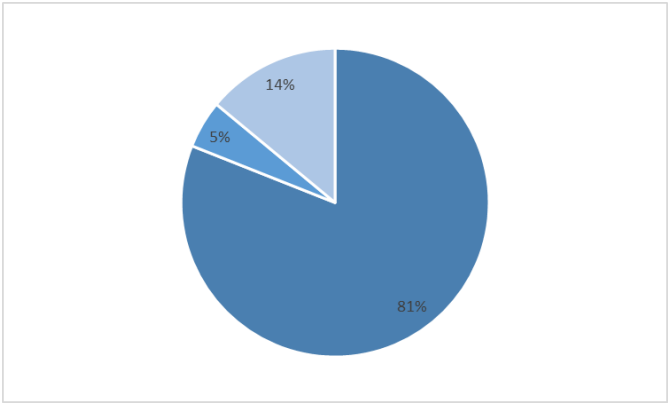
Complications of Heart Disease
Heart disease can lead to several serious complications, including:
- Heart failure: Inability of the heart to pump sufficient blood
- Heart attack: Blockage of blood flow to the heart
- Stroke: Blockage or narrowing of arteries to the brain
- Aneurysm: Bulging of artery walls, which can rupture
- Peripheral artery disease: Reduced blood flow to arms or legs, causing pain
- Sudden cardiac arrest: Loss of heart function, breathing, and consciousness

Prevention and Management of Heart Disease
Preventive measures:
- Avoid smoking
- Maintain a diet low in salt and saturated fats
- Exercise at least 30 minutes daily on most days
- Maintain a healthy weight
- Manage and reduce stress
- Control blood pressure, cholesterol, and diabetes
- Ensure adequate sleep (7–9 hours per night for adults)

Management strategies:
- Regular medical checkups and monitoring
- Treatment of underlying conditions

- Lifestyle modifications to reduce risk factors

Question 4: "Do you know the main health problems and diseases that can result from consuming excessive amounts of sugar?"
- Yes: 81% of respondents reported being aware of the health risks associated with high sugar consumption.
- No: 5% of respondents reported not being aware.
- Not sure: 14% of respondents were uncertain about the health effects of excessive sugar intake.



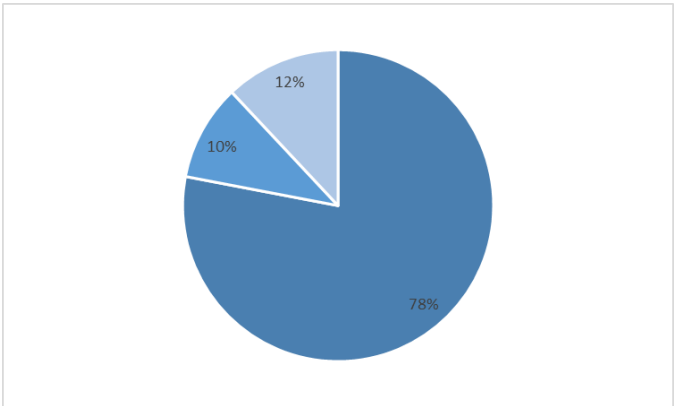
Based on the statistics of Question 4, the percentage of people who do not know about health problems and diseases resulting from consuming large amounts of sugar = 5%, the percentage of those who answered that they are not sure = 14%.

It is necessary to educate the community of Al-Baha region about the harmful effects of consuming large amounts of sugar.

You can reduce calories without compromising on proper nutrition by reducing the amount of sugar in your diet. In fact, cutting out foods with added sugars may make it easier to get the nutrients you need without going over your calorie target.

Side effects of excessive sugar intake are:
- Obesity.
- Diabetic disease.
- Hypertension disease.

Question 5: "Do you know the main health problems or diseases that can result from consuming excessive amounts of fat?"
- Yes: 78% of respondents reported being aware of the health risks associated with high fat consumption.
- No: 10% of respondents reported not being aware.
- Not sure: 12% of respondents were uncertain about the health effects of excessive fat intake.



Based on the statistics of Question 5, the percentage of people who do not know about health problems and diseases resulting from consuming large amounts of fat = 10%, the percentage of those who answered that they are not sure = 12%.

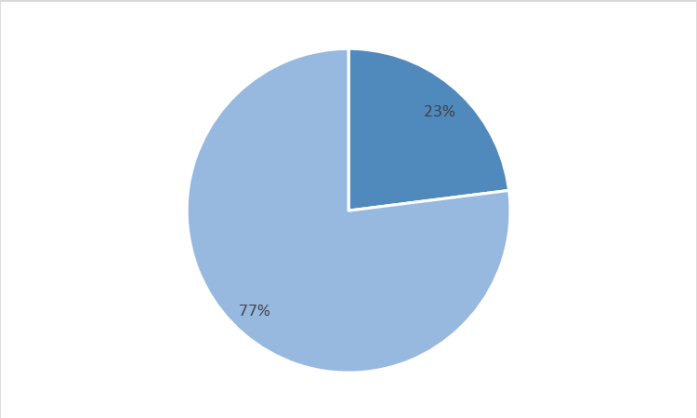
It is necessary to educate the community of Al-Baha region about the harmful effects of consuming large amounts of fat.

The amount of fat recommended to be consumed by an adult is estimated at between 20-35% of the total daily calories. Which means 44 - 77 grams of fat per day if 2000 calories per day are consumed, and it is indicated that the recommended amounts to be eaten according to the type of fat are as follows:

- 15 - 20% of monounsaturated fats.
- 5-10% of polyunsaturated fats.
- Less than 10% of saturated fat.
- 0% trans fat.
- Generally, less than 300 milligrams per day of cholesterol.

Question 6: "Do you suffer from obesity?"

- Yes: 23% of respondents reported being affected by obesity.
- No: 77% of respondents reported not being affected by obesity.



Based on the statistics of Question 6: The percentage of participants in the questionnaire who suffer from obesity = 23%

It is necessary to educate the community of Al-Baha region about the harms of obesity and the importance of healthy food in getting rid of obesity.

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A body mass index (BMI) over 25 is considered overweight, while a BMI over 30 is classified as obese.

Risk Factors

Obesity typically results from a combination of genetic, environmental, and lifestyle factors:

1. Genetic and Familial Influences

The genes inherited from parents can affect:

- The amount and distribution of body fat
- How efficiently the body converts food into energy
- Appetite regulation
- Caloric expenditure during physical activity

Obesity often runs in families, not only due to shared genetics but also because family members tend to have similar eating habits and activity levels.

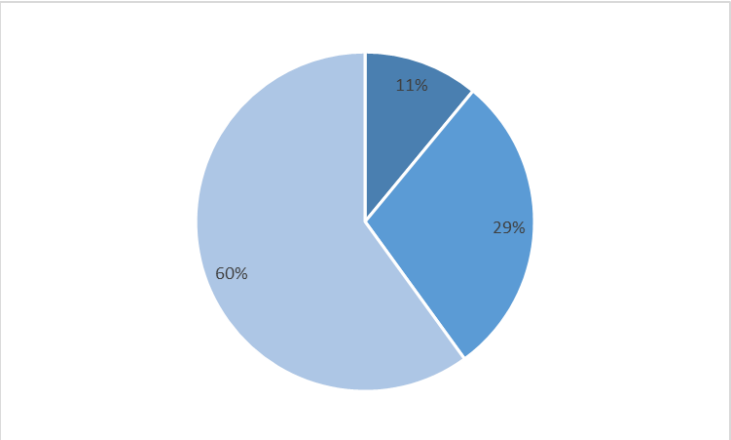
2. Lifestyle Factors

- Unhealthy diet: Diets high in calories, low in fruits and vegetables, rich in fast food, sugary beverages, and oversized portions contribute significantly to weight gain.
- Liquid calories: Sugary drinks and other high-calorie beverages provide substantial calories without inducing fullness, promoting excessive caloric intake.
- Physical inactivity: A sedentary lifestyle, including prolonged time spent using computers, tablets, or phones, is strongly associated with weight gain.
- Pregnancy: Weight gain during pregnancy is common, and some women find it difficult to lose this weight postpartum, increasing the risk of obesity.

- Quitting smoking: Weight gain can occur after quitting smoking, as individuals may use food to cope with withdrawal. However, the overall health benefits of quitting outweigh the risks of weight gain.
- Sleep patterns: Both insufficient and excessive sleep can disrupt hormonal balance, increase appetite, and promote cravings for high-calorie foods.
- Stress: Emotional stress may lead to increased consumption of high-calorie foods, contributing to weight gain.
- Gut microbiome: The composition of gut bacteria, influenced by diet, can affect weight gain and weight loss efficiency.

Complications of Obesity
Individuals with obesity are at increased risk for a variety of serious health problems, including:
- Cardiovascular disease and stroke: Obesity increases the likelihood of high blood pressure and abnormal cholesterol levels, major risk factors for heart disease and stroke.
- Type 2 diabetes: Excess body fat can impair insulin regulation, increasing the risk of insulin resistance and diabetes.
- Certain cancers: Obesity is associated with higher risk of cancers of the uterus, cervix, endometrium, ovary, breast, colon, rectum, esophagus, liver, gallbladder, pancreas, kidney, and prostate.
- Digestive disorders: Increased risk of heartburn, gallbladder disease, and liver problems.
- Sleep apnea: Obesity is linked to obstructive sleep apnea, a disorder characterized by repeated interruptions in breathing during sleep.
- Osteoarthritis: Excess weight places stress on weight-bearing joints and promotes systemic inflammation, increasing the risk of osteoarthritis.
- Severe COVID-19 symptoms: Obesity increases the risk of developing severe illness if infected with SARS-CoV-2, potentially requiring intensive care or mechanical ventilation.

Question 7: “Do you eat fast food frequently?”
- Yes: 11% of respondents reported consuming fast food frequently.
- No: 29% of respondents reported not consuming fast food.
- Sometimes: 60% of respondents reported consuming fast food occasionally.

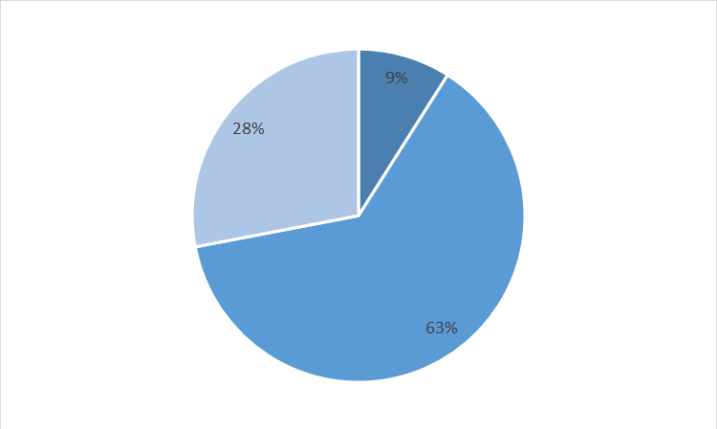


Based on the statistics of question 7: Percentage of respondents who constantly eat fast food = 11%

The need to educate the community of Al-Baha about the harmful effects of fast food and the importance of healthy food.

Fast food is considered more unhealthy than home meals, because it contains a large amount of fats, salts, additives and harmful bacteria, in addition to the fact that fast food that contains a large amount of salts has a negative effect on heart health.

Question 8: “Do you count calories in your daily diet?”
- Yes: 9% of respondents reported regularly counting calories in their daily diet.
- No: 63% of respondents reported not counting calories.
- Sometimes: 28% of respondents reported counting calories occasionally.



Based on the statistics of question 8: The percentage of respondents who do not count calories in their daily diet = 63%

The need to educate the Baha community about the importance of counting calories in daily food.

Calories are used to express the amount of energy the body needs in order to be able to do various basic things, including:

- breathing.
- thinking.
- Keep your heartbeat.

In order to know the importance of counting calories in food, it is necessary to understand how the body uses them, and we must know the sources of calories in food, which include:

- carbohydrates.
- protein.
- Fats.

During digestion, the body breaks down the foods that are eaten into smaller units, and distributes them throughout the body as needed. They may be used to build tissues or to provide the body with the energy it needs to meet its immediate needs. The amount of energy the body gets from the subunits depends on its source. As follows:

- Carbohydrates: 4 calories per gram.
- Protein: 4 calories per gram.
- Fat: 9 calories per gram.

The calories from metabolizing these nutrients are used by the body to power three main processes:

- Basic metabolism: In metabolism, most calories are used by the body to perform basic functions, such as delivering energy to the brain, kidneys, lungs, heart, and nervous system.
- Digestion: Part of the calories are used by the body to help digest the foods that are eaten.
- Physical Activity: The remaining calories fuel the body to be able to carry out daily tasks and exercise.

The total number of calories needed for these functions can vary greatly from day to day and person to person.

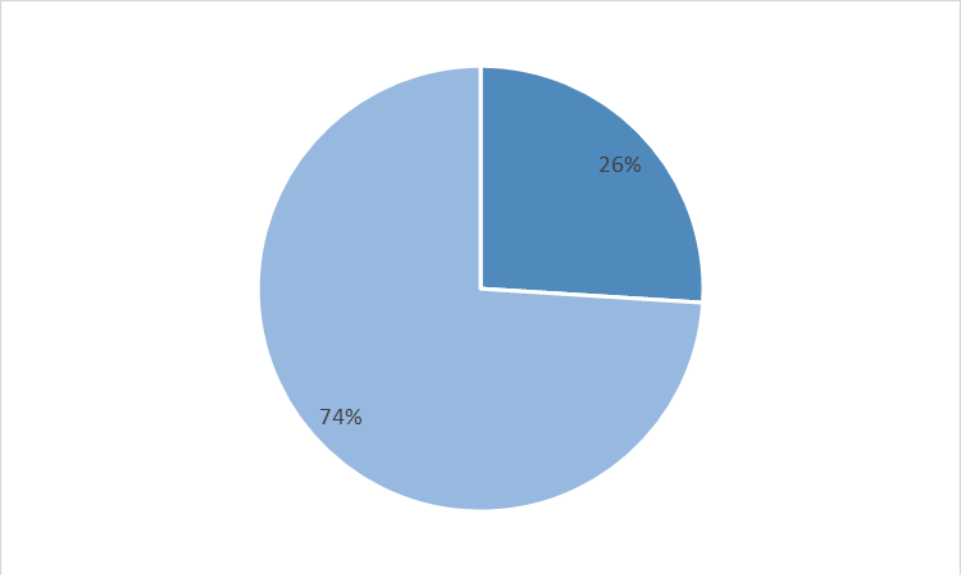
In order to calculate calories in food, two important things must be distinguished, namely:

- The amount of food.
- The quality of the food.

The number of calories the body needs depends on a set of determinants, namely:

- weight.
- sex.
- the age.
- height.
- activity levels.

Question 9: "Have you ever consulted a doctor regarding dieting?"
- Yes: 26% of respondents reported having consulted a doctor about dieting.
- No: 74% of respondents reported not consulting a doctor regarding dieting.

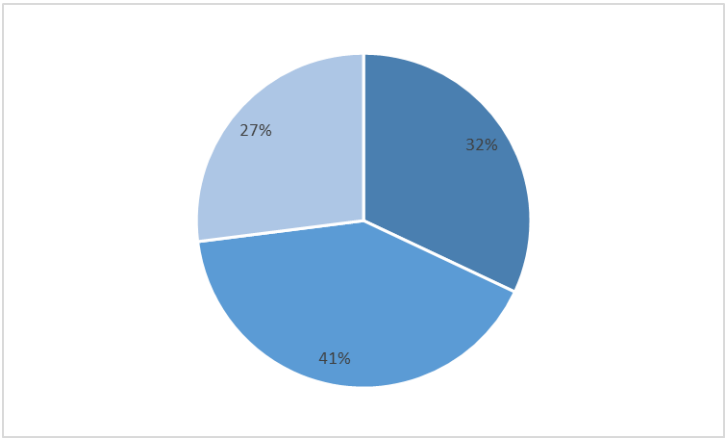


Based on the statistics of Question 9: The percentage of those who did not consult a doctor about their diet = 74%.

It is necessary to go to a specialized doctor to find out the needs of the body in terms of proteins, carbohydrates, and others.

There are nutrition clinics in various hospitals in the Al-Baha region. We recommend that you visit the hospital closest to your home and you will receive the service.

Question 10: "Have you followed a diet during the last two years?"
- Yes: 32% of respondents reported following a diet consistently over the past two years.
- No: 41% of respondents reported not following any diet during this period.
- Occasionally: 27% of respondents reported following a diet at different times.



Based on the statistics of Question 10: The percentage of those who did not follow a diet during the last two years = 41%.

It is necessary to raise awareness of the community of Al-Baha region about the importance of a healthy diet.

Goals to Be Achieved:
- Adherence to a healthy diet to prevent chronic diseases.
- Conduct periodic laboratory tests for early detection of diabetes.
- Perform regular check-ups to monitor and detect high blood pressure.

- Undergo periodic examinations for early detection of heart diseases.
- Maintain body mass index (BMI) within the normal range of 18.5–24.9.
- Consult a healthcare professional regarding daily caloric intake.
- Seek professional advice on an appropriate diet tailored to individual body needs.

V. Conclusion:

Our survey concluded that the community in the Al-Baha region is generally aware of healthy eating and its role in preventing chronic diseases. However, certain gaps in knowledge remain, highlighting the need for increased awareness through voluntary campaigns aimed at educating the public about chronic diseases.

Healthcare professionals specializing in chronic diseases should actively educate patients during hospital visits about the importance of healthy nutrition, offer courses on chronic disease prevention, and publish educational materials online to reach a wider audience.

Additionally, it is essential to educate students in schools about the significance of healthy eating and provide courses on chronic disease prevention. These initiatives will contribute to building a healthier society in the future.

References:

[1]. Https://Www.Who.Int/Ar/News-Room/Fact-Sheets/Detail/Healthy-Diet
[2]. Https://Www.Moh.Gov.Sa/Healthawareness/Educationalcontent/Food-And-Nutrition/Pages/001.Aspx
[3]. Https://Www.Diabetes.Org.Uk/Diabetes-The-Basics/Diabetes-Symptoms
[4]. Https://Www.Webmd.Com/Diabetes/Guide/Understanding-Diabetes-Symptoms
[5]. Https://Www.Who.Int/News-Room/Fact-Sheets/Detail/Hypertension
[6]. Https://Www.Mayoclinic.Org/Diseases-Conditions/Heart-Disease/Symptoms-Causes/Syc-20353118
[7]. Https://Www.Mayoclinic.Org/Ar/Healthy-Lifestyle/Nutrition-And-Healthy-Eating/In-Depth/Added-Sugar/Art-20045328
[8]. Https://Www.Mayoclinic.Org/Diseases-Conditions/Obesity/Symptoms-Causes/Syc-20375742