

# Evaluating the Relationship between Chronic Diseases and Obesity

Khadija A.AlRadi<sup>1</sup>, Najla S.Alshehri<sup>2</sup>, Zainab H.Alzaymoor<sup>3</sup>, Hassan M.Almohana<sup>3</sup>, Eman A.Alqassab<sup>3</sup>, Mariam A.Alhaibah<sup>4</sup>, Fatemh M.Alyousef<sup>4</sup>, Ahmed A.Alwayel<sup>5</sup>, Talal A.Alsaqr<sup>6</sup>, Afnan A.Almusharif<sup>6</sup>

Nursing technician at ministry of health branch in eastern region<sup>1</sup>

Nursing technician at regional laboratory<sup>2</sup>

nursing technician at comperhensive screening center in Dammam<sup>3</sup>

health assistant at comperhensive screening center in Dammam<sup>4</sup>

nursing technician at Aljaber kidney center<sup>5</sup>

health assistant central blood bank in Dammam<sup>6</sup>

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## Abstracts

The current study aims to examine the importance of the relationship between chronic diseases and obesity, what are the complications of obesity, and what is the impact of chronic diseases on human health. A questionnaire was prepared via Google Drive and distributed to the population aged 25-55 years, men and women, in the city of Dammam. It was distributed via the social networking program (WhatsApp), 500 questionnaires were distributed, and 480 responses were obtained via Google Drive and sent to the researcher's email.

## 1. Introduction

we can realize fatness as an extravagant or abnormal cumulation of fat that hurts a person's health. The major reason of weight gain and obesity is an energy imbalance between the calories that enter the body and the calories it burns. Body Mass proportion (BMI): It is an index to measure high body fat and thus to assort overweight or obesity by: calculating the ratio of a person's weight in kilograms to the square of his height in meters ( $\text{kg/m}^2$ ). A high portion can be an indicator of a high percentage of body fat (1). Obesity is a health concern in Saudi Arabia, as health reports mark that obesity is one of the leading sources of fate in Saudi Arabia. According to Forbes magazine, Saudi Arabia ranks 29th as the most obese country in the world, with about 68.3% of Saudis complaining from being overweight (body mass signal  $> 25$ ) according to the list issued in 2007 (2). What rise the trouble is that, according to the presentation presented at the third International Obesity Conference in February 2014, obesity-linked surgeries are not contain in the framework of health care in Saudi Arabia (3). A report by Okaz newspaper in 2018 stated that the Saudi Shura Council is discussing approving laws that supply health care for those suffering from obesity (4). A study by the Executive Office of the Gulf

Ministry of Health Council stated that the number of deaths due to obesity in Saudi Arabia is approximately 20 thousand cases annually (5), and its reason expenditure of about 19 billion annually (6). The report stated that the Ministry of Health is planning to perform 10 initiatives that it developed within the health strategy, most notably decrease obesity rates and enhancing the level of public health, so that the Kingdom is among the twenty most advanced countries (7). In mid-2016, the Saudi Ministry of Health issued statistics stating that 40% of Saudi males complain obesity, while about 62% of Saudi women suffer from it. Thus, Saudi Arabia grades third in the world in the percentage of women suffering from obesity, as a study conducted by the obesity research Chair in “King Saud University”: Three quarters of Saudi society are obese, with a rate of 70% for men and 75% for women. Statistics show that more than 80% of cases of type 2 diabetes in Saudi Arabia are related to obesity. According to the World Health Organization, Saudi Arabia is seen one of the ten countries in the world with the highest rates of obesity, as about 65% of adults in Saudi Arabia currently suffer from overweight, and 28% complain from obesity, and this drive to these people mostly suffering from illness linked to excess weight, Such as type 2 diabetes, high blood pressure, in addition to the emotional disturbance and anxiety connected with obesity (8). Okaz newspaper specified in 2018 that there are more than 3 million Saudi children complaining from obesity, and that more than 36% of the Saudi population is suffering from the fatal obesity illness (9). In December 2018, it was declared during the “Riyadh Obesity Forum,” which was held in the “Sultan Bin Abdulaziz Humanitarian Services City,” that the obesity rate in Saudi Arabia was approaching 40%. The head of the Saudi Society for Obesity Medicine and Surgery, Adnan Mufti, certain that the Eastern Province leads the infection rate due to “lifestyle, dietary behavior and the nature of the atmosphere there.” It has also been noted that the infection rate of women is higher than that of men (10). Substantial literature indicates that overweight and obese individuals have a grow risk of developing a number of chronic illness, which can lead to further morbidity and mortality (11-13), with morbidity having a more pronounced impact (14). Such chronic illness contains type 2 diabetes, cardiovascular illness (CVD) and cardiovascular risk factors, respiratory diseases such as asthma, musculoskeletal disorders such as osteoarthritis and low back pain, several cancers, and depression (15,16,17). The high prevalence of overweight and obesity in Ireland, 36% and 14% respectively (18), based on self-reported data, is likely to be contributing to an increase in the overall burden of chronic disease. At present, the cumulative burden of prevalent chronic disease associated with overweight and obesity is not well quantified. The most important reason of obesity: Who has a family history of illness. The nature of the dietary pattern of the individual or family. Absence or lack of exercise. Some diseases, such as: Cushing's syndrome, underactive thyroid, and Prader-Willi syndrome, and some medical problems can lead to lack of movement, such as: arthritis, which may outcome in weight gain. Some drugs, such as: antidepressants, some diabetes medications, some epilepsy medications, as well as some contraceptives, may lead to weight gain. Sleep disorder: not getting enough sleep, or vice versa, can purpose changes in hormones that increase appetite. Getting older. Pregnancy. Diagnosis: Health history: Your doctor may review your history of weight and efforts to lose it, exercise habits, eating patterns and other conditions you have, as well as medications, stress levels and other issues related to your health. Your doctor may also review your family health history. Initial diagnosis: weight, height, high blood pressure, heart rate and temperature. Body mass percentage (BMI). Measure waist circumference. Blood tests: include blood cholesterol tests, liver function tests, thyroid

tests, and others. Your doctor may also recommend certain heart tests, such as an EKG. Weight loss medications: These medications must be used under the supervision of a doctor and dispensed with a prescription. Examples: Liraglutide and Semaglutide. Approved uses of these medications: Treatment for diabetics. It helps people lose weight (people who suffer from obesity, or those who suffer from chronic diseases) (1).

## **2. Material and Methods:**

The study began in (the city of Dammam in the Kingdom of Saudi Arabia), and began writing the research and then recording the questionnaire in January 2024, and the study ended with writing the data collection in June 2024. The researcher used descriptive analysis, an approach that uses quantitative or qualitative description of the social phenomenon (evaluating the relationship between chronic diseases and obesity) and the variable. The independent variable (the percentage of chronic diseases and obesity rates globally) and the dependent variable (the percentage of chronic diseases and obesity rates in Mecca). This type of study is characterized by analysis, reason, objectivity, and reality. It is also concerned with individuals and societies, as it studies the variables and their impact on the health of the individual, society, and the consumer, and the spread of diseases and their relationship. For demographic variables such as age, gender, nationality, and marital status. Status and occupation (19), and use the Excel 2010 Office suite pie chart to sort the results (20). The questionnaire is a wonderful and useful tool for collecting a huge amount of data, but the researchers were not able to conduct personal interviews with the participants in the online survey, only answered electronically, it is consisting of eighteen questions, all of which are closed-ended.

## **3. Results and discussion:**

The approval rate for participation in the scientific paper questionnaire was 99.7%, while the rejection rate was 0.3%. As for the percentage of participants' ages, it was as follows: 25-34: it was 34.9%, and from the ages of 35-44% it was 35.1%, and from the age of 45 -55 years old, the percentage was 30%. As for the gender of the participants in the questionnaire, it was noted that the percentage of females was high, reaching 78.2%, while males were 21.8%. As for their nationalities, the percentage of Saudi men and women was high at 77.8%, and non-Saudis and men were 22.2%. As for their marital status, it was as follows: married 67.5%, single 22.5%, divorced 6%, and widowed 4%. As for their educational status: illiterate (cannot read or write) 0%, primary and intermediate certificates (equal) 2%, secondary school certificate holders 17.7%, university degree holders 64%, postgraduate and doctoral studies 14%, and as for their professions, it was as follows: The percentage The highest percentage was for government employees It was as follows: The highest percentage was for government employees at 59.7%, while the percentage of private sector employees was 8%, retirees 9%, freelancers 2%, and students 5.1%. When moving to answer the questionnaire questions, the answers were as follows: the first question: are chronic diseases (diabetes, blood pressure) related to obesity in humans? Yes 86.8% and no 13.2%. The second question is: Is obesity defined as an excessive or abnormal accumulation of fat that harms an individual's health? Yes 96.8% and No 3.2%. The third

question: do you suffer from chronic diseases (diabetes, blood pressure)? Yes, 25% and no, 75%. The fourth question: do you suffer from excess body weight? Yes 45.4% and no 54.6%. The fifth question: do you have a family history of chronic diseases and obesity? Yes 53.7% and no 46.3%. The sixth question: do you follow a beneficial diet to lose weight? Yes 46.2% and no 53.8%. The seventh question: Are you a practitioner of sports? Yes 46.2% and no 53.8%. The eighth question: do you have some diseases, such as: Cushing's syndrome, an underactive thyroid gland, and Prader-Willi syndrome, which can lead to some medical problems such as lack of movement, and arthritis, which may result in weight gain? Yes 14.1% and no 85.9%. The ninth question: do you use some medications, such as: antidepressants, some diabetes medications, and some epilepsy medications that may prevent you from moving? Yes, 13.1%, and no, 86.9%. The tenth question: do you use some medications, such as: antidepressants, some diabetes medications, and some epilepsy medications that may prevent you from moving? Yes 11.7% and no 88.3%. The eleventh question: Are you a smoker? Yes 16.8% and no 83.2%. The twelfth question: Are you accustomed to drinking soft drinks and energy drinks? Yes 37.9% and no 62.1%. The thirteenth question: Are you accustomed to eating fast food? Yes 48.7% and no 51.3%. The fourteenth question: do you have a sleep disorder: not getting enough sleep or vice versa, which can cause changes in hormones that increase appetite? Yes 51.6% and no 48.4%. The fifteenth question: Are you an elderly person (age 60 and above)? Yes 7.9% and no 92.1%. The sixteenth question: Are you pregnant and giving birth? Yes 5.5% and no 94.5%. The seventeenth question: do you suffer from severe muscle pain that prevents you from moving? Yes 17.2% and no 82.8%. The last question about: Have you recently had a blood test, blood sugar, kidney and liver function, blood cholesterol, or EKG? Yes 52.6% and no 47.7%. (table.no.1) ( figure.No.1) (figure No.2)(figure No.3).

Table.no.1: percentage of male and female participants in the questionnaire

Males	Females
21.8%	78.2%

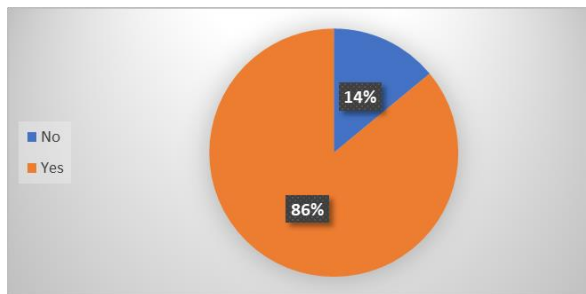


Figure No. 1: Opinions and trends of residents of Mecca regarding the relationship between chronic diseases and obesity

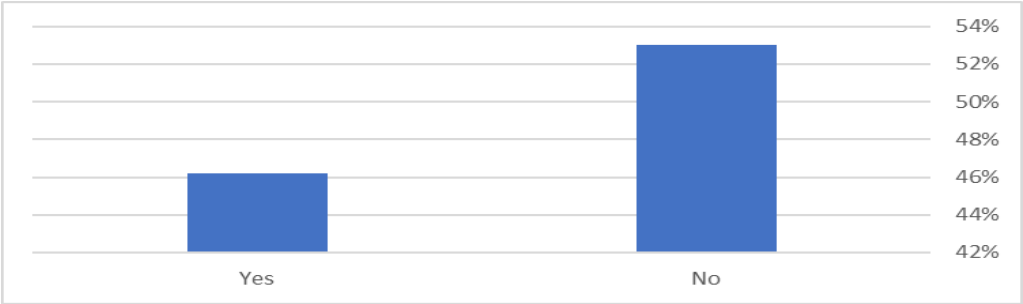


Figure No.2: The importance of exercising to avoid chronic diseases and obesity

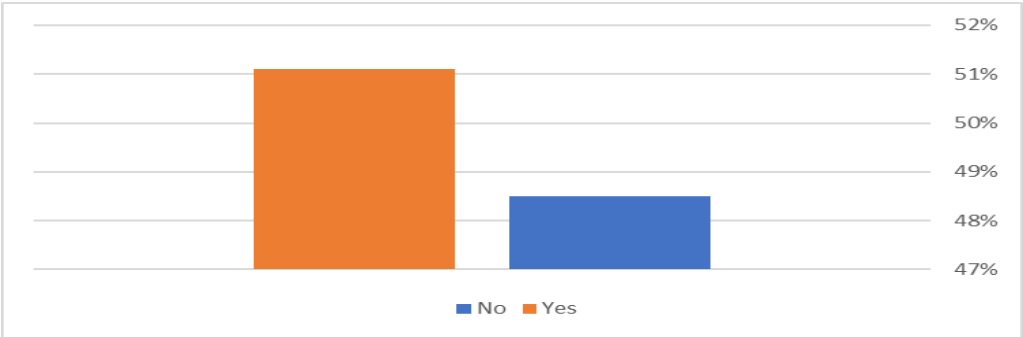


Figure No.3: Sleep disorder is one of the causes of chronic diseases and obesity (according to participants’ opinions)

4. Conclusion:

Chronic diseases (diabetes, blood pressure) are related to obesity in humans: Yes, 86.8%. Obesity leads to the accumulation of excess or abnormal fat that harms an individual’s health? Yes 96.8%. The suffering of patients with chronic diseases (diabetes, blood pressure) is 25%, and the suffering of people with excess body weight is 45.4%. Family history of patients with chronic diseases and obesity: 53.7%, according to the opinions of male and female participants in the questionnaire. Through the results of data analysis (opinions of participants in the questionnaire), we find that most people believe that there is a statistically significant relationship between chronic diseases and obesity, at a rate of 85.8%, and that family history of chronic diseases and obesity has a relationship and a major role in the disease, at a rate of 54.1%, and that is in the sleep system. : not getting enough sleep or vice versa, which can cause changes in hormones that increase appetite, according to the opinions of participants by 50.9%, the habit of eating fast food also plays a role in the relationship between chronic diseases and obesity (according to the participants’ opinions) at a rate of 47.6%. Therefore, we recommend avoiding all of these things in society, for the sake of a healthy society free from all chronic diseases, and exercising on a daily basis. A 2014 Cairns study reports that there is a positive relationship

between overweight and obesity and a number of chronic diseases. Overweight and obesity are major contributors to chronic disease in the Irish population (22).

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#### WORKS CITED

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