

## The Prevalence of Overweight and Obesity among Patients Attending a Private Clinic in Windhoek-Namibia

A. Ntumba<sup>1,2\*</sup>, L. Kazembe<sup>3</sup>, H. Zaire<sup>4</sup>

<sup>1</sup>Katutura State Hospital, Windhoek, Namibia

<sup>2</sup>School of Public Health, Texila American University, Guyana

<sup>3</sup>Department of statistics and population studies, University of Namibia, Windhoek, Namibia

<sup>4</sup>School of Medicine, University of Namibia, Windhoek, Namibia

\* Corresponding Author: alexisjbejj@gmail.com

### Abstract

Overweight and obesity are risk factors of non-communicable diseases, which were considered a problem in high income countries, and currently dramatically on the rise in low- and middle-income countries, Namibia is not an exception. The study aimed to determine the prevalence of overweight/obesity among patients attending a private clinic in Windhoek, Namibia.

**Methods:** Cross-sectional study including 73 patients was conducted at one private clinic-Windhoek, in 2015. The Body Mass Index (BMI) was used to determine patients overweight and obesity as per World Health Organization (WHO) classification.

**Results:** Prevalence of overweight/obesity was 61.60% (n=73). In logistic regression analysis, odd ratio (OR) of patients not exercising were almost 5 times more likely to be overweight/obese (OR: 4.75, 95% CI (1.056-21.373)) compared to those who exercise optimally. The association between those that do not exercise optimally with being overweight/obese was statistically significant (p-value: 0.03) compared to those exercising optimally. Patients < 30 years had almost twice the chance of overweight/obesity compared to those who are  $\geq 50$  years (OR: 1.959, 95% CI (0.604-6.352)). The chance of becoming overweight/obese increases by about 7 times from 30 to 39 years, and 2 times from 40-49 years as compared to those who are  $\geq 50$  years (OR: 7.429, 95% CI (1.424-38.777)) and (OR:2.286, 95% CI (0.48-10.883)) respectively.

**Conclusions:** Three quarters of patients attending one private clinic in Windhoek do not exercise. Higher proportion of one private clinic patients-Windhoek are overweight/obese and are more likely to be 30-39 and females.

**Keywords:** Overweight, obesity, private clinic, Windhoek, Namibia.

### Introduction

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI), a person's weight (in kilograms) divided by the square of his or her height (in metres). According to the World Health Organization overweight and obesity are defined as a body mass index (BMI) of 25–29.9 kg/m<sup>2</sup> and 30 kg/m<sup>2</sup> or more respectively. The problem of being overweight and obese were once considered a problem only in high income countries, and they are now dramatically on the rise in low- and middle-income countries, Namibia is not an exception. According to WHO

(2008), the prevalence of obesity worldwide has doubled from 1980 to 2008 reaching 10% in men and 14% in women. The 2008 prevalence of obesity in Africa was 9%, while 11% of women and 5% of men were obese.

However, the rate of obesity could not be found in Namibia. Therefore, measuring the prevalence of overweight and obesity in Windhoek and suggesting recommendations based on the findings will be helpful for policy makers in formulating policies to address overweight and obesity in the country.

The higher prevalence of overweight and obesity is a determined by a number of factors. One of the drivers of high prevalence of overweight and obesity is sedentary lifestyles (Biadgilign. S, et. al., 2017). The busy lifestyles

especially in the capital city of Windhoek can be factor behind consideration of fast food for families, and there is also a rise in chronic diseases among young people including diabetes and hypertension (anecdotal evidence).

A BMI of 25 kg/m<sup>2</sup> and more is reported as a risk factors of non-communicable diseases due to resulting in adverse metabolic effects on blood pressure, cholesterol, triglycerides and insulin resistance (WHO (2016) b. The non-communicable diseases, which are chronic conditions that have a heavy economic burden on families and governments. The cost of chronic medications and laboratory monitoring

## Methods

### Study Type

A cross-sectional study was conducted to determine the prevalence of overweight and obesity among patients attending a private clinic in Windhoek. A sample of 73 adults above the age of 18 willing to participate in the study were considered regardless of their health condition. The data was collected over a period of 3 month in 2015, through an interview with the study subjects to get information on their demographic, height and weight. Then the BMI of the study subjects was determined as a

person's weight (in kilograms) divided by their squared height (in metres).

### Analysis

The study data was analysed using SPSS. First descriptive data analysis was conducted to determine the data distribution, variable' proportions and frequencies. The Chi-square test was carried out to assess the possible association between BMI and demographic data. Binary logistic regression was used to quantify the risk associated with lack of exercises on BMI and the effect of age and sex on BMI.

### Results

A study sample of 73 patients attending a private clinic in Windhoek were part of the study of which 42 (57.5%) were females and 31 (42.5%) were males. The study subject age ranged from 18 to 67 years with a mean of 55 years (sd: 11.331). The sample weight ranged from 50 kg to 124 kg with a mean of 75.31 kg (sd: 16.91). The sample height ranged from 121 cm to 187 cm with a mean of 166.97cm (sd: 10.225) and the BMI ranged from 11 to 57 with a mean of 27.83 (sd: 7.289). Thirty (41.1%) patients were less than 30 years, 19 (26%) were between 30 and 39, 15 (20.5%) were between 40-49 and 9 (12.3%) were above 50 years (Table 1).

**Table 1.** Study sample BMI classification by different characteristics

Characteristics	Normal	Overweight	Obese	Total
<b>BMI</b>	28 (38.4%)	23 (31.5%)	22 (30.1%)	73
<b>Gender</b>				
<b>Male</b>	14 (45.2%)	13 (42.9%)	4 (12.9%)	31
<b>Female</b>	14 (33.3%)	10 (23.8%)	18 (42.9%)	42
<b>Age</b>				
<b>&lt;30</b>	16 (53.3%)	10 (33.3%)	4 (13.3%)	30
<b>30-39</b>	7 (36.8%)	4 (21.1%)	8 (42.1%)	19
<b>40-49</b>	2 (13.3%)	4 (26.7%)	9 (60%)	15
<b>50+</b>	3 (33.3%)	5 (55.6%)	1 (11.1%)	9

### Classification according to the BMI

About 60% of the study subjects are either overweight or obese. Out of the 73 patients, 28 (38.4%) were having a BMI between 20 and 24.9 which is normal, 23 (31.5%) were overweight (BMI between 25 and 29.9) and 22 (30.1%) were obese (BMI above 30). A total of 45 (61.6%) were overweight or obese.

The BMI of the patients increased as they age up to 50 years and then started to decrease.

Almost half (46.6%) of the patients less than 30 years old were overweight or obese, followed by 63.20% of patients between 30-39 years old, the highest was 86.7% of those between 40 to 49 and lastly 66.70% of the above 50 years (Table 1).

Out of 42 female patients, 14 (33.3%) were having normal weight, 10 (23.5%) were overweight and 18 (42.9%) were obese (Table 1). Among the males, 14 (45.2% were having normal weight), 13 (41.9%) were overweight

and 4 (12.9%) were obese. A total of 28 (66.4%) among females were overweight or obese, while in males 17 (54.8%) were overweight or obese (Table 1). Being a female patient is associated with the risk of overweight and obesity (Chi-square: 0.304)

The study subjects seem not to engage in physical exercise, as more than half 54 (74%) do not exercise at all. The subjects that exercise less than 4 days per week as required were 10

(13.7%), while 9 (12.3%) exercise as required, at least 4 days per week for at least 30 minutes (Table 2). Thus, almost three quarters (87.7%) of the study subjects do not exercise or not exercising optimally (as per required days and time of physical exercises) (Table 2). The lack of physical exercises was associated with high risk of overweight and obesity (Chi-square value of 0.034).

**Table 2.** BMI according to physical exercises

Physical exercise	Normal BMI (%)	Overweight (%)	Obese (%)	Total
<b>Do not exercise</b>	16 (29.6)	20 (37)	18 (33.3)	54
<b>Less than required</b>	6 (60)	2 (20)	2 (20)	10
<b>Optimal (required)</b>	6 (66.7)	1 (11.1)	2 (22.2)	9
				73

BMI was associated with some of the factors considered for the study. Patients who do not exercise at all were 5 times more likely to be overweight or obese as compared to those who exercise optimally (OR: 4.75, CI:1.056-21.373). Those who exercise less than optimal have 1.3 time chance to be overweight or obese (OR: 1.333) with 95% CI (0.204-8.708) as compared to those who exercise optimally. The association between lack of physical exercises and overweight and obesity was statistically significant (p-value: 0.03).

Comparing the lower age categories possible association, to being over 50 years, only 30 to 39 year category was significantly different (Table 3). Being 30 to 39 years of age was 7 times more likely to be overweight or obese as compared to patients who are above the age of 50 (OR:7.429,CI:1.424-38.777) (Table 3).

Furthermore, gender does not seem to have an effect on being overweight or obese, as there was no significant association between gender and overweight or obesity (p=0.3)(Table 3).

**Table 3.** Binary Logistic Regression of Overweight and Obesity

	Odds Ratio	95% CI	P-value
<b>Do not exercise at all</b>	4.75	(1.056; 21.373)	
<b>Do not exercise optimally</b>	1.333	(0.204; 8.708)	
<b>Exercise optimally</b>	1.00		0.03
<b>Less than 30 years</b>	1.959	(0.604; 6.352)	
<b>30-39 years</b>	7.429	(1.423; 38.777)	
<b>40-49 years</b>	2.286	(0.48; 10.883)	
<b>Above 50 years</b>	1.00		0.01
<b>Female patients</b>	1.647	(0.634; 4.28)	
<b>Male patients</b>	1.00		0.3

## Discussion

The study revealed that overweight and obesity is higher in the 40 to 49 age category. This means that as one is getting older, she /he is likely to be overweight or obese. This is consistent with the 2015' study by Gallus and others, where they found that the prevalence of obesity increased with age among 16 European countries. In addition, our results also show that

from above 50 years, overweight and obesity reduced.

The study showed a high proportion of females who were more overweight and obese as compared to male patients, but there was no significant association. This is not consistent with the survey results of the Kaiser Family Foundation analysis of the Centers for Disease Control and Prevention (CDC)'s Behavioural Risk Factor Surveillance System, which revealed that males in United States of America

are overweight and obese than females, for example in New York 65.8% of men are overweight or obese against 53.4% women, while South Carolina has 70% of men overweight or obese against 62.4% and Texas 74.5% of men are overweight or obese against 62.5% women. This is different from South Africa, where women are overweight than men according to the lancet (2014). According to the lancet report, women in South Africa account for 69.3% of overweight and obesity against 39% for men. Our study did not manage to pick up a significant association as compared to these studies, which could be because of a smaller sample size. Many will agree that the overweight and obesity depend on factors related to the areas of living. It is important to discover the factors per area and address them in order to reduce overweight and obesity.

The study showed that most patients do not exercise at all and only about 10% exercise optimally. Also a significant association was determined between being overweight or obese and none or less optimal exercise. This exposes patients to non-communicable diseases such as diabetes, hypertension and cancer. It is of paramount importance to exercise as exercising burns calories. The more one exercises, the easier it is to keep weight under control. This is also supported by WHO recommending physical activity of 60 minutes per day. Although WHO recommends 60 minutes per day, some studies suggest at least 4 days per week for at least 30 minutes. So many will agree that daily exercise is good and does not cause harm, however the busy schedule of people can accommodate the 4 days per week for at least 30 minutes which also is proven to be optimal.

## Conclusion

More than half (61.6%) of patients attending one private clinic are overweight and obese. Three quarters of patients attending one private clinic in Windhoek do not exercise. Only about 10% of the patients are engaged in optimal exercises. The overweight and obesity increased with age and most people between 40 and 49 years old are overweight or obese. Females' patients are overweight and obese than male's patients.

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