



A Study on Death Prevalence due to Obesity in Nigeria from 1990 to 2017

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Abstract

Obesity is a public health problem globally. There are several other communicable diseases such as malaria, measles, HIV etc. are prominent contributors to diseases burden in Africa, but now this disease burden transfer to other noncommunicable diseases such as obesity, respiratory diseases, cancer, cardiovascular diseases etc. This study was conducted to examine prevalence of deaths due to obesity in Nigeria from 1990 to 2017. The data of total population and total deaths reported from 1990 to 2017 were collected from various internet websites. Significant highest death prevalence rate was found in the year 2000 (0.0196%) in that year the total population of Nigeria were 12,22,83,850, and total deaths were 23,984. Significant lowest death prevalence rate was found in the year 2013 (0.0129%) in that year the total population of Nigeria were 17,45,07,539 and total deaths were 22,679.

Keywords: Obesity; Prevalence; Nigeria

Introduction

Communicable diseases such as HIV, Tuberculosis, malaria, measles, and hepatitis are the most prominent contributors to disease burden in sub-Saharan Africa. Now disease burden of communicable diseases shift to profiles featuring an increasing predominance of chronic, noncommunicable diseases. Cancer, kidney diseases, cardiovascular diseases, respiratory diseases, diabetes, mental disorders, and obesity are growing burdens as indicates by various researches [1-4].

Obesity is a public health problem worldwide. Obesity is defined as a if a person has body mass index (BMI) more than 30kg/m² is called obese or can be described as the imbalance between the intake of energy and expenditure of energy that is excess energy stored in fat cells. Obesity is a disorder which is related to energy metabolism. Approximately 200 million men and 300 million women of aged 20 years and above were obese in the year 2008. It is associated with so many disorders such as hypertension, diabetes, cardiovascular diseases, osteoarthritis, depression, distress, cancer. In some

parts of the world such as Nigeria, Chad, Northern Cameroon, Nauru, Tahiti obesity is seen as a symbol of beauty and they perform some cultural fattening ceremonies. In most of the developing countries many people die because of obesity related diseases such as diabetes mellitus, heart diseases, cancer and many other diseases which are related to obesity [5-13].

Approximately 26% and 37% prevalence of overweight, 3% and 8.1% prevalence of obesity in men and women respectively was found in a WHO survey data on Nigeria in 2010. This survey data also revealed that the prevalence of overweight and obesity of individuals aged 30 years and above shows increment in overweight by 23% and 18% and increment in obesity by 47% and 39% in men and women respectively between 2002 and 2010, in Nigeria [14].

Methodology

Data Collection and Analysis

The data of total population and total deaths reported

due to obesity in Nigeria from 1990 to 2017 were collected from various internet websites and death prevalence rate, mean, standard error of mean, and p value were calculated.

$$\text{Prevalence rate} = \frac{\text{No. of deaths}}{\text{Total No. of Population}} \times 100$$

Statistical Analysis

Analysis of data was done by using SPSS. Variables were presented in frequencies and percentages, and distributed continuous variables were presented as mean and standard error of mean (SEM).

Results and Discussion

This study was conducted to examine prevalence of deaths due to obesity in Nigeria from 1990 to 2017. Significant highest death prevalence rate was found in the year 2000 (0.0196%) in that year the total population of Nigeria were 12,22,83,850, and total deaths were 23,984. Significant lowest death prevalence rate was found in the year 2013 (0.0129%) in that year the total population of Nigeria were 17,45,07,539 and total deaths were 22,679. In every seven years the prevalence rate of death was significant. The average prevalence rate from 1990 to 1996 was 0.0350% ($p=0.000001^{**}$), from 1997 to 2003 the prevalence rate was 0.0189% ($p=0.000000^{*}$), from 2004 to 2010 the prevalence rate was 0.0155% ($p=0.000000^{**}$), from 2011 to 2017 the prevalence rate was 0.0132% ($p=0.000001^{**}$). The death rate was significant in the year 1997 to 2003 and highly

significant in the year 1990 to 1996, 2004 to 2010 and 2011 to 2017. Obesity is a global health problem across all races, sex and age. It affects our body by affecting the body systems and various metabolic process such as endocrine system, cardiovascular system, digestive system, nervous system, reproductive system. There are so many causes of obesity but some of the researchers studied that disruption in sleep and chronic stress serves major causing factor of obesity and overweight. Several studies has been done to see prevalence of obesity among Nigerian population and found that the prevalence of obesity was highest in the higher income population in Nigeria [15-19].

Skaal and Pengpid [20] reported 60.5% male and 76.5% female prevalence rate of overweight or obesity in 100 black health care workers in South Africa. Another study was done by some researchers on obesity among female nurses in Akwalbom state of Nigeria and found that 62.6% of nurses are obese out of 500 nurses. According to Nigerian Demographic and Health Survey, 2008, the prevalence of obesity among nurses was higher(34.8%) in women aged 15-49 of Akwalbom state of Nigeria [21].

Some researchers revealed the prevalence of obesity in Nigeria and results showed that the prevalence of obesity was high in Abuja as compared to other cities of Nigeria. The results of that study similar to the results of another study which revealed the prevalence of obesity was higher in developing countries like United Kingdom, where the prevalence of obesity was more in men (42%) than women (32% [22-26].

Year	Total Population	Deaths due to Obesity	Prevalence rate (%)
1990	9,52,12,450	13,853	0.0145
1991	8,89,92,220	14,848	0.0166
1992	10,01,61,700	15,885	0.0158
1993	10,27,00,800	16,829	0.0163
1994	10,52,93,700	17,785	0.0168
1995	10,79,48,335	18,721	0.0173
1996	11,06,68,800	19,771	0.0178
			Mean: 16813.143 SD : 1957.3772 SEM : 799.0959 p : 0.000001** 95%CI: 14857.836 — 18768.45 t=2.4468 99%CI: 13850.674 — 19775.611 t=3.7072
1997	11,34,57,700	20,912	0.0184
1998	11,63,19,800	22,019	0.0189

1999	11,92,60,100	23,091	0.0193
2000	12,22,83,850	23,984	0.0196
2001	12,53,94,000	24,148	0.0192
2002	12,85,96,100	24,311	0.0189
2003	13,19,00,600	24,200	0.0183
			Mean: 23237.857 SD : 1217.6814 SEM : 497.1163 p : 0.000000** 95%CI: 22021.465 — 24454.25 t=2.4468 99%CI: 21394.91 — 25080.805 t=3.7072
2004	13,53,20,400	23,988	0.0177
2005	13,88,65,016	23,621	0.0170
2006	14,04,31,790	23,278	0.0165
2007	14,63,40,000	22,743	0.0155
2008	15,02,69,623	22,049	0.0146
2009	15,43,24,933	21,681	0.0140
2010	15,85,03,197	21,660	0.0136
			Mean: 22717.143 SD : 877.0749 SEM : 358.064 p : 0.000000** 95%CI: 21840.996 — 23593.29 t=2.4468 99%CI: 21389.7 — 24044.586 t=3.7072
2011	16,24,71,000	21,817	0.0134
2012	16,72,28,767	22,206	0.0132
2013	17,45,07,539	22,679	0.0129
2014	17,64,04,902	23,403	0.0132
2015	18,11,37,448	24,165	0.0133
2016	18,59,60,241	25,127	0.0135
2017	19,08,73,244	25,869	0.0135
			Mean: 23609.428 SD : 1404.4861 SEM : 573.379 p : 0.000001** 95%CI: 22206.428 — 25012.43 t=2.4468 99%CI: 21483.754 — 25735.104 t=3.7072

Table 1: Prevalence rate of deaths due to Obesity in Nigeria from 1990-2017.

Source: population by worldometer, deaths by Our World in Data

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