

Full Length Research Paper

Socio-demographic and behaviour of obese people in the common of Tchamba (Togo)

¹Assane Hamadi, ²Balaka Abago, ³Tchamdja Toyi*, ²Djagadou Kodjo Agbéko and ²Djibril Mohaman Awalou

¹Department of Physiology, Faculty of Health sciences, University of Lomé (Togo), ²Department of Internal Medicine, Faculty of Health sciences, University of Lomé (Togo), ³Department of internal medicine, Faculty of Health sciences, University of Kara (Togo).

Accepted 10 April, 2017

The aim of this study was to examine the socio-demographic and behavioral profile of obese people in the municipality of Tchamba. We conducted a cross-sectional study examining the obese population of Tchamba Municipality during the period of 20 October to 20 December 2011. The sample of this study was characterized by female with a sex ratio F/H equal to 2.46. The age range of 46 to 60 years was the most represented (35%), and the most common occupation was that of merchant (52.20%). The food was predominantly carbohydrate type of cereals (maize, rice and yam) in all subjects with 85.60 % who were taking three meals a day. Snacking was practiced daily and rarely respectively for 13.33% and 67.80% of the subjects. It was more practiced by the female subjects (65.6%). The sport was not regularly used in 80% of cases. The socio-demographic characteristics most frequently observed within 3 degrees of obesity (lightweight, medium and severe) were as follows: female gender (respectively 64.44 %, 70.96 % et 92.85 %), the profession of trader (respectively 44.44 %, 54.83 % et 71.42 %), sedentary occupation (respectively 64.44 %, 80.64 % et 85.71 %), and not instruction (respectively 73.33 %, 77.41 % et 71.42 %). Behaviours observed among the subjects of our study were distributed as follow: Non sport (respectively 73.33 %, 83.87 % and 92.85 %), snacking (respectively 92.85 %, 9.67 % et 57.14 %), the number of daily meals (respectively 80 %, 90.32 % et 100 %). The main demographic factors observed among obese in our study were: female sex, age (from 46 years), and low levels of education. Sedentary lifestyle, snacking, taking more than 3 meals a day and not in physical exercise were the most found behaviors in obese subjects. Awareness campaigns should be directed towards these targets to promote healthy eating and participation in physical exercise to reduce obesity.

keywords: Obesity, behaviour, rural area, non-commutable disease, Togo, Africa

INTRODUCTION

Human obesity, recognized as a disease of affluent populations in 1997 by the World Health Organization (WHO), is today considered as a pandemic by the latter. According to its 2005 estimates, there were about, 1.6 billion adults (aged over 15), least 20 million children under five years are overweight (BMI ≥ 25 kg / m²) and at least 400 million obese adults (BMI ≥ 30 kg / m²) (OMS,

1997).

The WHO estimates that by 2015, approximately 2.3 billion adults will be overweight and 700 million will be obese (OMS, 1997). This is alarming because obesity involves the onset of many chronic diseases including diabetes and high blood pressure which are responsible for the decrease in life expectancy in patients with morbid obesity. Studies have shown that mortality increases when BMI ≥ 25 kg / m² and life expectancy decreases the more when this index is high (Joste et al., 1987). Therefore overweight has become a major public health

*Corresponding author E-mail: ttpault234@gmail.com
Tel.: (00228) 90 06 03 22

problem. The main causes of the increase in overweight and obesity rates in the world are sedentary lifestyle and a diet high in calories and fat (Prospective studies collaboration, 2009).

The impact of obesity on health include increased risk of sudden death due to coronary heart disease, cardiovascular disease, hypertension, stroke, non-insulin dependent diabetes and certain forms of cancer (Delpeuch and Maire, 1997).

Interest in obesity in the South may seem paradoxical, while malnutrition of young children and micronutrient deficiencies affect a large part of the population and hamper the development of these countries by altering capabilities learning. Yet there are signs that overweight and obesity have already an impact on the development of these countries (Delpeuch and Maire, 1997).

In Togo, a few studies have addressed this issue of obesity, including: risk factors of overweight in 1991 (Amédomé A, university of Lomé, Togo, short communication), the prevalence of hypertension among Togolese children in relation to obesity in 1992 (Dorkenoo KA, University of Lomé, Togo, Short communication), obesity and rheumatic diseases at the University Hospital of Lome-Tokoin in 2003 (Habada K, university of Lomé, Togo, short communication).

All these studies have had to frame an urban area, the capital Lome, a study in rural or semi-urban areas has proved so useful. The STEPS wise survey realized at Togo on 2010 show that the rate of the obesity was about 6% (Ministry of Health, 2011). The general objective of this study was to examine the sociodemographic and behavioral profile of obese people in the municipality of Tchamba which is a semi-urban area.

MATERIALS AND METHODS

Our study was meant to frame the Prefectural Hospital Tchamba Type II hospital located at Tchamba, city of the Central Region of Togo located 35 Km east of Sokode, Chief town of region (Ben Yahmed, 2000; Gu-Konu, 1981). This hospital cover a population superior of 150 000 persons.

We conducted a cross-sectional study examining the obese population of Tchamba Municipality during the period of 20 October to 20 December 2011.

The subjects included in the study were patients who have consented to the survey at the hospital companions and have the body mass index (BMI) $\geq 30 \text{ kg / m}^2$.

The weight was taken using scales in a subject only keeping the slip by standing on the apparatus. The size is measured with a measuring rod in a barefoot subject.

The body mass index was obtained by the ratio weight (kg) / [Height (m)]².

Waist circumference and hip circumference were systematically taken in patients meeting the inclusion criteria. The waist circumference measure abdominal

circumference at the umbilicus and hip circumference is measured at the widest level between waist and upper thighs, the tape horizontally. The standards used were those of the WHO (WHO, 1995):

Obesity is considered as follows: lightweight ($30 \text{ kg / m}^2 \leq \text{IMC} \leq 34.99 \text{ kg / m}^2$), medium ($35 \text{ kg / m}^2 \leq \text{BMI} \leq 39.99 \text{ kg / m}^2$), and severe ($\text{BMI} \geq 40 \text{ kg / m}^2$).

Waist circumference (WC) is considered normal when it is below 102 cm in men and 88 cm in women. When it exceeds these figures, it is in excess and there is talk of abdominal obesity.

A hip circumference (HC) less than 110 cm for men and 120 cm for women is considered normal. It is in excess if it is greater than these values.

The WC / HC report shows the type of obesity. When, in a subject with a BMI $\geq 30 \text{ kg / m}^2$, this ratio is less than 0.85 in women and 1 in humans, we consider that obesity is gynecoid; by cons, when greater than or equal to these values, the obesity is regarded as android. But, if this ratio is less than 0.85 in women and 1 in humans and that waist circumference is above normal, obesity is considered mixed.

The other concepts were defined as follows :

Snacking is taking food between the three main meals (breakfast, lunch and dinner). This snacking is called:

Rare if it occurs once a day for two or three days a week.

Daily if performed one to three times per day every day.

Sedentary occupation: occupation characterized by non-performance of duties that requires physical effort or sitting in an office or in front of a display at least 6 hours per day. Example include the job of a driver, writer, doctor, secretary, teacher, housekeeper, night watchman or housewife.

Occupation requiring physical effort: profession of subjects engaged in trades that require considerable physical effort of more than 6 hours a day for 5 to 6 days a week. This is for example mason, blacksmith, mechanic, soldier etc.

Itinerant Occupation: profession requiring mobility by walking for 5 to 6 hours a day for 2 to 3 days per week.

After obtaining consent from these subjects, anthropometric measures were taken and a semi structured survey was administered to them. The collected data were analyzed using the software Epi info and Excel 2007 7.1.5.2.

RESULTS

Socio-demographic characteristics

A total of 90 subjects were selected for our study. Females were observed predominantly with a sex ratio F/ H of 2.46. The mean age is 43, 26. The age of the subjects ranged from 22 to 60 years and the range 46 to 60 years was the most represented (35 %). The most common occupation was that of merchant (52.20 %) and housewife (21.10 %). These occupations were sedentary kinds in 73.30% of

Table 1. Socio-demographic characteristics of obeses persons.

Obesity degrees	Socio-demographic characteristics			
	Female sex	Profession of trader	Sedentary occupation	Non instruction
Lightweight (N = 45)	64.44 %	44.44 %	64.44 %	73.33 %
Medium (N = 31)	70.96 %	54.83 %	80.64 %	77.41 %
Severe (N = 14)	92.85 %	71.42 %	85.71 %	71.42 %

Table 2. Comportement of obeses persons.

Obesity degrees	Comportements		
	Non sport	Daily snacking	Daily meals (at least 3 daily meals)
Lightweight (N = 45)	73.33 %	2.22 %	80 %
Medium (N = 31)	83.87 %	9.67 %	90.32 %
Severe (N = 14)	92.85 %	57.14 %	100 %

subjects; 74.44 % were not educated. The family obesity was present in 32.20 % of the respondents.

Feeding habits and sport

The food was predominantly carbohydrate type of cereals (maize, rice and yam) in all subjects with 85.60% who were taking three meals a day.

Snacking was practiced daily and rarely respectively for 13.33% and 67.80% of the subjects. It was more practiced by the female subjects (65.6%). The sport was not regularly used in 80% of cases. This sport is more practiced by the male (76,92%) than female (43,75%).

Anthropometric parameters

The average size of our subjects was 1.65 m (range 1.50 m and 1,81m). The women were on average 1.64 m (1.50 m and 1.79 m extreme) and men were on average 1.69 m (1.57 m and 1.81 m extreme). Waist circumference and hip circumference were above their standards respectively at 68.88 % of subjects including 64.51 % of female subjects and in 60% of subjects among which 62.96 % were women.

From WC / HC report, it was observed that a gynoid type of obesity, android and mixed respectively at 31.11 % , 31.11 % and 37.77 %.

Considering the degree of obesity from the BMI, obesity was lightweight in 50% of cases, medium in 34.44 % and severe in 15.55 % of cases.

Relationship between degree of obesity and socio-demographic characteristics

The obesity is most view on persons with female, traders who have sedentary occupation and who haven't instruction. It's notified an all degree of obesity (Table 1).

Also, the non practice of sport, snacking, the number of daily meals showed the following breakdown were the comportment which are associated with obesity (Table 2).

DISCUSSION

A female obesity was observed in our study. This trend of obesity had been found in Africa by Dominique (2012) in Kinshasa, Democratic Republic of Congo and in France Macia et al. (2007).

This obesity was more common in older subjects in our sample. This is consistent with the observation of Rolland-Cachera et al. (1991) which showed that BMI increases gradually from 20 to 60-65 years then slowly decline after that age. This change in BMI over the years seems to correspond directly to changes in weight during life, increasing to sixty, before then decreasing over 60% of individuals (Williamson,1993).

Physical inactivity, poor education and no practice of sports exercise were the most common factors in the obese population in our study. Indeed, individuals of the most popular classes would experience less risks related to weight, have a less balanced diet and would do less physical exercise than people of upper classes (Kaplan et al., 2003). Furthermore, a sociological study (Bourdieu, 1979) showed that the popular classes consumed by "taste of need" rich, inexpensive foods that are leading necessarily to fatness. Monteiro (2002) claimed that obesity is strongly correlated with low levels of education among women if they lived in a less developed society. However, the level of education does not influence obesity in men but there is a tendency among intellectuals to become overweight in developed regions. Although our study observed the prevalence of obesity in the less educated classes, especially that obesity was

present in subjects like trade activity. Indeed, trade is an activity characterized, in most cases, by sitting for several hours a day in front of the displays that do not require physical effort. Unlike farming, which is akin to the practice of permanent and sometimes intense physical exercise. Physical inactivity found out, indeed, is a predisposing factor for hypertension. This was demonstrated by Devilliers et al. (1988), by against-proof, having found that hypertension was more prevalent in non-obese women not practicing physical exercise than among rural obese women due to the physical exercise.

A thesis on the origin of obesity based on the work of Rueff-Escouibes (1987) states that obesity in a large part, is a response to pressure from the patriarchal society on the model pictures of women. In this sense, obesity is unconsciously desired by women. This choice of size contrasts with the fear that thinness arouse in many women the need to conform to social expectations.

The high number of daily meals and snacking that were found as frequent eating habits in our obese subjects are, in reality, source of excessive energy intake, which due to physical inactivity, is not used but instead stored as fat, thus constituting, explanatory factors for the occurrence of obesity; especially that this food was predominantly carbohydrate base.

CONCLUSION

Obesity constitutes a major public health problem, the study of socio-demographic and behavioral profile of obese subjects contributes to the knowledge of risk factors.

The main demographic factors observed among obese in our study were: female sex, age (from 46 years), and low levels of education. Sedentary lifestyle, snacking, taking more than 3 meals a day and lack of physical exercise were the most common behaviors in obese subjects.

Awareness campaigns should be directed towards these targets to promote healthy eating and participation in physical exercise to reduce obesity.

REFERENCES

- Bourdieu P (1979). *La distinction*, Critique sociale du jugement, Minuit, Paris, 670 p.
- Delpeuch F, Maire B (1997). Obésité et développement des pays du sud. *Méd. Trop.* 57 :380-388.
- Devilliers SMA., Alberste EC. and Mc. Lachan MH (1988). The prevalence of obesity and hypertension among zulu women in a remote rural area. *S. Af. J. Sci.* 84: 601-602.
- Dominique P. l'enquête de prévalence des facteurs de risque des maladies non transmissibles (chronique) à Kinshasa. Mémoire online 2000-2012.
- Gu-Konu YE (1981). In *Atlas du Togo*. Ed. J.A. Paris, Atlas J.A. pp.30-31.
- Joste PL, Stehen Kamp HJ, Benade AS, and Roosow JE (1988). Prevalence of overweight and obesity in its relation to coronary heart disease in the cons. Study. *S. Af. Med. J.* 74:101-104.
- Kaplan RM, Huguet N, Newsom JT, Mc Farland BH, Lindsay J (2003). Prevalence and correlates of overweight and obesity among older adults: findings from the Canadian national population health survey. *Journal of Gerontology and Medical Sciences* 58, 11: 1018-1030.
- Macia E, Chapuis-Lucciani N, Boëtsch G (2007). Obésité, facteurs sociodémographiques et indicateurs de santé chez les personnes âgées à Marseille. *Bulletins et mémoires de la Société d'Anthropologie de Paris.* 19 :1-2
- Ministry of health of the Republic of Togo (2011). The STPES wise survey. The Togolese STEPS Wise survey report, Lomé
- Monteiro CA (2002). Independent effects of income and education on the risk of obesity in the Brazilian adult population. *J. Nutr.*, 131(3): 881-886.
- OMS (1997). L'épidémiologie d'obésité expose des millions de personnes à d'autres maladies. communiqué OMS/46, Genève.
- Prospective studies collaboration (2009). Body-mass Index and cause specific mortality in 900000 adults: collaborative analyses of 57 prospective studies (archive) *Lancet.* 373:1053-1096.
- Rolland-Cachera MF, Cole TJ, Sempé M, Tichet J, Rossignol C, Charraud A (1991). Body mass index variations: centiles from birth to 87 years, *European Journal of Clinical Nutrition* 45: 13-21
- Rueff-Escouibes CI (1987). Une thèse féministe sur l'origine de l'obésité. *Médecine/science*, 3 , 434 p. Togo. In Ben Yahmed D (2000). *Atlas de l'Afrique*, 2ème Ed. 2000. Editions Jaguar, pp. 174-175.
- WHO (1995). Physical status: the use and interpretation of anthropometry. Report WHO Expert Committee. WHO Technical Report Series 854. Geneva: World Health Organization.
- Williamson DF (1993). Descriptive epidemiology of body weight and weight change in U.S. adults. *Annals of Internal Medicine* 119: 646-649.