Predictors of Attempted Weight Loss and Physician Advice for Weight Loss in a Group of Overweight and Obese Patients in Togo

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Despite a worldwide increase in obesity, little is known about obesity in Africa and factors related to attempting weight loss (AWL) in high-risk populations. The aims of this study were to determine the prevalence of obesity among patients in a Togolese cardiology clinic and determine predictors of reporting AWL and physician advice for weight loss. We recruited French-speaking men and women, aged ≥ 18 years from this academic cardiology clinic to complete a questionnaire and anthropometric measurements. Among 135 patients, 33% were overweight and 24% were obese. Among overweight and obese patients ($n=76$), logistic regression was used to calculate odds ratios (OR) for predictors of AWL and physician advice. 53% reported AWL and 49% received physician advice. Obese participants were 11 times more likely than overweight participants to report AWL (OR= 11.14; $P<.0001$). AWL was more common in those reporting physician advice (OR=7.58; $P=.0001$) and women (OR=2.78; $P=.04$). Obesity and female sex were also associated with reporting physician advice to lose weight. Age and education were not associated with AWL or physician advice. Physician advice highly correlates with AWL; however only half of participants received it. Physicians should make efforts to incorporate weight loss advice in their routine care. (*Ethn Dis*. 2013;23[1]:83–86)

Key Words: Togo, West Africa, Obesity, Overweight, Weight Loss, Physician Advice, BMI

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Introduction

Obesity is on the rise worldwide including in many African countries.[1] Further, obesity has been shown to be a significant risk factor for chronic diseases such as hypertension, hyperlipidemia, type 2 diabetes, heart disease and stroke, all of which are associated with high morbidity and mortality.[2] The management of chronic diseases in African countries puts further burden on health care systems that are already overwhelmed with the treatment and prevention of infectious diseases.[3]

A paucity of data on obesity exists in West Africa and the few studies that have been conducted tend to focus on prevalence trends in the last few decades, including differences between rural and urban populations.[4,5] Available data show an increase in the prevalence of obesity as well as an increase in obesity-related chronic diseases.[4–6] To begin to understand how to address this new epidemic, we must first examine weight loss attitudes and behaviors of West African persons and the role that health care providers may play in addressing obesity. The objectives of our cross-sectional study were: 1) to establish the prevalence of overweight and obesity in a high-risk group of cardiology patients in West Africa; and 2) to determine the predictors of attempting weight loss (AWL) and receipt of physician advice for weight loss among overweight and obese participants.

Methods

Participants

Participants aged >18 years were recruited from the cardiology clinic of Centre Hospitalier et Universitaire (CHU) Campus, an academic hospital in Lomé, the capital of Togo (a French-speaking West African country). All patients coming to the clinic with the intent of seeing a physician were eligible for the study. Exclusion criteria included pregnancy and inability to read or comprehend French.

Study Design

We adapted a questionnaire from an evidence-based behavioral weight loss program designed at the University of Pittsburgh and delivered in a primary care setting.[7] The questionnaire assessed AWL by asking participants "Have you ever tried to lose weight?" and physician advice with the question "Has your doctor ever told you to lose weight?" We translated the questionnaire into French, had it back translated into English for accuracy, and piloted it on five Togolese for readability and comprehension.

At the CHU campus, 207 patients were approached in the waiting room of the cardiology clinic during the months of June and July 2009, informed of the

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Table 1. Predictors of AWL and physician advice in overweight and obese patients (*N*=75)

	Not AWL (*n*=35)	AWL (*n*=40)	OR (95% CI)	No Advice (*n*=38)	Advice (*n*=37)	OR (95% CI)
Age ≤55 (ref)	17 (38.6%)	27 (61.4%)	0.46 (0.18–1.16)	19 (42.2%)	26 (57.8%)	0.42 (0.16–1.09)
>55	18 (58.1%)	13 (41.9%)		19 (63.3%)	11 (36.7%)	
BMI Overweight (ref)	30 (68.2%)	14 (31.8 %)	11.14*** (3.53–35.12)	32 (74.4 %)	11 (25.6 %)	12.61*** (4.11–38.68)
Obese	5 (16.1 %)	26 (83.9 %)		6 (18.8 %)	26 (81.3 %)	
Education < High school (ref)	19 (47.5%)	21 (52.5%)	1.07 (0.43–2.67)	19 (47.5%)	21 (52.5%)	0.76 (0.31–1.89)
High school and college	16 (45.7%)	19 (54.3%)		19 (54.3%)	16 (45.7%)	
Sex Female (ref)	16 (36.4%)	28 (63.6%)	0.36* (0.14–0.93)	18 (40.0%)	27 (60.0%)	0.33* (0.13–0.88)
Male	19 (61.3%)	12 (38.7%)		20 (66.7%)	10 (33.3%)	
Physician advice (*n*=74)[a] No (ref)	26 (68.4%)	12 (31.6%)	7.58** (2.68–21.49)	NA	NA	NA
Yes	8 (22.2%)	28 (77.8%)		NA	NA	
BP <140/90 (*n*=72)[b] (ref)	10 (55.6%)	8 (44.4%)	1.56 (0.53–4.57)	8 (44.4%)	10 (55.6%)	0.69 (0.24–2.02)
>140/90	24 (44.4%)	30 (55.6%)		29 (53.7%)	25 (46.3%)	

Ref, reference group; NA, Not applicable; OR, odds ratio OR calculated using logistic regression; AWL, attempting weight loss.
* $P<.05$.
** $P=.0001$.
*** $P<.0001$.
[a] 1 of the 75 participants has missing data for the physician advice variable.
[b] 3 of the 75 participants did not complete blood pressure measurements due to time constraints.

study, and asked if they were willing to fill out questionnaires and have anthropometric measurements. All participants consented verbally. Of the 149 who agreed to participate (response rate=72%), three did not return questionnaires, one was pregnant and two others were found not to be eligible since they were not patients. The majority of patients who did not participate in the study were excluded because of a language barrier. In all, we collected survey and anthropometric measurement data from 135 participants; of these, 76 were overweight or obese. Among the overweight and obese participants, there was one missing response for physician advice and one missing response for AWL.

The study was approved by the Université de Lomé and the University of Pittsburgh institutional review board.

Measurements

We measured weight in kilograms with a mechanical scale (SECA, Model 7501017009) with participants in light clothing and no shoes. Height was measured in centimeters with patients standing straight and without shoes using a standard stadiometer (SECA, Model 7501017009). Blood pressure was measured using a mercury sphygmomanometer on the right arm after patients had been seating in the waiting room for at least 10 minutes.

Data Analysis

Demographic and anthropometric variables were summarized using counts and relative frequencies (for binary or categorical variables) or means and standard deviations (for continuous variables). Body mass index (BMI) was calculated as weight in kilograms divided by height in meters squared. Normal BMI is defined as BMI <25; overweight, 25 to <30; and obese ≥30. BMI was normally distributed. Differences between groups were tested using t-test for continuous variables and with Chi-square or Fisher's exact test for categorical variables. Among overweight and obese persons (*n*=76), logistic regression was used to calculate odds ratios (OR) for predictors of AWL (*n*=75) and physician advice (*n*=75). Given that women had significantly higher BMI than men, we also performed stratified analyses to determine whether the relationship between BMI and both AWL and receipt of physician advice differed by sex.

RESULTS

Population Characteristics

The participants' age ranged from 18 to older than 70 years, with 53(39%) participants older than aged 55 years. 69(51%) were women. 71(53%) had a middle school or lower level of education while 64(47%) had high school or college level of education. BMI ranged from 17.1 to 45.7 with a mean ± standard deviation of 26.5 ± 5.9. More specifically, 44 (33%) were overweight and 32 (24%) were obese. Women had a mean BMI of 28.1 ± 5.6, while men had a lower mean BMI of 24.9 (4.2), $P<.001$.

Reports of Attempting Weight Loss and Physician Advice to Lose Weight

Overall, 54 (40%) participants reported AWL. Those with a higher BMI were more likely to report AWL: 14 (23%) normal weight participants as compared to 14(32%) overweight and

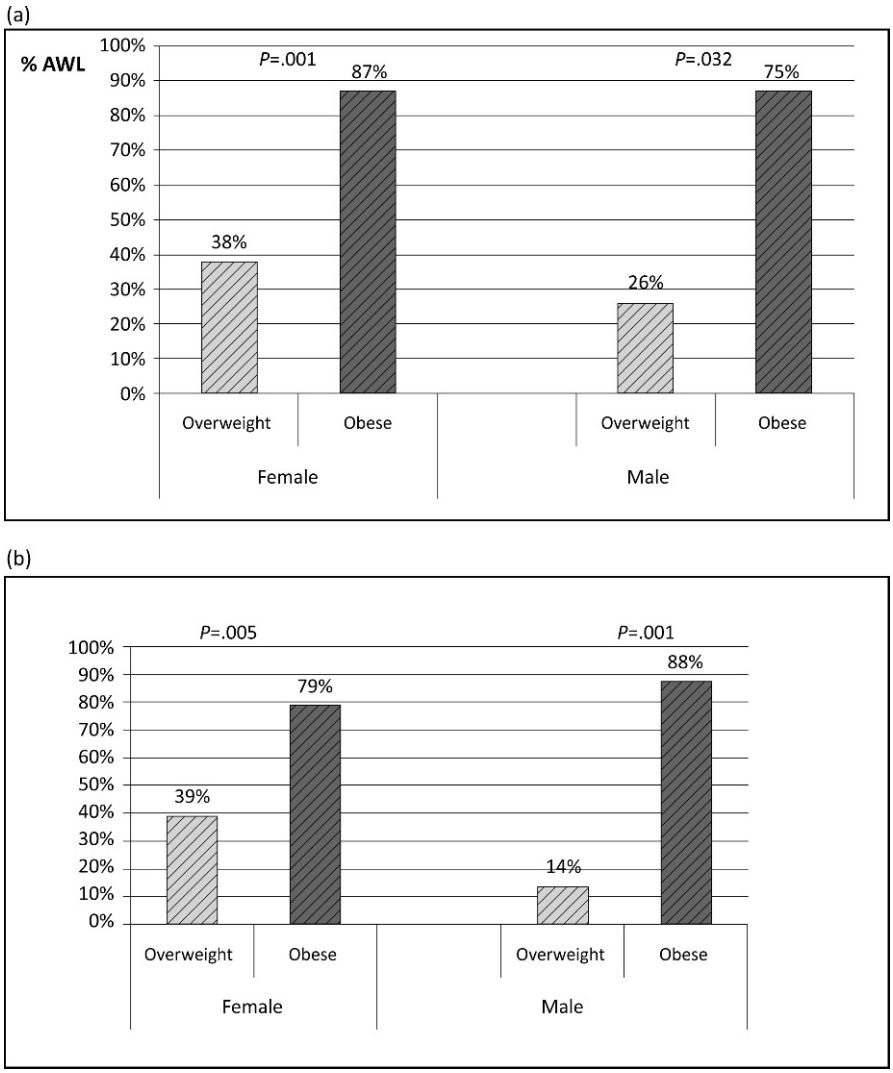

Fig 1. (a) AWL and (b) Physician Advice stratified by BMI and sex *P* calculated using either Chi-Square or Fisher's exact test

26 (84%) obese. Forty five (33%) participants reported receiving physician advice to lose weight. Nine (16%) normal weight participants compared to 11(26%) overweight and 25(81%) obese participants reported being advised by their physicians to lose weight.

Predictors of Attempting Weight Loss

Obese participants had 11 times higher odds as overweight to report AWL (Table 1). Women had three times higher odds as men. Participants who reported receiving physician advice were also more likely to report AWL. Age and education were not significantly associated with AWL.

Predictors of Receiving Physician Advice

Obese participants were more than 12 times as likely to report physician advice to lose weight than overweight participants (Table 1) and women were more likely to be advised to lose weight than men. We found no significant difference in receiving physician advice by blood pressure. In fact, 56% of those with normal blood pressure readings reported being advised to lose weight compared to only 46% of those with readings above 140/90 mm Hg as shown in Table 1. Age and education did not have a significant association with physician advice.

Stratified Analyses

We found more obese women participants than men (P=.017); and, in stratified analyses, obese participants were more likely to report AWL than overweight participants. This was true for both men and women. The same trend was also evident with physician advice. For both sexes, obese participants reported receiving physician advice more often than overweight participants. (Figure 1)

DISCUSSION

This study is the first, to our knowledge, to examine obesity prevalence and to explore predictors of attempting weight loss and physician advice to patients in a high-risk group in West Africa. Attempting weight loss and physician advice were similar across education and age groups. Higher BMI, being female and physician advice were significant predictors of attempting weight loss; however, being female and physician advice were associated with higher BMI, suggesting that BMI is a significant predictor of attempting weight loss.

Physician advice for weight loss was associated with reports of AWL; however, only 49% of obese and overweight participants were advised to lose weight by their physicians. These data are similar to a US study reporting that 48% of participants received past weight loss counseling,[8] but lower than other studies where with reports of 65% and 79%.[9,10] Another US study reported even lower rates, with only 24% of visits including obesity-related counseling and an even lower 6% of visits to primary care physicians including weight-loss

Higher BMI was the strongest predictor of receiving physician advice in our study.

specific counseling[11]; however, this study assessed single visits rather than any past counseling.[8–10] Differences in estimates of physician advice in our study and others may be partially due to the different surveys used for assessment. Our study did not ask participants whether they were given specific counseling to lose weight; instead we asked whether they had ever been told by a physician to lose weight.

Higher BMI was the strongest predictor of receiving physician advice in our study. This finding is consistent with other reports that demonstrate increasing BMI was consistently related to higher rates of weight counseling.[8–10] In our study, higher blood pressure was not related to receipt of physician advice, whereas other studies suggest patients with more comorbidities are more likely to receive weight counseling.[12] While it has been established that higher BMI is associated with greater morbidity, these results suggest that physicians may be passing up the opportunity to counsel patients on preventing weight gain.[2]

Limitations of our study include recall bias, participants self-report of AWL and receiving physician advice, and only one study site. Therefore, we cannot generalize the prevalence of overweight and obesity in this higher risk cardiology clinic sample to the overall population of Togo. Strengths include the high-risk nature of the sample we surveyed, which is representative of those who may need interventions in the future. In addition, we have clinically verified weight and blood pressure rather than self-reported data.

Future studies should explore Togolese physicians' reports of weight loss counseling as well as the physicians' comfort with, and challenges to, counseling patients on weight loss during visits.

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