Rocz Panstw Zakl Hig 2025;76(3)
https://roczniki.pzh.gov.pl/
https://doi.org/10.32394/rpzh/216938

ORIGINAL ARTICLE

HEALTHCARE ACCESS AND CONSULTATION BEHAVIORS AMONG OVERWEIGHT AND OBESE ADULTS IN KÉNITRA, MOROCCO: A CROSS-SECTIONAL STUDY ON BARRIERS

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ABSTRACT

Background. Overweight and obesity are major public health challenges, yet access to appropriate healthcare and effective management remains limited. This study aimed to assess healthcare access, consultation behaviors, and barriers among overweight and obese adults.

Material and Methods. A cross-sectional study was conducted among 134 adults in Kénitra, Morocco. Sociodemographic information, body mass index (BMI), and healthcare access variables were collected using structured questionnaires and clinical assessments. Descriptive statistics were used to summarize consultation behaviors, barriers, types of healthcare providers consulted, and follow-up practices.

Results. Among participants, 47.0% were classified as obese, 25.4% as overweight, and 27.6% had normal BMI. Only 19.6% reported consulting specifically for weight-related issues, while 78.4% did not seek care. The main barriers were perception of no need (34.6%), financial constraints (25.6%), and lack of physicians (21.8%). Consultations primarily took place in the private sector (84.2%). Dietitians (40.4%) and specialist physicians (38.6%) were the most frequently consulted professionals, whereas general practitioners accounted for only 10.9%. Follow-up and referral rates were low, with just 3.1% of participants referred to specialists or dietitians and 91.8% receiving no regular monitoring.

Conclusion. Access to healthcare for overweight and obese adults is constrained by economic, social, and systemic factors. The low rates of consultation, referral, and follow-up underscore the need for structured care pathways, enhanced provider awareness, and multidisciplinary management strategies in Morocco.

Keywords: *obesity, overweight, healthcare access, barriers, follow-up, primary care*

INTRODUCTION

The prevalence of nutritional disorders has increased dramatically worldwide over recent decades, constituting what the World Health Organization describes as a global obesity epidemic [1, 2]. This trend forms part of a broader nutritional transition, characterized by rapid shifts in diet and lifestyle driven by globalization, urbanization, and economic development [3]. Populations in developing regions, including North Africa, as well as immigrant communities in high-income countries, are particularly vulnerable. In these settings, nutritional disorders pose a growing public health threat.

In developing countries, urbanization is a major driver of rising obesity rates [4, 5]. While Africa remains the least urbanized continent, North African cities are experiencing unprecedented growth. Urban residents, especially those with lower socio-economic status, increasingly consume inexpensive, energy-dense foods rich in fats, sugars, and refined carbohydrates, leading to the erosion of traditional dietary patterns [6]. In contrast, rural populations generally have lower fat intake, more physically demanding lifestyles, and reduced reliance on mechanized transport, which mitigates weight gain [3, 7].

Socio-economic development, urbanization, and aging have consistently been identified as determinants of obesity and related cardiovascular

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Publisher: National Institute of Public Health NIH - National Research Institute

risk factors, including diabetes, hypertension, and hypercholesterolemia, across North African populations [4, 8]. Notably, unlike high-income countries, where obesity is more prevalent among disadvantaged groups [9], in North Africa, obesity is often linked to higher socio-economic status. Among women, cultural norms frequently associate fatness with beauty, fertility, and social prestige, and lower educational attainment is associated with reduced awareness of obesity-related health risks [10-13].

Despite the rising prevalence survey reported that 53.4% of adults were overweight and 20.2% obese, with women disproportionately affected (29.0% obese vs. 11.0% of men) [14]. These is exceeding regional averages and highlight the rapid nutritional and epidemiological transitions underway. Yet, access to obesity-specific care remains limited due to structural inequalities, financial barriers, and persistent cultural perceptions regarding body weight.

In Morocco, overweight and especially obesity are now a major public health issue, with a particularly high prevalence among women. Recent estimates indicate that approximately 35.7% of adult women and 22.6% of adult men are obese (BMI ≥ 30 kg/m²), levels higher than those observed on average in the North Africa-Middle East region (20.8% among women and 9.2% among men) [15]. Globally, the World Health Organization estimates that in 2022, 43% of adults aged 18 and over were overweight (BMI ≥ 25 kg/m²) and 16% were obese, confirming a continuous increase in excess weight since the 1990s [16]. Thus, although excess weight is a global phenomenon, the available data suggest that Morocco is experiencing a particularly worrying trend, particularly with regard to female obesity, which highlights the need to analyze its determinants and impacts, particularly in terms of access to healthcare, in the Moroccan context [15].

Obesity prevalence in Morocco, particularly among women, is rising due to rapid urbanization, socio-economic changes, and cultural factors, yet national healthcare systems remain unprepared to prevent or manage it effectively. Understanding the determinants of obesity and the barriers to healthcare access is essential for designing culturally appropriate, evidence-based public health interventions. Therefore, this study aims to: Evaluate access to obesity-specific healthcare services and the barriers to care, and provide evidence-based recommendations for public health strategies aimed at obesity prevention and management.

MATERIALS AND METHODS

Study design and area

A cross-sectional observational study was conducted between March 2022 and April 2024 in the province of Kénitra, Morocco. The study aimed to evaluate access to care, consultation behaviors, and barriers among overweight and obese adults aged 18-60 years.

Study sites

Data were collected across multiple healthcare and community settings, including the Provincial Hospital of Kénitra, the Kénitra Diagnostic Center, the Level I Urban Health Center "Diouri", an industrial automotive company located in the Atlantic Free Zone of Kénitra, and a private medical practice. These sites were purposively selected to capture diverse socioeconomic profiles and contexts of healthcare access.

Inclusion and exclusion criteria

An initial clinical examination to check the eligibility of participants was performed by the study physician. It included blood pressure and blood glucose measurements and a medical history. A total of 157 adults were interviewed, of whom 134 completed the questionnaire in a comprehensive and usable manner and were included in the analysis. The inclusion criteria were: age between 18 and 60 years and belonging to one of the BMI categories defined by the World Health Organization, namely normal BMI (18.5-24.9 kg/m²), overweight (25.0-29.9 kg/m²) or obese (BMI ≥ 30 kg/m²). Exclusion criteria included any chronic condition that could influence weight gain or limit physical activity (cardiovascular disease, thyroid disorders), any mobility limitations, and the use of medications that could affect sleep, eating behavior, or physical activity. All participants received detailed information about the study and signed an informed consent form. Participation was voluntary, and participants could withdraw from the study at any time.

Recruitment of the research group

The study was based on a convenience sample of eligible adults recruited across the different data collection sites during the study period (March 2022 to April 2024), according to established criteria. This sampling approach is commonly used in cross-sectional exploratory studies investigating healthcare access and consultation behaviors. A total of 157 individuals were recruited. After data verification, 134 participants with complete and usable questionnaires were included in the final analysis.

Data collection

The questionnaire used in this study was adapted from the Barriers to Care Questionnaire (BCQ), which is widely used in the literature [17]. It was adapted to the context of the study and its objectives, as described in the literature, particularly those relating to access

to care and barriers to obesity management, in order to meet the specific objectives of this study and the Moroccan sociocultural context. This adaptation made it possible to target the availability of health services, consultation behaviors, and perceived barriers to seeking care. The internal consistency of the questionnaire was deemed satisfactory (Cronbach's alpha = 0.71). The questionnaire was completely anonymous; no personal data was collected, and the information gathered was treated confidentially, exclusively for scientific research purposes. This structured questionnaire were administered to collect sociodemographic information (sex, age, education level, monthly income, residence), consultation behavior, barriers to healthcare access, type of provider consulted, and follow-up practices. Clinical measurements included weight and height to calculate body mass index (BMI). Data were collected by trained field investigators using face-to-face interviews in designated sites. All participants provided written informed consent before enrolment. The study received ethical approval from the Biomedical Research Ethics Committee of Mohammed V University in Rabat (Reference: 16/20) issued on March 13, 2022. Authorization to access public healthcare facilities was granted by the Ministry of Health and Social Protection, and site permissions were obtained from private institutions.

Statistical analysis

Statistical analyses were performed using IBM SPSS Statistics for Windows, Version 22.0 (Released 2013; IBM Corp., Armonk, NY, USA), (Free).

RESULTS

A total of 134 participants completed the study. The sociodemographic and anthropometric characteristics of the study population are summarized in Table 1. The sample was predominantly female (62.7%, n = 84) and urban (65.1%, n = 84). Educational attainment was distributed across primary (36.2%), secondary/high school (33.8%), and higher education (30.0%). Economically, the largest proportion reported a monthly income between 1,000 and 3,000 Moroccan Dirhams (MAD) (36.4%). Nutritional status assessment revealed a high burden of excess weight. Nearly half of the participants (47.0%, n = 63) were classified as obese, while 25.4% (n = 34) were overweight. Consequently, 72.4% of study participants had a Body Mass Index (BMI) ≥ 25 kg/m². Analysis of the distribution by sex within BMI categories showed that women constituted the majority in both the overweight (58.8%) and obese (60.3%) groups. A *Chi*-square test confirmed a statistically significant association between sex and obesity status ($\chi^2 = 6.24$, df = 1, p = 0.012), with a higher prevalence of obesity observed among women.

Table 1. Sociodemographic and anthropometric characteristics of the study population

Variable	Category	Frequency (n)	Percentage (%)
Sex	Women	84	62.7
	Men	50	37.3
Residence	Urban	84	65.1
	Rural	45	34.9
Academic level achieved	Fundamental	47	36.2
	Middle school/High school	44	33.8
	Higher education	39	30.0
Monthly income (MAD)	< 1000	40	30.3
	≥ 1000 - < 3000	48	36.4
	≥ 3000 - < 5000	11	8.3
	≥ 5000 - ≤ 10000	4	3.0
	> 10000	29	22.0
BMI category	Normal	37	27.6
	Overweight	34	25.4
	Obese	63	47.0
Age (years)	18-30	68	50.7
	31-40	38	28.4
	41-50	22	16.4
	51-60	6	4.5

Table 2 presents the analysis of access to healthcare among individuals with overweight or obesity, revealing notable gaps in medical management. Only 19.6% of participants reported consulting a healthcare professional specifically for weight-related issues, whereas the majority (78.4%) had never sought such care. Several barriers to consultation were identified: the most frequently reported was the perception that consultation was unnecessary (34.6%), followed by financial constraints (25.6%). Additional barriers included the unavailability of physicians (21.8%) and lack of time (5.1%). When consultations did occur, they were largely concentrated in the private sector (84.2%), compared with just 15.8% in public healthcare facilities. Regarding the type of professionals consulted, dietitians accounted for the largest share (40.4%), followed closely by specialist physicians (38.6%), while general practitioners were less frequently sought (10.9%). A number of participants also turned to unqualified providers such as unlicensed coaches or nutritionists.

The quality of care during medical visits appeared limited. Only 22.6% of participants had their weight measured, 17.5% received a warning about excess weight, and just 12.4% were informed about the associated health risks. Follow-up care was particularly scarce, with 91.8% of participants reporting no regular monitoring and only 3.1% being referred to a specialist or dietitian.

These findings highlight major gaps in screening, counseling, and follow-up of obesity, pointing to the need for more structured care pathways and greater awareness among both patients and healthcare providers.

Table 3 shows among the study participants, only 19.6% reported having consulted a healthcare professional specifically for a weight-related problem, it showed no statistically significant difference between women and men ($\chi^2 = 0.00$; $p = 1.00$), despite a slightly higher number of women reporting consultation.

Similarly, the relationship between BMI category and consultation behavior was not statistically significant ($\chi^2 = 2.88$; $p = 0.41$). Participants across all BMI categories (overweight, obesity class I, II, and severe obesity) [18] exhibited comparably low consultation rates, indicating that a higher BMI did not translate into increased healthcare-seeking behavior for weight-related issues. Table 3 shows that the relationship between gender and seeking healthcare professional advice regarding weight problems was not statistically significant (χ^2 test, $p = 1.00$). Twenty-one out of 93 women reported seeking healthcare professional advice, compared to 14 out of 62 men, indicating similar consultation rates between the sexes. Similarly, no statistically significant relationship was observed between place of residence (urban vs. rural) and seeking healthcare professional advice regarding weight management (χ^2 test, $p = 0.44$). Participants residing in urban areas (29/118) and those residing in

Table 2. Data on access to care for overweight and obese individuals

Theme	Main findings	Percentage (%)
Consultation for weight problems	Did not consult	78.4
	Consulted	19.6
Barriers to consultation	Lack of physician	21.8
	Financial constraints	25.6
	Lack of time	5.1
	Did not feel the need	34.6
Type of consultation	Private sector	84.2
	Public sector	15.8
Health professionals consulted	Dietitian	40.4
	Specialist physician	38.6
	General practitioner	10.9
	Unqualified providers (coaches/ unlicensed nutritionists)	Not quantified (reported)
Care during other medical consultations	Weighing performed	22.6
	Warning about excess weight	17.5
	Information on health risks	12.4
Weight management follow-up	No regular follow-up	91.8
	Referral to specialist/dietitian	3.1

Table 3. Consultation for weight-related problems according to sociodemographic characteristics

Variable	Category	Total (n)	No consultation n (%)	Consultation n (%)	χ^2	p-value
Sex	Women	84	65 (77.4)	19 (22.6)	0.00	1.00
	Men	50	39 (77.4)	11 (22.6)		
Place of residence	Urban	84	63 (75.0)	21 (25.0)	0.58	0.44
	Rural	45	37 (82.2)	8 (17.8)		
Monthly income (MAD)	< 1000	40	33 (82.5)	7 (17.5)	10.07	0.039*
	≥ 1000 - < 3000	48	40 (83.3)	8 (16.7)		
	≥ 3000 - < 5000	11	10 (90.9)	1 (9.1)		
	≥ 5000 - ≤ 10000	4	2 (50.0)	2 (50.0)		
	> 10000	29	17 (58.6)	12 (41.4)		
BMI category	Normal	37	28 (75.7)	9 (24.3)	2.88	0.41
	Overweight	34	21 (61.8)	13 (38.2)		
	Obese	63	43 (68.3)	20 (31.7)		
Age (years)	18-30	68	53 (77.9)	15 (22.1)	2.59	0.45
	31-40	38	29 (76.3)	9 (23.7)		
	41-50	22	17 (77.3)	5 (22.7)		
	51-60	6	5 (83.3)	1 (16.7)		

Associations were tested using the χ^2 test; $p < 0.05$ indicates statistical significance (*)

rural areas (6/36) exhibited similar behaviors in seeking healthcare. Analysis by age group (18-30, 31-40, 41-50, 51-60 years) did not reveal any statistically significant relationship with seeking healthcare professional advice regarding weight problems (χ^2 test, $p = 0.45$). Consultation rates remained low and similar across all age groups. In this population group, access to and use of health services for weight management did not appear to be influenced by individual sociodemographic characteristics such as sex, age, or place of residence. These findings suggest that barriers to counseling are more likely to be related to structural, economic, or cognitive factors than to traditional sociodemographic determinants.

DISCUSSION

The findings of this study largely align with current research on barriers to healthcare access for individuals with overweight and obesity. Similar to previous studies, the low consultation rate for weight-related issues (19.6%) reflects persistent challenges in engaging patients in obesity management [19, 20]. Economic barriers were frequently reported in both this study (25.6%) and in the literature, where lack of insurance coverage and high consultation costs are consistently identified as significant obstacles [21, 22].

The predominance of consultations in the private sector (84.2%) is also consistent with findings in other settings, where patients often perceive private care as more accessible or of higher quality, particularly when public healthcare services are limited or overstretched [23]. However, the high reliance on private providers in this study may also indicate structural gaps in the public healthcare system that are less emphasized in some other studies.

The study also revealed insufficient follow-up and referral to specialists or dietitians (3.1%), which echoes the findings of Kim [20] and Foster et al. [24], who reported that primary care providers often lack the training, protocols, or resources to manage obesity effectively. This gap in multidisciplinary care and coordination appears to be a global challenge. Similarly, the low rate of weight monitoring and counseling (weighing performed in 22.6%, warning given in 17.5%) reflects observations in other studies, where routine assessment and patient education remain underutilized despite recommendations for proactive obesity management [25, 26].

Overall, the results of this study reinforce trends reported in the literature: access to care for overweight and obese individuals is limited by economic, social, and systemic barriers, and interventions remain inconsistent. While the prevalence of private sector consultations and low follow-up rates in this population may vary regionally, the underlying challenges including stigma, inadequate training, and insufficient care pathways are consistently highlighted across.

No statistically significant association was observed between BMI category and consultation behavior. Participants with overweight and different classes of obesity exhibited similarly low consultation rates, indicating that greater severity of excess weight did not translate into increased healthcare-seeking

behavior. Similar observations have been reported in other settings, where individuals with obesity often perceive excess weight as a personal or lifestyle issue rather than a condition warranting medical attention [18, 19, 20]. Weight-related stigma and fear of judgment by healthcare providers may further discourage individuals from seeking professional support, regardless of BMI level [19].

The absence of significant associations between consultation and sex, age, or place of residence indicates that limited utilization of healthcare services for weight management affected all sociodemographic groups. Although women are generally reported to engage more frequently in healthcare services, particularly preventive care [10, 13], this pattern was not observed in the present study. This finding may reflect systemic barriers within the healthcare system, including limited availability of structured obesity management programs and insufficient integrity. Similarly, the lack of age-related differences suggests that low consultation rates persist across adulthood. In contrast, a significant association was observed between monthly income and consultation for weight-related problems, with higher consultation rates among participants with higher income levels. This finding underscores the importance of economic barriers in access to obesity-related care. In Morocco, as in many countries undergoing nutrition transition, specialized weight management services are predominantly delivered through the private sector, where costs may limit access for individuals with lower socioeconomic status [14]. Similarly, the lack of age-related differences suggests that low consultation rates persist across adulthood, regardless of life stage. This contrasts with findings from high-income countries, where older age is often associated with increased healthcare utilization due to a higher burden of comorbidities and more frequent contact with health services [8]. In the present context, weight-related care does not appear to be systematically triggered by age or perceived health risk, suggesting that obesity is not consistently managed as a chronic condition requiring long-term medical follow-up. Taken together, these findings suggest that barriers to obesity care are primarily structural and economic rather than demographic. The persistence of low consultation rates across BMI categories and sociodemographic group

Strengths and limitations of the study

This study has several strengths. It provides original data on healthcare access and consultation behaviors among overweight and obese adults in a Moroccan urban-rural setting, a topic that remains insufficiently documented. The use of clinical measurements for anthropometric assessment, rather than self-reported data, enhances the reliability of BMI classification. In addition, the questionnaire was adapted from the literature, subjected to expert review, pretesting, and reliability assessment, supporting the methodological rigor of data collection. The inclusion of multiple recruitment sites allowed for a diversity of socioeconomic profiles, improving the descriptive relevance of the findings.

However, several limitations should be acknowledged. The cross-sectional design precludes any causal inference between sociodemographic factors and healthcare utilization. The study relied on a convenience sample, which may limit the generalizability of the results beyond the study population. Moreover, consultation behaviors and perceived barriers were self-reported, which may be subject to recall and social desirability biases. The relatively modest sample size may have reduced the statistical power to detect significant associations.

Despite these limitations, the study provides valuable insights into the structural and perceptual barriers to obesity-related care, highlighting critical gaps in consultation, referral, and follow-up that can inform future research and public health interventions.

CONCLUSION

This study highlights notable gaps in access to care for overweight and obese individuals in the Kénitra region of Morocco. Low consultation rates, predominance of private sector visits, and insufficient follow-up or referral to specialists indicate systemic and socioeconomic barriers. Effective obesity management requires improved patient education, structured care pathways, and better coordination between primary and specialized healthcare services. Interventions addressing both patient- and system-level factors are essential to optimize prevention and treatment outcomes for obesity.

Disclaimers

The views and conclusions expressed in this article are solely those of the authors and do not necessarily represent the views of their affiliated institutions. The authors are responsible for the accuracy and completeness of the information provided, but do not accept any liability for any direct or indirect losses resulting from the use of this content.

Conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this article.

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Received: 29.11.2025
Revised: 25.12.2025
Accepted: 13.01.2026