



## SOCIO-ECONOMIC CHARACTERISTICS, HEALTH STATUS AND ACCESS TO HEALTH CARE IN AN ELDERLY MOROCCAN COMMUNITY: STUDY OF THE GENDER FACTOR

Mohamed Mziwira<sup>2</sup>, Azzelarab Ahaji<sup>1</sup>, Kaoutar Naciri<sup>1</sup>, Rekia Belahsen<sup>1</sup>

<sup>1</sup>Laboratory of Biotechnology, Biochemistry and Nutrition, Training and Research Unit on Nutrition and Food Sciences, Department of Biology, Faculty of Sciences, Chouaib Doukkali University, El Jadida, Morocco

<sup>2</sup>Laboratory of Bio-Geosciences and Materials Engineering, Higher Normal School, Hassan II University of Casablanca, Casablanca, Morocco

### ABSTRACT

**Background.** In Western societies, gender differences in health and health behavior are extensively documented, but less is known about gender health disparities in Morocco. Aging is not yet a research topic or a source of concern. However, the country will face significant demographic aging in the future.

**Objective.** The purpose of this study was to investigate gender differences in indicators associated with socioeconomic status, health status, and access to health care among the elderly population of the El Jadida region in Morocco.

**Material and methods.** It is a cross-sectional study on a random sample of 537 persons, aged 60 and older (136 women and 401 men) from the El Jadida region.

**Results.** When compared to their male counterparts, older Moroccan women face a number of disadvantages, including lower levels of education and literacy, lower levels of employment, rising rates of widowhood and living alone, and a lower likelihood of receiving formal pension benefits. In terms of health status, half of older women do not have medical coverage, almost all feel more tired, and, in discomfort, half suffer from total and central obesity, with more visual, oral, and memory health problems. Older Moroccan men, on the other hand, have greater hypertension, smoke and consume more tobacco and alcohol, and are more anxious, depressed, and insomniac. Overall, for both sexes, the perception of self-rated health status was deemed poor, with three health problems reported per person. Many other demographic, psychosocial, and economic indicators were not significantly related to gender.

**Conclusions.** In Morocco, older people face a variety of problems that have a negative impact on their perception of aging. Furthermore, there are gender differences in socioeconomic status, prevalence, symptoms, and correlates of chronic diseases, health service use, and lifestyle. Longitudinal studies and immediate implementation of medical policy for this population are needed

**Key words:** elderly people, gender gaps, socioeconomic factors, health status, health care access, chronic disease, Morocco

### INTRODUCTION

Many countries are currently experiencing, to varying degrees, the so-called phenomenon of “population aging.” Seniors accounted for 8% of the global population in 2009, and this percentage is expected to rise to 22% by 2050 [26]. However, the degree of aging, and thus the degree of aging, varies from continent to continent. Europe, North America, and Oceania are the continents with the oldest

populations, with 17.4%, 15.1 %, and 12.5 % of the population over 65, respectively. Asia currently holds 7.9% of the world’s elderly population, but this number is expected to rise considerably as the population ages. Except for the North African countries, Africa, which is on the verge of having 3.5% of its population over 65 years old, remains a young continent due to high fertility rates [41]. As a result, the aging of the population will have a variety of social, economic, and cultural consequences [4]. Rapid population

**Corresponding author:** Rekia Belahsen, Laboratory of Biotechnology, Biochemistry & Nutrition. Training and Research Unit on Nutrition & Food Sciences., Chouaib Doukkali University, Faculty of Sciences, El Jadida, 24000 Morocco, Phone: 212 523342325 or 212 664971616; Fax: 212 523342187/4449, e-mail: rbelahsen@yahoo.com or b.rekia@gmail.com

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aging is accompanied by growing concern about individual and population health as a result of the increased incidence and prevalence of chronic non-communicable diseases, which can reduce a person's sense of well-being and quality of life in later life [8].

Gender differences in the experience of aging, on the other hand, have become a source of concern for policymakers around the world. They are also visible in lifestyle risk factors for chronic diseases like alcohol consumption, smoking, and physical activity, which can reflect personal health beliefs and values as well as underlying gender norms and contribute to gendered patterns of health care utilization. Women are less likely than men to engage in risky lifestyle behaviors such as drinking and smoking, but they are also less physically active than men [25].

Morocco is, in fact, in an advanced stage of demographic transition, with a life expectancy of more than 72 years, a continuous decline in fertility and a longer life expectancy, and an elderly percentage that is increasing at an unprecedented rate. Indeed, the proportion of people over 60 increased from 7.2% (less than one million) in 1960 to 8.1 percent in 2004 and 9.4% (3.2 million) in 2014 [17]. Predictions are growing, as this proportion is expected to rise from 11.5% of the Moroccan population in 2020 to 15.4% by 2030.

Morocco's strategy on old age may be recent, and as a result, the term first emerged in April 2002, in the national report on aging by Solidarity's Minister of Employment, Vocational Training, and Social Development [20]. Many social welfare institutions have been established, but age dimensions have not been taken into account because the elderly are treated on an equal footing with other people such as the disabled and the homeless. Health care systems that have not been oriented from the start to the myriad of health problems and long-term care needs of the elderly, as well as to disease prevention, must respond to the new demographic reality and associated changes in population health. Despite the growing prevalence of older adults and Morocco's commitment to providing accessible health care, little is known about the factors influencing older adults' health-seeking behaviors and the gender differences in these behaviors.

The main goal of this study is to investigate gender differences in indicators associated with the socioeconomic status, health status, and access to health care of the elderly population of the El Jadida region in Morocco, with the goal of making recommendations and proposals for implementing a health care policy for this population category of population.

## MATERIAL AND METHODS

The study was based on a sample of 537 elderly individuals (136 women and 401 men) aged, 60 years old and over, of both genders, who visited public health centers in El Jadida, a Moroccan agricultural province.

The survey was conducted by teams of professionals (one anthropometrist and one interviewer) who had been trained in standardized interviews and anthropometric measurements. The sample recruitment was based on the person's age. Individuals with confirmed Alzheimer's disease and other cognitive disorders that could jeopardize the procedures, as well as those who could not understand the written formal consent, were excluded from participating in the study. The study protocol has been accepted by the dedicated Moroccan authority of ministry of health.

A structured questionnaire was used to collect socio-demographic and health information during a face-to-face interview. Individual and household characteristics such as date of birth, gender, rural/urban residence, education, marital status, number of children, marital status, working status, and disease background (diagnosed chronic disease and reported health problem) were included in the questionnaire. For analysis purposes, age is divided into four categories for analysis: 60 to 69 years, 70 to 79 years, and 80 years and older.

Self-reports were used to collect data on health issues. Respondents were asked if they had any of the following medical health issues: visual impairments, hearing impairments, memory problems, or oral problems.

We have set aside a section of the questionnaire to assess the quality of life of these elderly people based on their health insurance coverage, the type of medical consultation, and the nature of the stress (probable anxiety, depression, fatigue, insomnia, discomfort, melancholy).

Body mass index (BMI) was calculated by dividing body weight (kg) by the square of height (m), and WHO cutoff standards for overweight ( $BMI \geq 25$ ) and obesity ( $BMI \geq 30$ ) were used as indices of general obesity [43].

To quantify central obesity, a flexible tape was used to measure waist circumference (WC) at the midpoint between the lowest rib and the iliac crest and hip circumference at the greater trochanter to the nearest millimeter. In the analysis, the mean of two different measurements was used. WC is used as a marker for intra-abdominal fat deposition or visceral fat deposition. A waist circumference of 88 cm for women and 102 cm for males is considered as a cardiovascular risk factor [34, 44].

A mercury sphygmomanometer was used to measure blood pressure (BP) in a sitting position after

at least 10 minutes of rest. According to the Adult Treatment Panel III criteria, high blood pressure was defined as a systolic blood pressure of 130 mmHg and/or a diastolic blood pressure of 85 mmHg and/or self-reported treatment of hypertension with antihypertensive medication [13]. Furthermore, to estimate the prevalence of hypertension, blood pressure was measured three times at one-minute intervals, with the average used as the final blood pressure. Furthermore, blood samples were collected after a 12-hour overnight fast; plasma was separated by centrifugation and stored at -90 °C until analysis.

Hyperglycemia was defined as fasting blood glucose levels greater than 6.1 but less than 6.9 mmol/l, and diabetes as levels greater than 7 mmol/l [31]. Tobacco use was considered present in individuals who reported smoking up until the day of the interview. Alcohol consumption was measured using yes/no questions about consuming alcoholic beverages. All statistical analyses were carried out using the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, USA) version 23.0. The data was descriptively analyzed by calculating absolute (n) and frequency values (percent), arithmetic mean, and standard deviation (SD). The categorical variables are expressed as percentages. The Chi-square test was used to examine relationships between different groups and variables. *Tukey's* test was used to compare the means of the variables. A p-value of less than 0.05 was considered statistically significant.

## RESULTS

Table 1 shows that the participants' average age was 68.45 ± 4.34 years old, with significant gender differences. The most of them were men (74.7%), in their 70s (58.1%), literate (81.5%), retired (70.3%), and married (70.3%) (94.8%). Men were, on average, older than women (69.9 ± 3.43 years).

As shown in Table 2, the majority of participants had health insurance (70.4%). Men (77.6%) had greater access to health insurance than women (49.3 percent) ( $p < 0.001$ ). Half of the participants (56.1%) went to a general practitioner, while only 16% went to a specialist. The proportions of people experiencing stress as melancholy/discomfort, insomnia, anxiety/depression, and tiredness were 26.8%, 25.5%, 16.6%, and 23.3 %, respectively. Men are more vulnerable to anxiety/depression and insomnia than women, while the latter are more tired and uncomfortably so.

Table 3 shows that 6.7% of participants were current smokers and 10.1% consumed alcohol in the 30 days preceding the survey. The perception of their self-rated health status as bad was declared by 35% of those who used health services; these were primarily

retired people at the time of the survey. Only 8.8% of those polled thought their health was in good shape.

According to the BMI classes, none of the participants are underweight. The majority of participants (49.3%) were classified as "overweight," while 24.2% were classified as "obese". Obesity is diagnosed in half of the women studied.

There were significant differences in self-rated health status, BMI status, smoking status, and alcohol consumption between men and women ( $p < 0.05$ ); men have poorer perceptions of their health, consume more alcohol, and smoke more than women. Men, like women, tend to gain weight, whereas women are more likely to be obese.

Among the diagnosed chronic diseases, hypertension was the most frequently reported (66.1%), more so in men (75%), followed by central obesity (25.3%), and total obesity (25.3%) (24.2%). Memory problems (65.7%), visual impairments (50.7%), and oral problems were the most common health issues (46.4%). A very small number of cancer cases were also reported. Except for diabetes mellitus, there are significant differences in the reporting of all diagnosed chronic diseases and health problems by gender, with women reporting a higher proportion. Women were significantly more likely than men to report "total obesity," "central obesity," "visual and hearing impairment," and "memory and oral problems."

As shown in Table 4, comorbid conditions were also common in the studied age category. Based on self-reported data, 93.7% of the participants reported at least one health problem experienced during the 3 months prior to the interview; 14.7% of respondents had one, 21.6% had two, and 57.4% had three or more of the selected chronic conditions. On average, approximately three health problems per person were reported, with men reporting more health problems than women ( $p < 0.05$ ) and urban areas having more than rural areas of residence (4 vs 2.8 per person;  $p < 0.05$ ).

A stratified analysis by area of residence and gender revealed that older men in the urban area reported a greater number of problems, with a higher proportion claiming to have four or more health problems than their counterparts in the rural region. Rural women reported more health problems and chronic diseases than urban women. The study also found that older people who have a negative perception of aging have 2.5 times more health problems and are more likely to have more than three chronic diseases.

## DISCUSSION

As the elderly population grows, the debate over how to maintain their physical and mental health,

Table 1. Main socio-demographic characteristics of elderly people according to gender

Variables	% Total (n=537)	Men (n=401)	Women (n=136)	p-Value
<b>Age (mean ± SD)</b>	68.45 ± 4.34	69.9 ± 3.43	64.17 ± 3.92	0.000
<b>Age range (years)</b>				0.000
60	53.8	41.9	89	
70	45.1	56.6	11	
Over 80	1.1	1.5	0	
<b>Area of residence (%)</b>				0.535
Rural area	53.6	53.6	53.7	
Urban area	46.4	46.4	46.3	
<b>Years of schooling (%)</b>				0.000
Illiterate	27	18.5	52.2	
Literate	73	81.5	47.8	
<b>Marital status (%)</b>				0.008
Married	92.9	94.8	87.5	
Single/Divorced/widowed	7.1	5.2	12.5	
<b>Family structure (%)</b>				0.081
Small family	43	41.1	48.5	
Extended family	57	58.9	51.5	
<b>Occupation (%)</b>				0.000
Unemployed/Housewife	13.6	0	53.7	
Active	22.9	29.7	2.9	
Retired	63.5	70.3	43.4	
<b>Number of children (%)</b>				0.106
2 children and less	30	28.4	34.6	
More than 3 children	70	71.6	65.4	

The mean difference is significant at \* $p < 0.05$ . Data are expressed as Mean ± SD (standard deviation).

Table 2: Health Services utilization among elderly people according to gender

Variables	% Total (n=537)	Men (n=401)	Women (n=136)	p-Value
<b>Active health insurance</b>				0.000
No	2.6	22.4	50.7	
Yes	70.4	77.6	49.3	
<b>Type of medical consultation</b>				0.5481
general doctor	56.1	57.9	50.7	
Specialist doctor	16.4	16.2	16.9	
Pharmacist	10.1	9.5	11.8	
Traditional medicine	17.5	16.5	20.6	
<b>nature of the stress</b>				0.000
Anxiety/Depression	16.6	21.7	1.5	
Tired	23.3	14.5	49.3	
Insomnia	25.5	31.9	6.6	
Irritation any type	7.8	10	1.5	
melancholy/Discomfort	26.8	21.9	4.2	

The mean difference is significant at \* $p < 0.05$ .

Table 3. Health status and chronic disease prevalence in both genders

Variables	%Total (n=537)	Men (n=401)	Women (n=136)	p-Value
<b>Self-rated health status</b>				0.000
Good	8.8	10.7	2.9	
Normal	56.6	51.6	71.3	
Bad	34.6	37.7	25.7	
<b>BMI (mean ± SD)</b>	27.15 ± 3.55	26.30 ± 2.84	29.63 ± 4.22	0.000
<b>Category BMI (kg/m<sup>2</sup>)</b>				0.000
Underweight (BMI < 18.5)	0	0	0	
Normal weight (BMI 18.5 to 24.99)	26.4	28.7	19.9	
Overweight (BMI 25 to 29.99)	49.3	55.4	31.6	
Obese (BMI ≥ 30)	24.2	16	48.5	
<b>Tobacco use</b>				0.002
Non-smoker	93.3	91.5	98.5	
Current smoker	6.7	8.5	1.5	
<b>Alcohol consumption</b>				0.000
No	89.9	87	98.5	
Yes	10.1	13	1.5	
<b>Diagnosed chronic disease</b>				
Hypertension	66.1	75.6	38.2	0.000
Diabetes mellitus	14.9	16.2	11	0.09
Total obesity	24.2	16	48.5	0.000
Central obesity	25.3	16.7	50.7	0.053
<b>Reported health problem</b>				
Visual impairments	50.7	46.9	61.8	0.002
Hearing impairments	34.3	41.6	12.5	0.000
Memory problems	65.7	58.4	87.5	0.000
Oral problems	46.4	39.2	67.6	0.000

The mean difference is significant at \*p<0.05. BMI: body mass index. Data are expressed as Mean ± SD (standard deviation).

Table 4. Prevalence of chronic conditions, by socio-demographic and perception of health status

	Mean health problems (Mean ± SD)	p-Value	Number of chronic conditions (%)				p-Value
			0	1	2	≥ 3	
<b>Total</b>	3.35 ± 2.07		6.3	14.7	21.6	57.4	
<b>Age range</b>		0.000					0.000
60s	2.69 ± 1.68		8.7	17.3	26.3	47.8	
70s	3.16 ± 1.16		3.7	11.6	16.5	68.2	
Over 80	4.14 ± 2.23		0	16.7	0	83.3	
<b>Gender</b>		0.036					0.000
Men	3.46 ± 2.09		3.2	15	25.2	56.6	
Women	3.02 ± 2.00		15.4	14	11	59.6	
<b>Area of residence</b>		0.000					0.000
Urban area	3.99 ± 2.39		8.4	12.4	11.2	67.9	
Rural area	2.79 ± 1.55		4.5	16.7	30.6	48.3	
<b>Self-rated health status</b>		0.000					0.000
Good	1.89 ± 0.75		2.1	25.5	55.3	17	
Normal	2.6 ± 1.85		10.2	20.7	26.3	42.8	
Bad	4.9 ± 1.7		1.1	2.2	5.4	91.4	

The mean difference is significant at \*p<0.05. Data are expressed as Mean ± SD (standard deviation).

independence, and well-being, as well as their financial security, is becoming more heated [37].

In Morocco, a demographic transition is underway, with people aged 60 and over accounting for 8.1% of the population, up from 7.2% in 1962, according to the General Population and Housing Census of 2004. With the projected decline in fertility and future lengthening of the lifespan, the country will face an increasing burden from this age group. This proportion of the elderly would rise from 11.5% in 2020 to 15.4 % by 2030 [16].

The data presented on the present study population are part of a large cross-sectional study conducted at the household level on a total sample of 1019 participants in the El Jadida region. This information relates to sociodemographic, health, and nutritional status. People over the age of 60 constituted 52.7% of the population studied. This rate indicates that aging is more prevalent in this region than the national average, which was 9.4% in 2014 [17]. This current cross-sectional study is one of the few among Moroccan elderly people.

In terms of socioeconomic status, both men and women have a stronger relationship between socioeconomic status and wellbeing as a result of social integration and functional capacity building [1, 27]. Many women face poverty in old age as a result of inequalities in income, education, and employment throughout their lives, which are aggravated by limitations on pension benefits and a lack of control over financial resources. In comparison to their male counterparts, older Moroccan women experience a number of disadvantages, including higher rates of illiteracy (47,8%), unemployment (53,7%), increased rates of widowhood and living alone, and a reduced likelihood of receiving formal pension benefits. Previous research undertaken in low- and middle-income countries has supported these findings [7, 15, 46].

The rate of illiteracy remains lower than that recorded in Africa (78%) and Asia (53%). The same observation can be made about the average levels of illiteracy for older men, which also remains lower than in Africa and Asia (58% and 29%, respectively [39]). Literacy opens up more possibilities in terms of information. Employment options, and hence financial status and regular income, are influenced by education.

Women are less likely than men to hold positions of power, have job security, authority, autonomy, and advancement opportunities. Even educated women's access to authority, autonomy, available, albeit limited, public pensions, and opportunities for advancement has been restrained by low employment rates [32, 36]. Nevertheless, because older Moroccan women and men are more likely to live in child-headed households, intergenerational co-residence is more frequent in Moroccan families. This solution may allow them to break the cycle of isolation, maintain

a sense of usefulness, and reduce feelings of incapacity, improve their quality of life, maintain physical and motor activity, and thus avoid the psychological complications of aging, such as withdrawal, distrust, isolation, and loneliness, which can lead to mental and physical pathology. Furthermore, previous research has shown that older women are more likely to be living alone, single, or widowed in developing countries [40, 42]. For these women, the social and economic consequences of widowhood may be more severe.

The study also found that the percentage of older women who are socially isolated is considerably higher than the percentage of older males, given the fact that older men are more likely than women to remarry following divorce or widowhood. As a result, older women frequently refuse to remarry since social systems do not favor older people marrying, and they are afraid of social pressure, public judgment, insults, and even humiliation [33, 35].

On the other hand, one's health status can have a significant impact on one's happiness and quality of life. The majority of those in the study had health insurance. Although this rate is higher than that reported by the National Health Insurance Agency (70% vs. 26% of the Moroccan population) [17], it should be noted that half of the older women, who are more vulnerable to poverty, do not have medical insurance and will have more difficulties in accessing health care than men.

In fact, the place of residence can be viewed as the primary entry point or barrier to receiving needed health care [19]. In terms of place of residence and gender, nearly 53% live in rural areas because they rely on agricultural activities, compared to 41% at the national level. This figure was reduced to account for the urbanization rate, which increased from 29.1% in 1960 to 60.3% in 2014 [17].

Gender disparities in self-rated health exist in almost all countries and across geographical regions, to the detriment of women [9]. This research showed a higher proportion of the elderly with poor self-rated health in urban areas than in rural areas. In contrast, previous research has found that rural residents have lower health status, quality of life, socioeconomic status, and a higher unemployment rate than city dwellers, which reduces access to health care and good nutrition [5, 12, 18].

In this study, the majority of elderly people had multiple chronic diseases and health problems, with a higher prevalence and significant difference between women and men. Although some local, regional, or national studies have already reported the prevalence rates of one or more chronic diseases in Morocco [3, 28, 30], this study provides a primary overview of

the scope of the most chronic diseases in a sample of Moroccan elderly people in this region.

Our study data revealed that living in an urban area is associated with chronic conditions, which is consistent with previous findings [38, 45]. This higher prevalence in urban areas compared to rural areas may also be associated with a higher prevalence of combined risk factors such as dietary changes, physical inactivity, and obesity, confirming the effect of urbanization as one facet of the global transition occurring in Morocco. Furthermore, the low proportion observed in rural areas could be due to a lack of access to diagnosis [6]. Nevertheless, the use of care in this category of the population is greater than in people under 60 years old. This margin is even more pronounced for people affected by at least one chronic disease. In this age group, the coexistence of three chronic diseases is common, regardless of gender or location. Chronic diseases are a considerable financial burden on health insurance; in 2015, they accounted for 48.2% of total cost for a population with at least one chronic condition (2.8%) [14].

Depression was mentioned as another health issue in this study's participants. In fact, one out of every four Moroccans will experience a major depressive episode at some point in their lives, with significantly higher rates among women and in urban regions [2]. In our study, we observed that elderly men have a significant prevalence of depression, anxiety, insomnia, and discomfort. Negative affective symptoms, especially the prevalence of depression symptoms, are becoming a major issue as people become older, contributing considerably to a decrease and degradation in elders' quality of life and perhaps being a risk factor for physical problems [10, 21, 22, 23, 24]. Our work discusses the issue of the elderly population's quality of life decline, as it has in other nations with varied levels of transition trends and using different approaches [11, 29]. The information obtained could be used as a baseline for future research on this age group.

## CONCLUSIONS

Gender gaps exist in socio-economic, health, well-being and psychological status. Our study indicated to the problem of decreased the quality of life and well-being in the elderly population. The data obtained might be a reference for future studies on this age group of the population.

## Acknowledgments

*The authors would like to express their gratitude to all of the participants for their time and support. There was no external support for this publication. The final version of the manuscript was approved by all authors.*

## Conflict of interest

*There are no conflicts of interest to record for the authors.*

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- Received : 28.04.2022  
Accepted : 09.08.2022