

Identification of Frailty in a Population of Former Immigrant Workers in the South of France

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Abstract

BACKGROUND: Frailty is unevenly distributed across the world but also within different populations in the same country.

OBJECTIVES: This study sought to identify frailty in former immigrant workers, known as Chibanis, living in an immigrant hostel in Marseille. The secondary objective was to describe health care access, as well as any chronic diseases reported.

DESIGN, PARTICIPANTS AND SETTING: Our descriptive, observational, monocentric study conducted from January to April 2021 included 67 Chibanis, living in an immigrant hostel in Marseille.

MEASUREMENTS AND RESULTS: Almost all this population (97%), with a median age of 77 years, presented at least one frailty criterion: 7.5% were malnourished, 55.2% had a grip strength of < 27 kg, and 41.8% were on multiple drugs. Majority of Chibanis (86.6%) had multimorbidity.

CONCLUSION: Identifying frailty in this population of Chibanis must be proposed through a specific, adapted care pathway including referral to a specialist.

Key words: Former immigrant workers, frailty, older population, multimorbidity, care pathway.

Introduction

Aging is a physiological process affecting differently populations from low-and middle-income countries (LMICs) and high income countries (HICs) (1); genetics play an undeniable role but the environment seems essential. Frailty is a multidimensional syndrome defined as a state of vulnerability to stress, secondary to multiple deficits of physiological systems. It is defined according to scores based on the model proposed by Fried et al (physical frailty) and also includes other items such as cognitive disorders and social isolation (2–4). Literature shows the association between frailty and adverse health outcomes such as disability, falls, hospitalizations and nursing homes admissions (5). Worldwide, frailty affects more predominantly older adults in LMICs than those in HICs. In HICs, frailty tends to be more prevalent in immigrant populations than the indigenous population (6). In France, the population of aging former immigrant workers known as «Chibanis» represents 32% of immigrant population (7). The Chibanis lives far from home, often in unprivileged socioeconomic conditions. They report “poor” to “very

poor” health and this perception increases with old age (8). The primary objective of this study was to identify frailty in a population of Chibanis living in an immigrant hostel in Marseille and to determine its potential associations with individual and medical characteristics. The secondary objective was to describe health care access, as well as any chronic diseases reported.

Material and methods

This descriptive, observational, monocentric study was conducted on all the Chibanis living in an immigrant hostel in Marseille who had consulted a nurse from the association Banlieue Santé between January and April 2021 through the healthcare service provided at the hostel. The participants gave their written consent and the data was collected by the nurses. This study received the agreement of an Ethic Committee on March 3, 2021 (CPP Est I under number SI 21.01.26.58339 - ID RCB 2021-A0026-3).

Data collected

The face-to-face interview comprised the following information: age, former profession, number of drugs, tobacco consumption, regular check-ups by a general practitioner, reported chronic diseases (cardiac, osteoarticular, diabetes, and hypercholesterolemia), multimorbidity (≥ 2 chronic diseases), ophthalmological check-ups, dental problems, and cognitive complaints. The nurses also measured blood pressure, weight, height, and grip strength (using a dynamometer), calculated the body mass index (BMI) and assessed dental condition. People presenting at least one of the following criteria: BMI < 21 kg/m² (9), grip strength < 27 kg in men according to EWGSOP2 (10), or polypharmacy (5 or more drugs a day), were considered frail.

Statistical analysis

The descriptive analysis was conducted using SPSS software version 17.0. The qualitative variables were expressed as numbers and percentages (n, %). The association between two qualitative variables was evaluated using Fisher’s exact test. An alpha value of 0.05 was used for statistical significance.

Results

A total of 67 Chibanis aged between 62 and 93 years (median age 77 years; SD = 7.01) were included in this study. The characteristics of the population are presented in Table 1.

Table 1. Study population characteristics (n = 67)

Variables	n	%	
Age (years)	< 74	25	37.3
	75-84	32	47.8
	85 and over	10	14.9
Last job	Construction worker	37	55.3
	Janitor	8	11.9
	Unknown	22	32.8
Health coverage	None	4	6.0
	Social security	28	41.8
	Social security and private insurance	10	14.9
	Social welfare	25	37.3
Tobacco consumption	Never	21	31.3
	Past smoker	32	47.8
	Current smoker	14	20.9
Dentures		35	52.2
Treating physician		61	91
Ophthalmological consultation	≥ 2 years	20	29.9
	< 2 years	32	47.8
	never	15	22.3
Multimorbidity		58	86.6
Hypertension		33	49.3
Other cardiac diseases		20	29.9
Diabetes		24	35.8
Hypercholesterolemia		29	43.3
Joint pain		61	23.9
Blood pressure (mmHg)	≤ 140/90	33	49.3
	Between 141/91 and 170/109	33	49.3
	≥ 171/110	1	1.4
Sight defects		13	19.4
Dental problems		34	50.7
Cognitive complaints		5	7.5
≥ 1 Frailty criteria		65	97
Grip strength < 27 kg		37	55.2
BMI (kg/m ²) < 21		5	7.5
Polypharmacy		28	41.8

n = number; BMI: Body Mass Index; multimorbidity: ≥2 chronic disease

Almost all the Chibanis (65/67) presented at least one frailty criterion: 7.5% were malnourished, 55.2% had a grip strength of < 27 kg, and 41.8% were on multiple drugs. Moreover, most of the Chibanis (86.6%) were being treated for multimorbidity, primarily high blood pressure and other heart problems, diabetes, and hypercholesterolemia.

Polypharmacy was associated with the presence of a treating physician ($p = 0.018$), diabetes ($p = 0.016$), cardiac problems ($p = 0.042$), and multimorbidity ($p = 0.008$).

Neither of the other two frailty criteria (grip strength < 27 kg and BMI < 21 kg/m²) was significantly associated with sociodemographic characteristics, lifestyle, or chronic diseases.

Discussion

In our Chibanis population, 97% presented at least one frailty criterion defined by malnutrition, polypharmacy, or loss of muscle strength. In the literature, frailty, whether physical or multi-domain, tends to be more prevalent in immigrant populations than indigenous populations, particularly in Southern Europe (1, 6). Chibanis live in poor socioeconomic conditions with a low income and a low level of education thus increasing the risk of frailty (1). In our study, 86.6% of the Chibanis had multimorbidity, which could also explain the high prevalence of frailty in this study.

Among the studied Chibanis, the prevalence of polypharmacy was higher than in the rest of the same age range in the French population (41.8% versus 14 to 49% in patients > 75 years old)(11). In literature, polypharmacy was associated with poor health outcomes in frail populations (12–14). In our study, polypharmacy is probably linked to the higher prevalence of high blood pressure (49.3% declared by Chibanis and 50.7% measured by the nurse) and cardiovascular disease (29.9% declared by Chibanis) compared to older adults in the general French population (34% for high blood pressure) (15), as these conditions often require a combination of several treatments. In our study, polypharmacy was also linked to the presence of multimorbidity, diabetes, and cardiovascular diseases. The high number of smokers or former smokers could largely explain the considerable prevalence of high blood pressure and cardiovascular diseases in this population. Smoking is linked with unprivileged socio-economic conditions and contributes to social inequalities of health in France and in Europe (16, 17).

Hand-grip strength was impaired for 55.2% of the Chibanis, even though most were former manual workers. Upper limbs loss of muscle strength was probably due to the absence of physical effort for several years after ceasing work but also their diet, leading to a higher risk of sarcopenia (10). However, malnutrition was low (7.5% in our study) and only based on the BMI, thus probably resulting in an underestimation of the number of malnourished Chibanis.

The majority of Chibanis (91%) had access to general practitioners. But they had less access to costly care compared to older adults in the French population, such as ophthalmological examinations (52.2 % had never seen an ophthalmologist or had not seen one for over 2 years) or dental treatments, as 50.7% complained of dental problems but did not consult a dentist. Low income, lack of health and welfare benefits, and lack of knowledge regarding the care pathway could be the cause.

To our knowledge, this anthropological and medical study is the first to look at factors of frailty (including polypharmacy) and their association with sociodemographic data, chronic diseases, and access to primary care in former immigrant workers in France. This study has some limitations as it was a monocentric study for which frailty was assessed using some

of the criteria developed by Fried et al but did not take into account all the dimensions.

Conclusion

Of the 67 former immigrant workers living in an immigrant hostel in Marseille, 97% presented at least one frailty criterion: polypharmacy, abnormal grip strength, or malnutrition. Therefore, this isolated population living in precarious economic conditions far from home and with a low level of education, highlights frailty criteria that need to be treated, as well as chronic diseases, in particular cardiovascular, more prevalent than in the general French population of the same age. Specialist care and a specific care pathway must be proposed to this frail population. This study proposes the identification of factors of frailty in former immigrant workers living in hostels and a personalized care pathway for health and preventive purposes, in particular with access to a specialist.

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