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Breaking the cycle: how Spain's dependency care system creates occupational inequalities in geriatric nursing assistants and the need for reform

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Abstract

Background The implementation of Spain's Dependency Law aimed to enhance care for those with dependency needs. However, its focus on privatized service provision has raised concerns about potential inequalities in working conditions for geriatric nursing assistants working in long-term care, particularly regarding resources, workload, and labour protections between public and private ownership. This study aims to explore the employment conditions, working conditions and health status of geriatric nursing assistants in Spanish nursing homes, specifically examining the potential impact of facility ownership type.

Methods We conducted a descriptive cross-sectional study including geriatric nursing assistants working in nursing homes in Spain in the year 2022. The final sample consisted of 344 nursing assistants recruited using the snowball and self-selection sampling methods. Data were collected using a computerized, self-administered questionnaire. The variables studied encompassed employment and working conditions and health-related factors, including physical and mental health status assessed using 12-Item Short Form Health Survey (SF-12v1), physical activity levels, and characteristics of back pain. To examine the association between the descriptive variables and facility ownership, Poisson regression models with robust variance were fitted.

Results Nursing assistants in private nursing homes were significantly more likely to report worse working and health-related conditions (aPR = 1.19, 95% CI: 1.07–1.32) compared to those in public facilities. For example, only 22.6% of public workers felt they lacked time for tasks, compared to 48.2% in private nursing homes. Similarly, emotional exhaustion was more prevalent among private staff (86.6% vs. 71.7%).

Conclusions The results highlight the negative impact of neoliberal policies, particularly the privatization of nursing homes, on the working conditions of geriatric nursing assistants, exacerbating health inequalities. A shift towards a community-based care model with increased public investment is essential to improve working conditions, promote healthy aging, and enhance the quality of care provided by nursing assistants.

Keywords Geriatric care, Social care policies, Health inequalities, Dependency law, Nursing assistants

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Background

The rapid aging of the population and increasingly longer life expectancy have led to a rising demand for long-term care, highlighting the necessity for a more structured care system for older adults and those facing situations of dependency [1]. European policies are centred on the objectives of ensuring financial sustainability, reducing reliance on residential care by means of the strengthening of community care, the coordination and integration of health and social services, and the improvement of the situation of informal caregivers [2]. In response, at the end of 2006, the Spanish State Government enacted Law 39/2006, aimed at promoting personal autonomy and providing care for people in situations of dependency. Although each country's response is shaped by its unique social welfare model, this law aligns closely with those of other European nations [3]. In Spain, the law recognizes different degrees of dependency (moderate, severe, and high) based on the intensity and frequency of support required. It also acknowledges the significant economic and social challenges faced by individuals and families, particularly in addressing long-term care needs [4]. This law represented the most significant reform in social services since the restoration of democracy, establishing a new citizen's right and creating a formalized system to address the needs of people whose ability to perform basic activities of daily living has been diminished due to age, illness, and/or disability [5]. This new framework marked a shift from a model where social service interventions were limited to a few citizens, to one where care was recognized as a universal right and enhanced resources for people in dependency situations, available in the form of financial benefits or the use of public resources, such as nursing homes [4, 5].

Despite the law transforming a right based on competitive allocation into one grounded in dependency, implementation has been hindered by bureaucratic obstacles, underfunding and an increasing reliance on the private sector [6]. Currently, most assistance is directed towards financial benefits, placing the primary care burden on family members (predominantly women) or caregivers working in the informal economy. In this context, the law provides compensation insufficient to sustain long-term care facilities without copayment [7]. Consequently, for families with limited financial resources, placing an older relative in a residential care facility becomes a last-resort decision, only to be considered when all other avenues are exhausted or when the individual's health conditions make it unmanageable for family members to provide care at home [8]. This ultimately results in nursing homes functioning as *de facto* palliative hospitals, accommodating individuals with multiple chronic conditions, polymedicated, and complex care needs that place a significantly higher burden on the staff providing

care [9]. In most nursing homes, due to this care model, health promotion and disease progression prevention are markedly absent, influenced by the interests of the care industry [10]. This public-private partnership contrasts significantly with a more health-oriented approach to long-term care facilities, leading to a heavier physical and psychological workload for workers [11]. The development of Spain's Welfare State was delayed, particularly during the Franco dictatorship (1939–1975), when the government had minimal involvement in providing social services, leaving private and religious organizations to fill this gap. Following the democratic transition in the late 1970s and 1980s, responsibility for social services was decentralized to the newly established Autonomous Communities. However, by this time, the private sector had already gained dominance, resulting in a strong dependence on private providers within the welfare system [12]. Given that the care model has historically been oriented toward private and commercial residential care, it is unsurprising that only 22.7% of nursing homes in Spain are publicly owned [13]. As a result, Spain now has a range of private or contracted care facilities competing on costs, with a focus often on economic efficiency and profitability over resident well-being [14]. This trend is critical, as privatization in the health sector typically leads to policies that favour the interests of private corporate owners [15]. Simultaneously, privatisation has driven a reduction in pro-worker policies and an increase in precarious employment. In Spain there are three types of long-term care ownership's: (1) Public Facilities, which generally provide more stable employment conditions, with regulated working hours, salary scales, and benefits. Geriatric nursing assistants in public facilities often experience greater job security, stronger labour rights, and more comprehensive access to training and career development, (2) Subsidized Facilities, usually managed by non-profit organizations, charitable foundations, or public-private partnerships. These institutions often balance public oversight with private ownership, offering a middle ground between accountability and private administration. Geriatric nursing assistants may experience fluctuating workloads and job security, with a greater need to adapt to varying operational procedures or funding limitations, and finally (3) Private facilities, which are owned and operated by private entities, and may sometimes offer more competitive wages or performance-based incentives; however, this often comes at the cost of job security, longer working hours, and reduced labour protections. These environments can also result in increased pressure to meet efficiency targets, potentially heightening physical and emotional stress for nursing staff [16].

Nursing home staff, such as nurses, nursing assistants and other frontline care workers, are generally known to

work under precarious conditions [17]. However, nursing assistants, a highly feminized profession, occupy the lowest tier of the professional structure in nursing homes, facing low wages, minimal credentials, limited job stability and high turnover rates [18]. These structural disadvantages reflect the systemic undervaluation of their essential role in ensuring the daily functioning of long-term care facilities, driven by social discrimination [19]. As a consequence, nursing assistants are exposed to substantial physical and psychosocial risks [20, 21], further exacerbated by the low prestige of their occupation and the absence of professional associations [19, 22]. These factors, combined with potential institutional resistance, present significant barriers to collective action in public and political spheres [23, 24]. This issue has been identified as a prevalent problem. While both the public and private sectors are involved in addressing it, the lack of a firm political decision is proving to be a major obstacle, further exacerbating the underlying issues [25, 26].

Given this political and economic context, the realities faced by geriatric nursing assistants, including the differences between public and private facilities may often be overlooked and this essential conflict surrounding care models is consistently observed across European countries [27, 28]. This is evident in the limited existing research on the health and working conditions of nursing assistants [18, 29–31]. Accordingly, this study aims to explore the employment conditions, working conditions and health status of geriatric nursing assistants in Spanish nursing homes, specifically examining the potential impact of facility ownership type (public, subsidized or private).

Methods

Design and sample of the study

This was a descriptive cross-sectional study. The study sample included geriatric nursing assistants working in nursing homes in Spain in 2022. Data were collected via an online self-report questionnaire using REDCap software (version 14.5.26) [32].

Sampling

The final sample included 344 nursing assistants from Spanish nursing homes, recruited through the snowball sampling technique and self-selection sampling method—a non-probability sampling method chosen due to the inherent difficulty of accessing this workforce in private-sector institutions [33, 34]. These workers are challenging to reach, not only for probabilistic sampling but also in general, as they are often undervalued within organizational hierarchies and receive limited institutional support. Moreover, when employers perceive the study as critical or threatening to their practices, many

choose to withdraw their cooperation, further complicating access [34].

The sample comprised geriatric nursing assistants from all 50 autonomous communities (excluding Ceuta and Melilla, where we had no participants), with representation ranging from 30.2% in Catalonia and 16% in the Basque Country to 0.3% in Cantabria and 0.9% in the Balearic Islands. The questionnaire link was distributed through social networks, nursing homes, and email to different associations related to care for older adults. Information posters included the following text: *“Do you work in care for older adults? We need your help! How? Answering a questionnaire from any device; How long does it last? About 20 minutes; Is it anonymous? Yes!; The research team has no relationship with the company where you work; For what reason? We will be able to know and relate working conditions with the health problems of geriatric nursing assistants.”* Prior to administering the questionnaire, participants were presented with a section in REDCap containing detailed project information. Those interested in participating were required to electronically sign an informed consent form within REDCap. We estimated the required sample size for comparing proportions under the assumption of poor and almost random results. Using a two-tailed test with an alpha risk of 0.05 and a statistical power greater than 0.8, we calculated that 170 participants were needed in each group to detect a statistically significant difference between two proportions, expected to be 0.65 in group 1 and 0.5 in group 2.

Variables

The primary variable of the study was the ownership type of the facility because of plays a crucial role in shaping the working conditions of geriatric nursing assistants, affecting their job security, workload, salary, and access to professional development [11, 35, 36]. The nursing assistant workplaces were classified based on: Public Facilities, Subsidized Facilities and Private facilities.

The descriptive variables studied were classified into sociodemographic and occupational characteristics, working conditions, health behaviours, mental and physical health status, and, due to their high prevalence in this type of professionals, low back and neck pain characteristics. The demographic variables were sex, age, Autonomous Community of residence and nationality, and the sociodemographic and employment and working conditions were monthly family income, shift type, weekly work hours, permanent contract, years of experience as a geriatric nursing assistant, and multiple job holder and other working conditions assessed by physical and psychological workload (see Table 1). Physical job demands were measured on a scale of 0 to 100. The psychosocial workload was studied using single questions derived

Table 1 Sample characteristics based on sociodemographic and occupational characteristics

		Public	Subsidized	Private	p-value*
Sex	Female	48 (90.6%)	118 (95.9%)	157 (93.5%)	0.372
	Male	5 (9.4%)	5 (4.1%)	11 (6.5%)	
Age	57–65	15 (28.3%)	21 (17.1%)	17 (10.1%)	0.071
	46–56	14 (26.4%)	40 (32.5%)	55 (32.7%)	
	35–45	12 (22.6%)	34 (27.6%)	57 (33.9%)	
	18–34	12 (22.6%)	28 (22.8%)	39 (23.2%)	
Nationality	Spanish at birth	44 (83.0%)	102 (82.9%)	154 (91.7%)	0.054
	Non-spanish at birth	9 (17.0%)	21 (17.1%)	14 (8.3%)	
Monthly family income	< 1500	20 (37.7%)	41 (33.3%)	62 (36.9%)	0.935
	1500–2500	22 (41.5%)	57 (46.3%)	76 (45.2%)	
	> 2500	11 (20.8%)	25 (20.3%)	30 (17.9%)	
Shift type	Day	25 (47.2%)	52 (42.3%)	62 (36.9%)	0.167
	Night	3 (5.7%)	17 (13.8%)	23 (13.7%)	
	Rotating	22 (41.5%)	43 (35.0%)	77 (45.8%)	
	Split	3 (5.7%)	11 (8.9%)	6 (3.6%)	
Weekly work hours	40 or less	44 (83.0%)	90 (73.2%)	99 (58.9%)	0.001
	41 or more	9 (17.0%)	33 (26.8%)	69 (41.1%)	
Permanent contract	Yes	28 (52.8%)	110 (89.4%)	142 (84.5%)	< 0.001
	No	25 (47.2%)	13 (10.6%)	26 (15.5%)	
Caregiver experience (years)	< 6	17 (32.1%)	28 (22.8%)	40 (23.8%)	0.170
	6–11	8 (15.1%)	32 (26.0%)	53 (31.5%)	
	> 11	28 (52.8%)	63 (51.2%)	75 (44.6%)	
Multiple job holder	No	50 (94.3%)	111 (90.2%)	152 (90.5%)	0.650
	Yes	3 (5.7%)	12 (9.8%)	16 (9.5%)	

*Bold values indicate statistically significant chi-square tests

from the Copenhagen Psychosocial Questionnaire (CoPsoQ). Participants answered the following questions: 1) Is task distribution irregular and does it cause work to accumulate?, 2) Do you have enough time to do your job?, 3) Are there times when you need to be at work and home simultaneously?, 4) Do you feel that your job takes up so much time that it interferes with your household or family tasks?, 5) At your job, do you have to deal with other people's problems?, 6) Do you have to work very fast?, 7) Do you have a lot of influence over decisions that affect your work?, 8) Do you influence how you do your job?, 9) Is your job emotionally exhausting overall? and 10) "Is the pace of work high throughout the day?". Each question was rated on a Likert scale ranging from 0 (always) to 4 (never). Responses were classified into three categories: never or only once, sometimes and many times, or always. Given the challenges of balancing healthy behaviours with work flexibility and scheduling demands, data on physical activity levels outside of work were collected (see Table 2). Physical activity was assessed according to the World Health Organization (WHO) criteria [37], which recommend a minimum of 150 min of moderate-intensity or 75 min of vigorous-intensity aerobic physical activity per week, or an equivalent combination of both. Physical and mental health status was evaluated using the Spanish version of the 12-Item Short-Form Health Survey, version 1 (SF-12v1). The reliability coefficients

are close to 0.80, showing high evidence of convergent validity and favourable evidence of internal structure [38]. The SF-12v1 assesses eight dimensions of health (physical functioning, role limitations due to physical health problems, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems, and mental health) using Likert scales. The SF-12v1 generates two summary scores: the Physical Component Summary (PCS) and the Mental Component Summary (MCS), both ranging from 0 to 100, where higher scores indicate better health status. Scores were standardized to population norms (mean of 50), with gender-specific benchmarks for Spanish women and men [39]. Additional variables included self-perceived health and musculoskeletal pain experienced in the last year (see Table 3). Participants were also asked about low back and neck pain experienced in the last month, the persistence of this pain, work-related difficulties over the past 3 months, and the duration of any sick leave (see Table 4).

Data analysis

Data were analysed using STATA 18 software [40]. The frequencies, with their corresponding 95% confidence intervals (95% CIs) were calculated. To detect statistically significant differences between descriptive variables and type of ownership, the p-value was calculated using the

Table 2 Sample characteristics based on working conditions

		Public	Subsidized	Private	p-value*
Irregular task distribution	Never or only once	24 (45.3%)	42 (34.1%)	35 (20.8%)	0.004
	Sometimes	14 (26.4%)	40 (32.5%)	54 (32.1%)	
	Many times or always	15 (28.3%)	41 (33.3%)	79 (47.0%)	
Enough time to do your job	Many times or always	23 (43.4%)	37 (30.1%)	32 (19.0%)	< 0.001
	Sometimes	18 (34.0%)	48 (39.0%)	55 (32.7%)	
	Never or only once	12 (22.6%)	38 (30.9%)	81 (48.2%)	
Need to be at work and at home	Never or only once	30 (56.6%)	57 (46.3%)	71 (42.3%)	0.475
	Sometimes	12 (22.6%)	31 (25.2%)	46 (27.4%)	
	Many times or always	11 (20.8%)	35 (28.5%)	51 (30.4%)	
Job interference to housework	Never or only once	28 (52.8%)	50 (40.7%)	56 (33.3%)	0.112
	Sometimes	8 (15.1%)	28 (22.8%)	36 (21.4%)	
	Many times or always	17 (32.1%)	45 (36.6%)	76 (45.2%)	
Dealing with people's problems	Never or only once	24 (45.3%)	55 (44.7%)	73 (43.5%)	0.967
	Sometimes	13 (24.5%)	28 (22.8%)	36 (21.4%)	
	Many times or always	16 (30.2%)	40 (32.5%)	59 (35.1%)	
Work very fast	Never or only once	10 (18.9%)	14 (11.4%)	16 (9.5%)	0.012
	Sometimes	7 (13.2%)	25 (20.3%)	14 (8.3%)	
	Many times or always	36 (67.9%)	84 (68.3%)	138 (82.1%)	
Influence over decisions in work	Never or only once	28 (52.8%)	62 (50.4%)	88 (52.4%)	0.840
	Sometimes	11 (20.8%)	35 (28.5%)	42 (25.0%)	
	Many times or always	14 (26.4%)	26 (21.1%)	38 (22.6%)	
Influence over how you do your job	Never or only once	22 (41.5%)	38 (30.9%)	70 (41.7%)	0.423
	Sometimes	16 (30.2%)	44 (35.8%)	51 (30.4%)	
	Many times or always	15 (28.3%)	41 (33.3%)	47 (28.0%)	
Job emotionally exhausting overall	Not at all/to a small extent	5 (9.4%)	6 (4.9%)	8 (4.8%)	0.031
	To some extent	10 (18.9%)	25 (20.3%)	15 (8.9%)	
	To a large extent or largely	38 (71.7%)	92 (74.8%)	145 (86.3%)	
Pace of work high throughout the day	Not at all/to a small extent	10 (18.9%)	8 (6.5%)	11 (6.5%)	< 0.001
	To some extent	4 (7.5%)	25 (20.3%)	7 (4.2%)	
	To a large extent or largely	39 (73.6%)	90 (73.2%)	150 (89.3%)	
Physical job demands	0–25%	0 (0.0%)	1 (0.8%)	1 (0.6%)	0.747
	26–50%	1 (1.9%)	1 (0.8%)	1 (0.6%)	
	51–75%	8 (15.1%)	24 (19.5%)	22 (13.1%)	
	76–100%	44 (83.0%)	97 (78.9%)	144 (85.7%)	

*Bold values indicate statistically significant chi-square tests

chi-square test. Data were considered statistically significant when the p-value was less than 0.05.

To estimate the association between the descriptive variables and facility ownership, Poisson regression models with robust variance were fitted, adjusting for sociodemographic variables and obtaining adjusted prevalence ratios with their 95% confidence intervals [41, 42]. The analysis focused on working and employment conditions and health-related factors, selecting the most relevant variables from these domains. Specifically, the selected adverse working and employment conditions included shift type, weekly work hours, multiple job holding, irregular task distribution, sufficient time to complete work, the need to be present at both work and home, job interference with housework, dealing with people's problems, working at a very fast pace, influence over decisions at work, influence over how the job is

performed, job-related emotional exhaustion, high work pace throughout the day, and physical job demands. The selected health-related factors included physical activity, physical health status, and mental health status. For non-dichotomous variables, new categories were created, where the value '0' was assigned to the most favourable situations, while the value '1' included the least favourable situations. Based on these key working and health-related variables, a composite index was constructed by summing the presence of adverse factors across these domains. This index serves as an aggregated measure of exposure to unfavourable working and health-related conditions. Once the index was created, a Poisson regression model was applied to analyse the association between the total number of adverse factors and nursing home ownership, also adjusting for sociodemographic variables.

Table 3 Sample characteristics based on health status and health behaviour

		Public	Subsidized	Private	<i>p</i> -value*
Physical activity (WHO criteria)	Below	19 (35.8%)	45 (36.6%)	86 (51.2%)	0.040
	Meets	18 (34.0%)	32 (26.0%)	42 (25.0%)	
	Above	16 (30.2%)	46 (37.4%)	40 (23.8%)	
Self-perceived health	Excellent or very good	12 (22.6%)	27 (22.0%)	37 (22.0%)	0.994
	Good, regular or bad	41 (77.4%)	96 (78.0%)	131 (78.0%)	
Physical Health Status (SF12) (SF12)	Below average (< 50)	30 (56.6%)	79 (64.2%)	100 (59.5%)	0.574
	Above average (≥ 50)	23 (43.4%)	44 (35.8%)	68 (40.5%)	
Mental Health Status (SF12)	Below average (< 50)	41 (77.4%)	88 (71.5%)	133 (79.2%)	0.313
	Above average (≥ 50)	12 (22.6%)	35 (28.5%)	35 (20.8%)	
Pain in the last 12 months	Neck pain	44 (83.0%)	105 (85.4%)	141 (83.9%)	0.910
	Dorsal	35 (66.0%)	88 (71.5%)	115 (68.5%)	0.737
	Low back pain	44 (83.0%)	108 (87.8%)	152 (90.5%)	0.326
	Shoulders	36 (67.9%)	81 (65.9%)	102 (60.7%)	0.521
	Elbows	11 (20.8%)	34 (27.6%)	36 (21.4%)	0.408
	Wrist or hand	37 (69.8%)	74 (60.2%)	100 (59.5%)	0.385
	Hips / Thighs	25 (47.2%)	64 (52.0%)	88 (52.4%)	0.793
	Knees	31 (58.5%)	70 (56.9%)	91 (54.2%)	0.819
	Ankle / foot	24 (45.3%)	52 (42.3%)	71 (42.3%)	0.920

*Bold values indicate statistically significant chi-square tests

Table 4 Sample characteristics based on neck and low back pain information

	Neck pain (N= 290)				Low back pain (N= 304)			
	Public	Subsidized	Private	p-value*	Public	Subsidized	Private	p-value*
Pain in the last month**								
Yes	34 (77.3%)	91 (86.7%)	119 (84.4%)	0.356	38 (86.4%)	92 (85.2%)	135 (88.8%)	0.679
No	10 (22.7%)	14 (13.3%)	22 (15.6%)		6 (13.6%)	16 (14.8%)	17 (11.2%)	
Persistent pain**								
No	35 (66.0%)	66 (53.7%)	98 (58.3%)	0.307	32 (60.4%)	70 (56.9%)	90 (53.6%)	0.654
Yes	18 (34.0%)	57 (46.3%)	70 (41.7%)		21 (39.6%)	53 (43.1%)	78 (46.4%)	
Work difficulties last 3m months***								
No	2 (11.1%)	6 (10.5%)	8 (11.4%)	0.015	6 (28.6%)	1 (1.9%)	6 (7.7%)	0.007
Yes, without sick leave	9 (50.0%)	46 (80.7%)	55 (78.6%)		13 (61.9%)	44 (83.0%)	59 (75.6%)	
Yes, with sick leave	7 (38.9%)	5 (8.8%)	7 (10.0%)		2 (9.5%)	8 (15.1%)	13 (16.7%)	
Sick leave duration last year***								
Short (up to 30 days)	2 (28.6%)	1 (20.0%)	4 (57.1%)	0.343	1 (50.0%)	2 (25.0%)	5 (38.5%)	0.224
Medium (up to 6 months)	2 (28.6%)	0 (0.0%)	1 (14.3%)		1 (50.0%)	0 (0.0%)	3 (23.1%)	
Long (more than 6 months)	3 (42.9%)	4 (80.0%)	2 (28.6%)		0 (0.0%)	6 (75.0%)	5 (38.5%)	

*Bold values indicate statistically significant chi-square tests

**This data only refer to individuals who had experienced neck or lumbar pain in the last 12 months

*** This data only refer to individuals who had experienced persistent pain

Results

Most geriatric nursing assistants worked in private (48.8%) or subsidized (35.8%) nursing homes, with fewer in public facilities (15.4%). The profile was predominantly female (93.9%), aged 35–56 years (61.6%), and of Spanish nationality (87.2%). Statistically significant differences were observed in work hours, with 41.1% of workers in private nursing homes exceeding 41 h per week, compared to 26.8% in subsidized and 17.0% in public facilities ($p = 0.001$). Permanent contracts were more common in

subsidized (89.4%) and private (84.5%) homes compared to public facilities (52.8%, $p < 0.001$) (Table 1).

Regarding working conditions, statistically significant differences were found in task distribution, time for task completion, and emotional exhaustion. For instance, 48.2% of nursing assistants in private homes reported insufficient time to complete tasks, compared to 30.9% in subsidized and 22.6% in public facilities ($p < 0.001$). Similarly, emotional exhaustion was reported largely by 86.3% of private, 74.8% of subsidized, and 71.7% of public facility nursing assistants ($p = 0.031$) (Table 2).

In terms of health behaviours, a significant proportion of nursing assistants in private facilities did not meet the WHO physical activity recommendations (at least 150 min of moderate-intensity aerobic physical activity, 75 min of vigorous-intensity aerobic activity, or an equivalent combination of both per week) (51.2%, $p = 0.040$),

Table 5 Adjusted prevalence ratios (aPR) of working and health adverse factors according to nursing home ownership

		Public aPR	Subsidized aPR (95% CI)*	Private aPR (95% CI)*
Shift type	Rotating or split	1	0.92 (0.65–1.31)	1.03 (0.74–1.42)
Weekly work hours	41 or more	1	1.58 (0.81–3.06)	2.32 (1.24–4.36)
Multiple job holder	Yes	1	1.74 (0.52–5.82)	1.66 (0.52–5.35)
Irregular task distribution	Many times or always	1	1.17 (0.71–1.93)	1.69 (1.07–2.68)
Enough time to do your job	Never, only once or sometimes	1	1.23 (0.95–1.60)	1.45 (1.13–1.86)
Need to be at work and at home	Many times or always	1	1.34 (0.73–2.43)	1.40 (0.79–2.50)
Job interference to housework	Many times or always	1	1.09 (0.69–1.73)	1.34 (0.87–2.06)
Dealing with people's problems	Many times or always	1	1.07 (0.66–1.73)	1.16 (0.73–1.84)
Work very fast	Many times or always	1	1.00 (0.80–1.25)	1.20 (0.98–1.46)
Influence over decisions in work	Never, only once or sometimes	1	1.06 (0.89–1.28)	1.05 (0.88–1.25)
Influence over how you do your job	Never, only once or sometimes	1	0.93 (0.75–1.15)	0.99 (0.81–1.20)
Job emotionally exhausting overall	To a large extent or always	1	1.04 (0.85–1.26)	1.20 (1.00–1.44)
Pace of work high throughout the day	To a large extent or always	1	0.99 (0.82–1.20)	1.23 (1.04–1.46)
Physical job demands	76–100%	1	0.95 (0.82–1.10)	1.04 (0.91–1.19)
Physical activity (WHO criteria)	Below	1	0.99 (0.64–1.52)	1.37 (0.93–2.03)
Physical Health Status (SF12)	Below average (< 50)	1	1.13 (0.87–1.47)	1.08 (0.83–1.40)
Mental Health Status (SF12)	Below average (< 50)	1	0.91 (0.76–1.10)	1.00 (0.85–1.18)

*Adjusted for sociodemographic variables (sex, age and nationality)

compared to 35.8% in public nursing homes. Musculoskeletal pain was common across all facility types and the results obtained for neck and lumbar pain were similar. In public institutions were more likely to take sick leave for neck pain (38.9%) compared to subsidized (8.8%) and private (10%) homes ($p = 0.015$). Similarly, public-sector workers were more likely to report no functional difficulties from low back pain (28.6%) compared to subsidized (1.9%) and private (7.7%) facilities ($p = 0.007$). (Tables 3 and 4).

Table 5 shows the most relevant differences in working conditions and health-related variables according to nursing home ownership. Nursing assistants in private nursing homes were significantly more likely to report differences compared to those in public facilities in employment and working conditions, as well as in health-related behaviours, rather than in health outcomes. They were more likely to report insufficient time to complete tasks (aPR = 1.45, 95% CI: 1.13–1.86), working more than 41 h per week (aPR = 2.32, 95% CI: 1.24–4.36), experiencing irregular task distribution (aPR = 1.69, 95% CI: 1.07–2.68), and engaging in physical activity below WHO recommendations (aPR = 1.37, 95% CI: 0.93–2.03). Additionally, when analysing the composite index of adverse factors, nursing assistants in private nursing homes were significantly more likely to report a higher total number of adverse factors (aPR = 1.19; 95% CI: 1.07–1.32) compared to those in public facilities (see Fig. 1).

Discussion

In summary, our study highlights adverse employment and working conditions among geriatric nursing assistants in long-term care facilities. Those working in private sector facilities frequently report longer working hours, heavier workloads and less time to complete their tasks. They also report higher emotional demands and are more likely to continue working despite physical pain, compared to their counterparts in public nursing homes. For instance, nursing assistants working in subsidized and private nursing homes report higher percentages of insufficient time to complete their tasks and irregular task distribution compared to those working in public facilities. Specifically, in subsidized nursing homes, nursing assistants are 23% more likely to report insufficient time to complete their tasks (aPR = 1.23, 95% CI: 0.95–1.60), while in private nursing homes, this likelihood increases by 45% (aPR = 1.45, 95% CI: 1.13–1.86). Additionally, nursing assistants in private facilities are 69% more likely to experience irregular task distribution (aPR = 1.69, 95% CI: 1.07–2.68), compared to those in public facilities.

Before discussing these results, it is necessary to consider several aspects of our study. Accessing this population through probabilistic methods presents significant

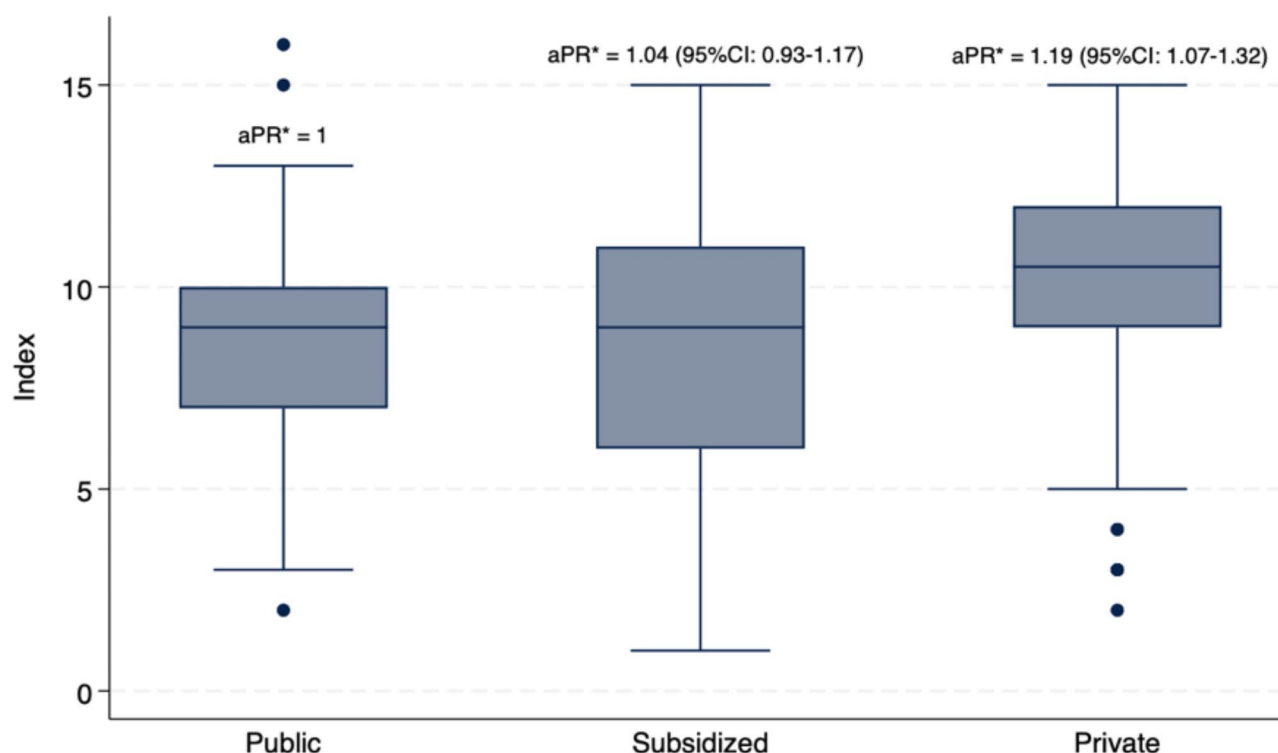


Fig. 1 Boxplot distribution of working and health adverse factors by nursing home ownership

*Adjusted relative risk of adverse work conditions, adjusted for sociodemographic variables (sex, age and nationality)

challenges, largely due to the difficulty in reaching workers employed in private sectors, where employers often do not facilitate access to these workers [43]. In cases where the population is hard to reach, the snowball and self-selection sampling methods are a well-documented non-probabilistic technique [33]. However, the sample may not accurately represent all geriatric nursing assistants in Spain due to potential sample bias, particularly among individuals lacking electronic resources or migrants facing language barriers [44]. Nevertheless, in the absence of workers associations, unions, or formal organisations representing geriatric nursing assistants, this appears to be the only viable approach. The final distribution of nursing assistants in the analysed sample—across public, private, and subsidised nursing homes—closely reflects the actual sector distribution, indicating adequate representation and minimal bias from the snowball sampling method. In the present study, 15.4% of geriatric nursing assistants work in public nursing homes, which aligns reasonably with the national average of 22.7% in Spain [13]. The use of informative questions from the CoPsoQ test versus the comprehensive questionnaire might constitute a notable limitation, however this could only be considered if the aim was to estimate the latent construct of the CoPsoQ. However, the aim was simply to use single informational questions that had been pre-designed by experts and were therefore

relevant to the aims of the study, yet questions that had strong evidence of content-based and process validity [45, 46]. Furthermore, one strength of this study is the absence of missing data, as all survey questions were mandatory. However, this could also be considered a limitation, as requiring participants to answer all questions might have discouraged some individuals from completing the survey, potentially leading to selection bias.

First, we found that geriatric nursing assistants are generally under quite poor working conditions and experience many health problems, particularly musculoskeletal issues. To fully comprehend this result, it is vital to consider the political context that has shaped the care sector. The precarious employment and working conditions faced by nursing assistants are closely linked to decades of neoliberal policies that have significantly influenced the care sector [47]. The Dependency Law, instead of establishing a universal and equitable service, introduced a copayment system that shifted the responsibility of care to families or informal workers, creating economic barriers to access [7]. Many of these individuals rely on informal family care, as access to adequate social services largely depends on the financial capacity of families [8]. This has created a clear mismatch between the need for personal autonomy and the economic costs associated with maintaining it, which leads many to delay their entry into long-term care facilities. This phenomenon has been

exacerbated by the historical context of a Post-Fascist welfare regime [48] has led to significant privatization of nursing homes in Spain [12], where only 22.7% of homes are publicly owned [13]. Even subsidized homes, despite receiving public funding, often prioritize financial sustainability over care quality, leading to similar deficiencies as private facilities [49]. This situation, coupled with neoliberal policies and the privatization of care services, prioritizes the interests of private corporations over the rights of dependent individuals and the working conditions of caregivers [10, 15], as highlighted in our study. While the creation of subsidized homes has been proposed as a solution, these institutions must still compete in the private market, reserving only a quota for publicly funded residents. This reinforces inequalities and often leads to delayed entry into nursing homes, worsening health outcomes for low-income individuals and increasing long-term care costs [10, 50, 51].

Secondly, we found significant differences in the working conditions and health of nursing assistants in nursing homes, depending on whether they worked for a public, subsidized, or private entity.

In this context, in private and subsidized nursing homes, where the cost of care plays a key role, nursing assistants often bear the brunt of detrimental long-term care policies [52]. This could be explained by the fact that highly dependent people require essential and unavoidable drugs and care with high economic or demand costs, and in a competitive labour market focused on cost efficiency, the easy way to be competitive is to adjust the labour costs of the most easily replaceable workers as much as possible [10]. In this sense, this argument is congruent with our results. We found a gradient of worsening of working conditions from public to subsidized and subsequently to private residences, characterized by an increased work pace, and heightened emotional burdens. Our findings, which focuses specifically on nursing assistants, align with existing research in nursing staff in Spain, which indicates that nursing staff in private nursing homes frequently face greater employment precariousness [17]. This is important because negative organizational factors not only compromise the health and well-being of nursing assistants but also diminish the quality of care they are able to provide [53]. Our findings align with international research indicating that the privatization and financialization of long-term care contribute to precarious working conditions and deteriorating caregiver well-being. This pattern is evident across different contexts, from Ireland, where private home care providers offer significantly worse employment conditions than public and non-profit providers [54], to the Nordic countries, where marketization and financialized eldercare models have increased turnover, job insecurity and stress among caregivers [55, 56].

To better understand our results, it is important to consider that International guidelines promote person-centred care as the dominant model for long-term care of older adults with dependency, yet this approach is often criticized for lacking structural changes [57, 58]. Our findings suggest that, in practice, this approach is more “dependent-person-centred,” as it focuses predominantly on the needs of those receiving care, while systematically neglecting the well-being and support required by caregivers. This is crucial as dependency increases caregivers’ physical and psychological burden, leading to the adverse health outcomes observed in our study, such as musculoskeletal disorders, stress, and burnout [59, 60], especially in international market-driven care systems [27, 28] lacking proper planning and budgets.

‘Where We Should Go’

To address current challenges, a new model of care is urgently needed, one that shifts away from privatization and profit-driven motives. This model should prioritize public healthcare facilities, enabling earlier entry into long-term care while promoting both the well-being of dependent individuals and caregivers [61]. By enhancing public investment in healthcare and encouraging community-based interventions, we can foster sustainable personal autonomy and improve the work environment for geriatric nursing assistants. However, it’s important to note that people entering nursing homes typically do not return to the community, which can negatively impact their health outcomes and increases long-term costs [62, 63]. Additionally, there is growing consensus in Europe to deinstitutionalize long-term care [64], but this process should not rely on informal caregiving, which often worsens working conditions [65, 66], particularly for women who disproportionately fulfil caregiving roles [67]. The feminization of care work has led to its devaluation, which further exacerbates gender inequalities [68] and the quality of life of caregivers [69, 70]. While enhancing home and community care may seem promising, this could inadvertently increase the burden on caregivers and worsen job insecurity, especially if services are privatized or informal. Instead, personal autonomy should become a key component of the welfare state, supported by public, high-quality community services focused on health promotion and disease prevention. To achieve this, we must redefine the role of geriatric nursing assistants, establishing a public labour category dedicated to both disease prevention and community health [71]. International examples have demonstrated that improving the prestige of the profession, by enhancing credentials, working conditions and promoting labour unionization, can significantly improve workers’ well-being [72]. This would enhance the prestige of caregiving roles, empower caregivers to collectively advocate for better working conditions, and promote healthy aging in

communities, ultimately reducing inequalities in later life [73].

From a macro perspective, studies comparing different countries and their respective welfare models are needed to better understand the inequalities in working conditions for nursing assistants. It is also crucial to explore the impact of state investment in health on the working conditions of caregivers. Additionally, research should examine the flow of public funds to contracted private entities to understand the broader financial dynamics and their implications on the reality faced by these workers.

Conclusion

Our findings show that nursing assistants in private and subsidized facilities face greater workloads, longer hours, and higher emotional strain compared to those in public residences. These conditions impact both their well-being, and the quality of care provided. It is essential to rethink the model that relies solely on addressing the health of populations from a market perspective, where investment prioritizes profits over macro policies for promoting healthy aging. Instead, aging is framed by disease, with an evident lack of public investment, as only 20% of nursing homes are public. This approach ultimately impacts the health and working conditions of nursing assistants. In this sense, we must work toward creating support infrastructures for personal autonomy that are more community-based. The objective should be to delay people's entry into nursing homes through community policies that promote healthy aging. This approach can help reduce the burden on informal caregivers and ensure that long-term care nursing assistants work under conditions that enable them to deliver high-quality care. Furthermore, the establishment of public care facilities with strong community policies to ensure healthy aging, free from copayments and labour precarity, would foster an equitable and sustainable system, enhancing the quality of life for both caregivers and residents. Achieving this transformation necessitates strong political action, heavily reliant on union power to advocate for better working conditions and challenge the gendered and economic inequalities inherent in the care sector [74]. This shift is essential for addressing social inequities and create burdens that have long characterized the care sector.

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Author contributions

M.C.V., A.E., and C.M. conceived the study idea. M.C.V. collected the data. M.C.V. and A.E. performed data analysis and created the tables. M.C.V. drafted the manuscript. A.E. validated the framework. A.E., J.J., O.B., A.C.T., and C.M. reviewed and edited the article and contributed to the interpretation and

discussion of the results. All authors contributed to article revisions and read and approved the final version of the manuscript, making important contributions from their field of expertise that contributed to enriching the manuscript.

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Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate

The study received ethical approval from the Research Ethics Committee of the University of Vic, Central University of Catalonia in October 2021 (number 179/2021). All participants were properly informed about the study and gave written informed consent to participate. Participation was voluntary, and participants could withdraw at any time. The study was conducted in accordance with the guidelines of the Declaration of Helsinki.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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