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Title

Exploring musculoskeletal injuries among informal and formal carers of
people with dementia

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ABSTRACT

Background: Carers of people with dementia manually handle the care recipients (e.g., repetitive lifting, transferring, pulling) as part of the care service, increasing the musculoskeletal injury risk to themselves.

Objective: We aimed to determine the prevalence of musculoskeletal injuries among informal and formal carers of people with dementia and the perceived associated risk factors

Methods: Primary carers of people with dementia (26 males, 141 females) from Dementia Care Centers and Home Care programmes, completed a questionnaire providing information about a) the carers' and their care recipients' characteristics, b) musculoskeletal symptoms (via the Nordic Musculoskeletal Questionnaire) and related aspects, and c) the caregiving activities exposing the carers to risk of musculoskeletal injury.

Results: Our results showed that 69.7% of informal and 86.7% of formal carers reported having more than one musculoskeletal injury, while 63.1% and 61.5%, respectively, reported having a musculoskeletal injury in the last year. Lower back had the highest injury prevalence (>10% for both groups). The two carer groups were not different in any of the variables.

Conclusion: Our results reinforce calls for education and support of carers, regardless of their formal status, to enable injury-free and prolonged service provision.

Keywords: Alzheimer, caregivers, chronic injuries, occupational health, quality of life

INTRODUCTION

Dementia is a general term relating to the chronic or progressive loss of cognitive functioning, including memory loss, poor judgment, confusion, taking longer to complete normal daily tasks, losing balance and problems with movement (1, 2).

Dementia was affecting around 57million people worldwide in 2019, with a prediction of ~153million people affected by 2050 (3). The total number of new cases of dementia each year worldwide is nearly 7.7 million, implying one new case every four seconds (1). Specifically in Europe, the number of people living with dementia was estimated to be 7,853,705 in the European Union (EU27) and 9,780,678 in the wider European region (4). These numbers are expected to double by 2050 to 14,298,671 in the European Union and 18,846,286 in the wider European region.

Consequently, dementia is of considerable concern, due to the significant impact on both the individual and the society. People with Alzheimer's disease (AD) and related dementias are usually cared for by family members or friends. The majority (80%) of people with AD and related dementias are receiving care in their homes (5). Informal carers(e.g.non-professional, usually family member or close friend) of people with dementia provide care for a longer duration than carers of people with other types of conditions (6) and usually for essential services such personal care or executing daily life tasks. Based on published data (5) many of these carers have to manually handle the care recipients to provide that service, resulting thus executing activities like repetitive lifting, transferring, repositioning or pulling. The picture does not change much with formal carers, hired by families who have people with dementia at home, to help with daily practical issues (12). These formal carers spend from a few hours to 24 hours per day with the people with dementia, helping them with their daily tasks and invariably performing manual handling (e.g.lifting, moving, and transferring)

1 repeatedly. Both informal and formal carers often are inexperienced and unfamiliar to
2 these working activities while, perhaps most importantly, have no previous training
3 on performing these tasks. These new duties, likely impacted by the inexperience,
4 have been recognized (8) to be significant sources for musculoskeletal injuries. Both
5 informal(8,9) and formal (10,11) carers experience some musculoskeletal injury
6 during their working life as carers, characterized by pain and limitations in mobility
7 and dexterity, reducing carers' ability to work, perform daily activities and participate
8 in society.
9

10 Studies have reported the prevalence of musculoskeletal injuries in professional
11 settings and populations (e.g. nurses in hospital settings; (15, 32). Similarly,
12 musculoskeletal discomfort in informal carers of care recipients with at least one
13 medical condition that resulted in chronic physical disability and mobility impairment
14 was extremely prevalent (8). To our knowledge, there are no studies focused
15 exclusively on musculoskeletal injuries of informal and formal carers of people with
16 dementia. Although the physical factors (such as pulling, pushing, lifting and moving)
17 that have been shown as the main contributing risk factors for musculoskeletal
18 injuries amongst nursing and care staff (13) are the same for carers of people with
19 dementia, the specificity of the demands imposed by the condition on those involved
20 (e.g. longer service provision, lack of experience / training on the specific demands,
21 service in the home, older carer and care recipient) (5), warrant further investigation
22 to establish a clearer picture of musculoskeletal injuries in carers of persons with
23 dementia. Hence, the present study was designed to determine the prevalence of MI
24 among both types of informal and formal carers and the perceived associated risk
25 factors for musculoskeletal injuries.
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57 **METHODS**

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Study design and sample selection.

A cross sectional, questionnaire-based study was conducted for a period of 6 months from 1stJune to 30thNovember 2021 in Dementia Care Centers and Home Care programs of Athens Alzheimer Association. The study included formal and informal carers of people with dementia identifying themselves as primary carers. Specifically, carers were eligible to enroll in the study if they could read, comprehend and complete the questionnaire in Greek without help. Exclusion criteria were non-long-term carers (being carers for less than a month), carers being under 18 years old, those with history of spinal surgery or any other surgery in any part of the body, those who were pregnant and those with any neurological disorder or any type of dementia. All information was treated in accordance with the latest version of Helsinki Declaration (36). The study was approved by the Ethics committee of the Greek Alzheimer Association, and all carers provided their written informed consent after a detailed description of the study.

Procedures

Participants completed a self-administered questionnaire distributed to the participants via email and in person (hard copies). The questionnaires were also distributed by the social workers or nurses of the Day Care Centers or Home Care staff of Greece Alzheimer Associations to carers. The questionnaire obtained information about their socio-demographic characteristics (such as age, sex, education, marital status, living arrangements, carer status etc.), their care recipients' characteristics (diagnosis, age, sex), caregiving details (relationship to carer recipient, years of care, hours of care/day) and relevant previous training course on ergonomics and safe practices for care or willingness to attend an educational seminar. The Nordic Musculoskeletal Questionnaire (NMQ) (22) was used to assess the prevalence of the musculoskeletal

1 symptoms among both informal and formal carers. This questionnaire consists of a
2 human body figure divided into nine regions (shoulders, elbows, wrist/hand, neck,
3 upper and lower back, hips/thigh, knees, and ankles) and the participants notes any
4 injuries they had over the past year. In addition, a second group of questions gathered
5 information regarding the total length of time during the past 12 months that the
6 symptoms had been experienced, whether work or leisure activities had been reduced
7 because of those symptoms, whether a medical practitioner or other health care
8 professional had been consulted, and the history of any previous musculoskeletal
9 injuries. Finally, a third group of questions asked the carers' view of the reason for the
10 injury occurring the caregiving activities (e.g. pulling, moving, lifting, transferring,
11 repositioning in bed and daily hygiene tasks such as bathing, toileting etc.).
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26 *Statistical Analysis*

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28 The continuous variables are presented as mean±SD and categorical variables as
29 percentages. The two carer groups' responses were compared using Welsch' test for
30 continuous variables and Chi-squared (χ^2) for categorical variables. Quade's non-
31 parametric ANCOVA was used to determine whether there are significant differences
32 between the two groups (informal and formal carers) when adjusted for hours of care,
33 years of care and mobility status of care recipients. Significance was set at an alpha
34 level of <0.05. For all analysis IBM SPSS Statistics for Windows, version 22(IBM.,
35 Corp., Armonk, N.Y., USA) was used.
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51 **RESULTS**

52 *Sociodemographic profile of the carers*

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1 The total sample size of this study was 167 carers (26 formal, 141 informal) of people
2 with dementia. The two groups were significantly different in sex ($\chi^2(1) = 6.181$, $p =$
3 0.013) and living arrangements ($\chi^2(1) = 9.258$, $p = 0.002$), but not in age ($t(33.0) =$
4 0.542 , $p = 0.296$), relationship of the carer to the caregiver ($\chi^2(4) = 4.017$, $p = 0.287$),
5 education level ($\chi^2(3) = 4.828$, $p = 0.185$), marital status ($\chi^2(3) = 3.777$, $p = 0.185$) or
6 employment status ($\chi^2(4) = 2.504$, $p = 0.644$). The socio-demographic profile,
7 stratified into informal and formal carers, is shown in Table 1.
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10 *Care recipient characteristics*

11 When the carers' responses for the care recipients were examined, there were no
12 differences in age of care recipients ($t(31.9) = -0.602$, $p = 0.551$), years from
13 diagnosis ($t(47.0) = 0.322$, $p = 0.749$), years of care ($t(40.4) = 0.320$, $p = 0.750$), hours
14 of care per day ($t(65.9) = -1.449$, $p = 0.152$), dementia type ($\chi^2(6) = 5.334$, $p = 0.502$)
15 or mobility status ($\chi^2(3) = 7.382$, $p = 0.061$) but there was a difference in the sex of
16 the care recipients between carer groups ($\chi^2(1) = 3.973$, $p = 0.046$). The
17 characteristics of the care recipients, as provided by the carers, are presented in Table
18 2.
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20 *Carers training*

21 The two carer groups were not different in receiving relevant training ($\chi^2(1) = 2.030$, p
22 $= 0.154$) or willingness to attend an educational seminar ($\chi^2(1) = 1.878$, $p = 0.171$).
23 Most of informal (63.1%) and formal (73.1%) carers had not received relevant
24 training (ergonomics and safe practices) to care for the person with dementia, with
25 only 13.5% and 3.7%, respectively, having had received training. Conversely, most of
26 informal and formal carers (73.6% and 61.5%, respectively) would be interested in
27 attending such a seminar (7.8% and 15.4% would not).
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Injuries prevalence and body region

No significant difference ($\chi^2(2) = 2.578, p = 0.276$) was revealed between the two carer groups on having experienced a musculoskeletal injury within the last year (60.1% and 53.8% for informal and formal carers, respectively). The results also showed no difference between informal and formal carers regarding injured body region adjusted for hours of care ($p=0.797$), years of care ($p=0.834$) and mobility status ($p=0.850$). From those informal carers that experienced a musculoskeletal injury in the last year, lower back was the most affected body region followed by neck, hip and shoulder and knee. Almost half of the carers (48.8%), however, reported an injury in more than one site. From those formal carers that experienced a musculoskeletal injury, lower back was the most affected area, with neck being the next one. A considerable percentage (42.9%) reported injuries in more than one site. The frequencies for injury prevalence and body region can be found in Table 3.

Reasons for the injuries

No differences between the two groups were revealed in the activities they perceived as the reason for the musculoskeletal injury experienced when adjusted for hours of care ($p = 0.977$), years of care ($p=0.924$) and mobility status ($p=0.910$). For both groups of carers that sustained a musculoskeletal injury in the last year, fatigue was provided as the most frequent factor for injury. Similarly to the injury site, more carers (whether informal or formal) reported more than one reason for the musculoskeletal injury sustained. The frequencies for the reasons provided for the injury can be found in Table 3.

Injury treatment

1 No differences were found between the two carer groups regarding their visit to a
2 doctor ($\chi^2(1) = 0.000$, $p = 0.993$), their attendance at physiotherapy ($\chi^2(1) = 0.663$, $p =$
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5 0.415) or their treatment with medication ($\chi^2(1) = 0.188$, $p = 0.665$).

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7 From the informal carers that reported more than one injury, the majority did not
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9 follow up with any physiotherapy (60.2%) or took any medication treatment (55.7%).

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11 The vast majority of informal carers (89.5%) still complained about pain at the time
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13 of the questionnaire completion. Forty-four (49.4%) informal carers stated they had
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15 an injury before performing carer activities versus forty (44.9%) who reported no
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17 injury before caregiving tasks; five participants (5.6%) could not recall. From the
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19 formal carers that reported more than one injury, 66.7% did not follow up with
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21 prescribed physiotherapy with 55.7% having taken medication treatment to manage
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23 the pain. The majority of formal caregivers (73.3%) reported to still suffer from pain
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29 at the time of the questionnaire completion.
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31 32 33 34 **DISCUSSION**

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36 Although many scientific publications described the musculoskeletal injuries among
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38 carers of other chronic diseases such as stroke (4), cerebral palsy (29) or spinal cord
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40 injury (21), no study has to our knowledge, examined the prevalence of MI among
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42 both types of carers (informal and formal) of people with dementia and the perceived
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44 associated risk factors for a musculoskeletal injury in this population. In this study,
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46 we evaluated the prevalence of self-reported musculoskeletal injuries in formal and
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48 informal carers of people with dementia. The main findings were that a) for both type
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50 of carers of people with dementia, ~6/10 (for informal) and 5/10 (for formal) reported
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52 having a musculoskeletal injury in the last year, and b) a considerable portion (~5/10
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1 and 4/10 for informal and formal, respectively) reported having more than one
2 musculoskeletal injury.
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5 Prevalence of musculoskeletal injuries in carers of people with various diseases is
6 usually high. A study on musculoskeletal injuries in carers handling non-ambulatory
7 spinal cord injury patients, found a prevalence of 95% of musculoskeletal injuries in
8 both family and professional carers (21). In another study by Vincent-Onabajo et al.
9 (33), prevalence of musculoskeletal injuries among family carers of community-
10 dwelling stroke survivors in Nigeria was 82.2%. Similar results have been found by
11 Darragh et al. (10) reporting a prevalence of 94% of musculoskeletal injuries among
12 informal carers of adults with chronic physical disabilities. The present results showed
13 prevalence of musculoskeletal injuries in both informal and formal carers to be
14 relatively common (60.1% and 53.8%, respectively), even if the present population is
15 likely more ambulatory and functionally able than the populations in the previous
16 studies. Our results supporting the previous findings on the physical tax placed on the
17 carers, regardless of the person cared for. The lower back was the body region most
18 affected with the highest prevalence of musculoskeletal injuries (21.0% and 21.2% for
19 informal and formal carers, respectively). This finding is similar with other studies
20 (31, 27, 5) emphasizing the importance of addressing correct lifting techniques to
21 minimize lower back injuries and the resulting pain in informal and formal carers.
22 Although the other body regions were not as highly prevalent compared to lower back
23 injury, it should not be neglected that all body regions play an important role to daily
24 tasks. Indeed, both informal and formal carers reported a musculoskeletal injury in
25 more than one body region (e.g. neck and shoulder, lower back, and hip). Further,
26 lower back pain significantly increases the risk of knee pain and is a strong predictor
27 of developing knee pain within 5 years of developing lower back pain (19).
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1 A critical aspect in the present findings is the lack of differences in the care recipients'
2 characteristics between the two groups of informal and formal carers. The care
3 recipients characteristics (age, year of diagnosis, dementia type, and mobility status of
4 the recipient) of each carers group were similar while both informal and formal carers
5 provided care for same hours/day and years. Further, the percentage of carers with
6 musculoskeletal injuries (whether at least one or more than one within the last
7 year) were similar between the two carer groups, as were the most common sites of
8 musculoskeletal injuries. Given the daily caregiving tasks are the same, regardless of
9 the type of carer, the demands are the same, as both types of carers perform daily care
10 giving activities associated with manual handling. Carers of people with dementia aid
11 with tasks such as bathing, dressing or a combination of activities such as transitions
12 from sit to stand transfers from the bed to the chair or lifting and supporting the
13 people with dementia, which is highly physically demanding. Secondly, both groups
14 were inexperienced and had received no training to cope with the role demands. It is
15 reasonable that both carertypes 'perception was that their musculoskeletal injuries
16 were either caused by or made worse by caregiving activities. It is, therefore, likely,
17 that lack of appropriate training in moving patients, resulted in similar poor lifting
18 techniques and consequently, similar musculoskeletal injuries profile regardless of the
19 type of carer.

20 According to the World Health Organization (34, 35), many informal carers are older
21 and typically less physically capable to provide their services. As a result, they might
22 be exposed to heavy relative workloads of caregiving and more vulnerable to
23 sustaining a musculoskeletal injury. The present sample does not support this notion,
24 as the mean age of the informal carers in this study was lower than 60 years of age at
25 the time of the study, they had been providing care for less than 5 years and they had

1 already sustained a musculoskeletal injury within the last year from data collection
2 (but not had one before they started providing care). This discrepancy between our
3 findings and published literature maybe explained by the time demand placed on
4 carers of person with dementia, who typically provide care for longer durations while
5 the care itself is more demanding (30).
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11 The impact of the musculoskeletal injuries of carers (whether formal or informal) is
12 twofold. In the short-term, it affects the quality of life of the carer while it limits the
13 carer's service to the person with dementia, inevitably impacting on their quality of
14 life. This point is further exacerbated by the present results revealing that ~6/10carers
15 did not visit a health professional about the injury, despite the vast majority reporting
16 ongoing pain, and continue to provide care(through self-medication, on several
17 occasions), potentially prolonging the pain or causing a permanent limitation (23). In
18 the long-term, it could restrict the carers' functional ability and force them to stop
19 providing their service early (25). With the prediction of the sharp increase of people
20 with dementia (>150 million individuals by 2050; (16), the pressure to provide care
21 (15) will only increase meaning that absenteeism through musculoskeletal injuries,
22 early retirement, or limited ability to care for people with dementia will have a
23 profound effect.
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43 Our findings have clear implications for carers (whether formal or informal) of people
44 with dementia and contribute to the information regarding the prevention or better
45 management of musculoskeletal injuries in that population. The importance for
46 correct moving and handling to avoid musculoskeletal injuries has been well
47 established and there is a wealth of guidelines on it (18). Education on correct lifting
48 techniques, equipment available as well as self-care is imperative and should not be
49 neglected. Not with standing the established obstacles in informal carers identifying
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1 as such (e.g. 26), once the carer is identified that advice and training on
2 musculoskeletal injuries prevention should be obligatory and promoted by the
3 relevant health professionals ('train-the-trainer')(7).The present results suggest that
4 carers are willing to attend relevant seminars that could help them reduce the injury
5 risk. Additionally, certain techniques have been shown to reduce the musculoskeletal
6 strain imposed by the task at hand, e.g. the use of a sheet to boost and turn a person
7 away from the carer reduced the lower back strain (28), and their implementation in
8 the training should further assist in reducing musculoskeletal injuries prevalence.
9 Secondly, and perhaps as part of the self-care education, cares should be encouraged
10 to exercise and partake in programmes that will strengthen the relevant muscles,
11 improve posture, and reduce the pain (7,24). Future studies should explore ways in
12 which the above recommendations can be implemented effectively.
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29 The present study does not escape the concerns reported by Johnson et al. (20)
30 regarding the observational nature of the studies examining musculoskeletal injuries
31 in carers. Utilization of a more robust experimental design would remove some of the
32 biases (e.g. self-selection, recollection accuracy etc.) but such an approach is very
33 challenging and very resource-intensive for this population. The present observational
34 study does offer information on musculoskeletal injuries prevalence amongst formal
35 and informal carers of people with dementia, without attempting to expand on causal
36 inferences. Further, although the female to male ratio in the informal carers sample is
37 like what has been previously reported {(e.g. ~4 females:1 male informal carer)(14)},
38 a pattern that is also reflected in formal carers (13), the formal carers sample in our
39 study did not meet those ratios, with an almost equal male / female carers split. Given
40 that care provision may be dealt with differently between sexes (17), future studies
41 should aim to have a more representative sample. Finally, the sample size from the
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formal carers was comparatively small, thus making interpretation of the results a little more cautious than the respective, larger, informal carers sample size. Future studies should aim to reach more formal carers to verify the present findings.

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Table 1. Socio-demographical characteristics of both carer groups (informal and formal) and total sample. Data presented as mean \pm SD or absolute numbers (N) and percentage (%) of respective (informal, formal, total) sample size in brackets.*i indicates significant difference between the two carer groups.

Variables	Informal	Formal	Total sample
	N=141 (84.4%)	N=26 (15.6%)	N= 167 (100%)
Age (years)	59.0 \pm 12.5	57.4 \pm 13.8	58.7 \pm 12.6
Sex*			
<i>Male</i>	28 (19.8)	11 (42.3)	39 (23.4)
<i>Female</i>	113 (80.1)	15 (57.7)	128 (76.6)
Relationship of the carer			107 (64.0)
<i>Children</i>	90 (63.8)	17 (65.3)	48(28.7)
<i>Spouse</i>	42(29.7)	6 (23.1)	1 (0.6)
<i>Grandmother/father</i>	1 (0.7)	-	3 (1.8)
<i>Brother/ sister</i>	3 (2.1)	-	8 (4.8)
<i>Other</i>	5 (3.5)	3 (11.5)	
Living arrangements*			108 (64.7)
<i>Lives with care recipient</i>	98 (69.5)	10 (38.4)	59 (35.3)
<i>Lives alone</i>	43 (30.5)	16 (61.5)	

Education

<i>Primary</i>	23 (16.3)	1 (3.8)	24 (14.4)
<i>Secondary</i>	64 (45.4)	10 (38.4)	74 (44.3)
<i>Tertiary</i>	41 (29.1)	12 (46.2)	53 (31.7)
<i>MSc/PhD</i>	12 (8.5)	3 (11.5)	15 (9.0)

Marital Status

<i>Married</i>	85 (60.2)	21 (80.8)	106 (63.5)
<i>Single</i>	34 (24.1)	3 (11.5)	37 (22.2)
<i>Divorced</i>	16 (11.3)	2 (7.7)	18 (10.8)
<i>Widowed</i>	3 (2.1)	-	3 (1.8)

Employment status

<i>Employed</i>	46 (32.6)	12 (46.2)	58 (34.7)
<i>Unemployed</i>	29 (20.5)	4 (15.4)	33 (19.7)
<i>Household</i>	20 (14.2)	2 (7.7)	22 (13.2)
<i>Retired</i>	42 (29.8)	8 (30.8)	50 (29.9)
<i>Other</i>	2 (1.4)	-	2 (1.2)

Table 2. Care recipients' characteristics, as provided by their carers. Data presented as mean \pm SD or absolute numbers (N) and percentage (%) of respective (informal, formal, total) sample size in brackets.*indicates significant difference between the two carer groups.

Variables	Informal	Formal	Total
	N=141	N=26	N= 167
	(84.4%)	(15.6%)	(100%)
Age (years)	81.4 \pm 7.6	82.3 \pm 6.8	81.5 \pm 7.5
Sex*			
<i>Male</i>	56 (39.7)	5 (19.2)	61 (36.5)
<i>Female</i>	85 (60.3)	21 (80.8)	106 (63.5)
Years from diagnosis (years)	5.5 \pm 3.9	5.3 \pm 2.7	5.4 \pm 3.7
Dementia Type			
<i>Alzheimer</i>	64(45.4)	13 (52)	77 (46.1)
<i>Vascular</i>	15 (10.6)	2 (7.7)	17 (10.2)
<i>Frontotemporal</i>	7 (5.0)	1 (3.8)	8 (4.8)
<i>Parkinson/Lewy</i>	9 (6.4)	4 (15.4)	13(7.8)
<i>Unknown</i>	30 (21.3)	5 (19.2)	35 (21.0)
<i>Other</i>	13 (9.2)	-	13 (7.8)

Mobility status of care recipients

<i>No assistance</i>	42 (29.8)	8 (30.8)	50(29.9)
<i>Minimum assistance</i>	43 (30.5)	6 (23.1)	49(29.3)
<i>Assist devices</i>	32 (22.7)	2 (7.7)	34 (20.4)
<i>Bedridden</i>	25 (17.7)	10 (38.5)	35(21.0)
Care (hours/day)	13.7±9.2	15.4±4.7	14.0 ± 8.7
Years of care	4.5±3.3	4.4±2.7	4.5±3.2

Table 3. Care recipients' injury-related responses. Data presented as absolute numbers (N) and percentage (%) of those that answered positively in having had at least one injury for the respective (informal, formal, total) sample size. No significant differences between the two carer groups existed.

Variables	Informal (N (%))	Formal (N (%))	Total sample (N (%))
Having experienced at least one musculoskeletal injury in the last year	86 (100)	14 (100)	100 (100)
Having experienced more than one musculoskeletal injury in the last year	42 (48.8)	6 (42.9)	48 (48)
Reasons given for the musculoskeletal injury taking place			
<i>Helping care recipient to stand from chair</i>	7 (8.1)	-	7 (7)
<i>Helping care recipient to stand from bed</i>	5 (5.8)	1 (7.1)	6 (6)
<i>Helping care recipient bathe</i>	2 (2.3)	-	2 (2)
<i>Helping care recipient to walk out of the house</i>	1 (1.2)	1 (7.1)	2 (2)
<i>Helping care recipient to dress</i>	2 (2.3)	-	2 (2)
<i>Fatigue</i>	21 (24.4)	3 (21.4)	24 (24)
<i>Poor technique executing relevant tasks</i>	6 (7.0)	2 (14.3)	8 (8)

<i>Other</i>	-	1 (7.1)	1 (1)
Body region affected			
<i>Neck</i>	9 (10.5)	1 (7.1)	10 (6.0)
<i>Shoulder</i>	6 (7.0)	-	6 (3.6)
<i>Elbow</i>	1 (1.2)	-	1 (0.6)
<i>Wrist</i>	1 (1.2)	-	1 (0.6)
<i>Finger/s</i>	1 (1.2)	-	1 (0.6)
<i>Hip</i>	7(8.1)	-	7 (4.2)
<i>Knee</i>	6(7.0)	-	6 (3.6)
<i>Ankle</i>	1 (1.2)	-	1 (0.6)
<i>Lower back</i>	18(21.0)	3 (21.4)	21 (12.6)
<i>More than one body region</i>	33 (38.3)	11 (78.6)	44 (26.3)