Determination of prevalence, characteristics, management and related factors for pain in the older adults: pain among nursing home residents

Canan Birimoglu Okuyan[1]*, Sini Eloranta[2] and Halaweh Nour Elhouda[3]

[1]Department of Nursing, Sakarya University of Applied Sciences, Sakarya, Turkey. [2]Department of Nursing, Turku University of Applied Sciences, Turku, Finland. [3]Department of Nursing, Hatay Mustafa Kemal University, Hatay, Turkey.*Author for correspondence. E-mail: cananbirimoglu@subu.edu.tr

ABSTRACT. This study aimed to determine pain assessment approaches and pain management strategies in elderly people in a nursing home.The cross-sectional-descriptive study sample consisted of 147 older adults living in a nursing home in Turkey in 2019. They all agreed to participate in the study (n = 147); however, as our research was about older adults with pain problems, the study was completed with a total of 108 older adults experiencing pain problems. The participants' average age was 73.60 ± 6.97 years. Geriatric pain scale scores were higher for women aged 75 years and over, those who had a chronic disease and those who received analgesics, and there was a statistically significant difference between the mean scores (p < 0.05). Nurses must pay attention to pain assessment and management in nursing homes because of the adverse effects of pain on older adults' health status, vital functions, and well-being.

Keywords: older adults; pain; pain management; nursing homes; geriatric nursing; Turkey.

Introduction

The population aged 65 and over is expected to increase in most developed countries over the next decade.(Kanasi, Ayilavarapu, & Jones, 2016). This demographic trend is associated with a higher prevalence of chronic conditions and pain among older adults.

The prevalence of pain in older adults is between 88.5 and 99.7% (Satghare et al., 2016). Pain negatively affects older adults' physical, emotional and social functions, lowering their quality of life (Duenas, Ojeda, Salazar, Mico, & Failde, 2016). Considering that pain affects a person's psychological and social status, older individuals living in care homes that require support in terms of physical and psychosocial aspects are at higher risk in terms of pain and problems causing pain. Studies have shown a strong correlation between pain and lower back, leg and knee pain with rheumatoid arthritis, osteoporosis, depression, anxiety, social isolation, sleep disorders, insufficient nutrition, loss of appetite, cognitive disorders and delirium. More than half of older individuals living in care homes (50-57.9%) were shown to experience pain problems (Jackson, Chen, Iezzi, Yee, & Chen, 2014; Stubbs et al., 2014).

Assessment of pain is a critical step to ensure good pain management, with deficiencies due to this assessment one of the most critical obstacles to ensuring good pain control (Meissner et al., 2018). Nurses have important pain management roles as they are the medical staff providing the basis of care in environments offering long-term care for older adults (Sagkal Midilli, Eser, & Yucel, 2019). Assessment and control of pain in older adults requires individual attention.

Psychological and sociological insufficiencies like depression, social isolation, and delirium, frequently observed in older adults, lower the pain threshold and increase pain perception (Choi, Irwin, & Cho, 2015). Additionally, it is necessary to assess geriatric patients holistically in biopsychosocial terms considering that endocrine, cardiovascular, and orthopedic diseases cause pain. The nursing approach to control and resolution of pain is important (Ayhan & Kursun, 2017), with nursing applications like distracting attention, listening to music, hot-cold compresses and massage helping older adults (Sagkal Midilli et al., 2019) and stated to be as effective as medication treatment (Ayhan & Kursun, 2017). Firstly, a detailed pain assessment is performed to define the pain's properties, and analgesics and non-pharmacological methods should be added to support the patient coping with pain (Sagkal Midilli et al., 2019).

Methods

Aim

This cross-sectional descriptive study aimed to determine pain assessment approaches and pain management strategies in elderly people in a nursing home.

Design and sample

Participants in this study comprised 198 older adults living at the Older Adults Care and Rehabilitation Nursing Home. The Older Adults Care and Rehabilitation Nursing Home, operating linked to the Ministry of Family and Social Policies, was opened in 1985. In the nursing home with eight nurses, there is no non-pharmacological application for pain assessment. Pharmacological pain killers are used mostly by older adults who are cancer patients, and physiological serum (PS) is administered once to allow those with psychological pain to rest easily. If the demands of the older adults continue despite PS administration, they are referred to psychiatry. Data were collected from June to December 2019.

The participants included 147 older adults who could be accessed on the days the research was performed, who voluntarily accepted participation in the study and lived in the nursing home, were not bedridden, could communicate and had 24-30 points on the Mini-Mental Scale. Among the participants, 39 (27%) did not have pain problems at all. Using the PASS power analysis and sample size software program, to achieve a power of 90% with a margin of error of 0.05, the target sample size was determined to be 96 individuals. Only 108 older people met our inclusion and exclusion criteria. Considering the likelihood of attrition and participants lost to follow-up, a total of 108 individuals experiencing pain problems were included in the study sample.

The inclusion criteria of our study are as follows: Older adults aged 65 and up years, able to speak Turkish and could communicate, older people who lived in the nursing home, older people who voluntarily accepted participation in the study, 24 points and over on the Mini-Mental Status Examination., older people who had any pain problems.

Data collection

Data were collected with the older adult individual descriptive characteristics form, the Geriatric Pain Measure and a survey form prepared in line with the researcher's literature about characteristics of pain and analgesic use (Eggermont, Penninx, Jones, & Leveille, 2012; Jamison & Edwards, 2012; Jackson et al., 2014). This form included the older adults' descriptive characteristics, including age, gender, marital status, analgesic use, features related to pain history, pain intensity and duration, and pain characteristics.

Geriatric Pain Scale (GPS)

The Geriatric Pain Scale (GPS) was developed by Ferrell, Stein & Beck. in 2000 and is a 24-item multidimensional scale.(Ferrell, Stein, & Beck, 2000; Dursun & Bektas, 2017)Assessment on the scale varies from 0-100 points, with 0-30 points indicating mild pain, 30-69 points indicating moderate pain and points of 70 and above showing severe pain (Ferrell et al., 2000). Dursun and Bektaş completed the Turkish validity-reliability for the scale in 2013 (Dursun & Bektas, 2017). In this study, Cronbach's alpha was found as 0.82.

Validation, Reliability and Pilot Test for the questionnaire

The questionnaire was tested for validity and reliability. Preliminary data collection was performed with 14 older people comprising nearly 10% of the sample number. Following the pilot study, the older adults were asked to provide critical comments about the questionnaire, and all questions were clear. They did not report any difficulties in answering the questions. Analysis of data used number, percentage distribution, mean, standard deviation, t-test, one-way analysis of variance (ANOVA) and chi-square test. Analysis of data with normal distribution used the paired group t-test. The significance level was taken as 0.05. Data obtained in the research were analyzed with the SPSS 22.0 (Statistical Package of Social Sciences) program. Data collection was applied using the face-to-face technique and was performed individually. The data collection lasted about 15-20 minutes.

Ethical considerations

The Clinical Research Ethics Committee (No: 23052019-03) approved the research, with institute permission and necessary permission granted by the Provincial Directorate of Family, Labor and Social Services (No:73103388-02). Following the Declaration of Helsinki, this research strictly followed commonly accepted ethical principles and informed consent form was obtained from all the participants.

Results

Participant characteristics

The mean age of older adults participating in this study was 73.60 ± 6.97 years and 57.8% of them were male. 46.3% of them had an education level of middle school or above, and 87.8% of them had social security. The participants stated that they went to a doctor (84.4%) when they were sick, while 46.9% of them had moderate health levels, and 73.5% of them were in pain.

Pain experience of participants

They stated that most of the older adults (88.0%) participating in this study experienced the pain's negative emotional impact. Older adults stated this was coping with the pain on their own (59%). Among the older adults in the nursing home, 69% defined pain as discomfort, with the lowest points of 43.5, highest points of 92.2 and mean 68.5 ± 1.22 points on the Geriatric Pain Measure. Among participants, 42% of them had moderate pain, and 31% of them had severe pain. The features of pain were head, neck, shoulder and knee pain experienced by 44%, pain lasting less than one hour (62%), throbbing style of pain (46%), increasing with movement and exercise (61%), and only relieved by medication (71%). Of the participants, 82% used medication like analgesics, and 42% used non-pharmacological methods like olive oil (48%). The pain experience and features of the participants are shown in more detail in Table 1.

The Geriatric Pain Measure's mean points were higher for those aged over 75 years than 65-74 years and for female participants in the research. There were statistically significant differences identified between mean points ($p < 0.05$) (Figure 1).

The Geriatric Pain Measure's mean points were higher for those with chronic pain, experienced head, neck and shoulder pain and those using analgesics in the research. There were statistically significant differences identified between mean points ($p < 0.05$) (Table 2).

Discussion

This study aimed to analyze the prevalence of pain, characteristics, management, and factors related to pain in older adults living in a nursing home. It was determined that the older adults who participated in our study had moderate pain. The assessment of pain, an unpleasant sensory and emotional experience and common complaint among older adults, with accurate and appropriate interventions, is vital in terms of quality of life and welfare of older adults (Hubbard et al., 2015; Cilingir & Bulut, 2017; Page, Fortier, Ware, & Choiniere, 2018). Pain may be reduced or resolved by suitable pharmacological and non-pharmacological methods, while reducing chronic pain incidence will prevent acute pain (Mills, Nicolson, & Smith, 2019) and thus reduce addiction in older adults. Additionally, assessing pain in older adults and determining pain management strategies is critical in dealing with nursing care quality and patient-specific problems.

In our study, mean pain points on the Geriatric Pain Measure were determined to be higher for those with chronic pain, using analgesics, aged 75 years and older and female patients. Pain prevalence may vary from population to population. According to a study, most older adults living in care homes (Reid, Eccleston, & Pillemer, 2015) and 53% of patients > 70 years of age admitted to general medical wards reported experiencing continuous pain, with pain reported to be seen more in men than in women (Hubbard et al., 2015). According to another study, women with advanced age had higher rates than men (Templeton, 2020). It was determined that women have lower pain thresholds compared to men and experience more tiredness and unpleasantness when in pain compared to men (Malon et al., 2018). Another study showed this situation was due to different sensitivities to analgesics in women, (Wiesenfeld-Hallin, 2005) genetic (Meng et al., 2015; Samartzis et al., 2015) or estrogen hormone differences. It is thought that the emotional structure of women negatively affects pain levels.

However, many older adults maintain life comfortably despite the pain, while some may experience problems. Additionally, older adults' indecisive statements, not wanting to provide information about pain and pain levels for any reason, and age-linked disease processes like cognitive decreases and dementia may make it more challenging to identify or manage chronic pain (Schofield, 2018).

The administration of non-pharmacological methods is a cheap and inexpensive nursing intervention (Ozel, Yıldırım, & Fadıloglu, 2014). In our study, older adults mostly used the non-pharmacological method of olive oil (48%); however, the effect on geriatric pain levels was not determined. According to a study, older individuals' non-pharmacological methods were mostly cold and hot compresses on the painful region (98%, 94%, respectively) (Ozel et al., 2014). Implementations vary from culture to culture, and it is thought that the abundance or scarcity and type of methods used change due to older adults not knowing which method is effective.

Table 1. Features related to pain history in older adults (n = 147).

Characteristics	n	%
Definition of pain		
Disease / pain	46	31.3
Discomfort	101	68.7
Pain condition		
Yes	108	73.5
No	39	26.5
Geriatric Pain Measure (n=108)		
68,5 ± 1,22 Min:43,5 Max: 92,2		
Mild pain (0-30)	-	-
Moderate pain (30-69)	62	42.2
Severe pain (70-100)	46	31.3
Location of Pain (n=108)		
Head, neck, shoulder	48	44.5
Loin	12	11.0
Knees	48	44.5
The duration of the pain (n=108)		
Less than one hour	67	62.1
More than one hour	41	37.9
The shape of the pain (n=108)		
Ache	28	25.9
Sensitive	30	27.8
throbbing style of pain	50	46.3
Conditions that increase pain (n=108)		
Movement and exercise	66	61.1
Stress, anger, sadness	26	24.1
Disease	16	14.8
Circumstances of the reducing pain (n=108)		
Breathing	5	4.6
Rest	26	24.1
Medication	77	71.3
The negative emotional impact of the pain (n=108)		
Yes	95	88.0
No	13	12.0
Reason for not communicating pain status *(n=108)		
Coping with the pain on their own	16	59.3
Not always able to reach health staff	11	40.7
Using a pharmacological (painkiller) method (n=108)		
Yes	89	82.4
No	19	17.6
Using a non-pharmacological method (n=108)		
Yes	45	41.7
No	63	58.3
Used nonpharmacological methods **(n=108)		
Olive oil	44	47.8
Listening to music	5	5.4
Cold and hot compresses	16	17.4
Exercise	6	6.5
Massage	11	12.0
Aromatherapy	10	10.9

*Assessed those stating a reason for not communicating pain status. **Assessed those stating non-pharmacological methods were used. Individuals stated more than one method.
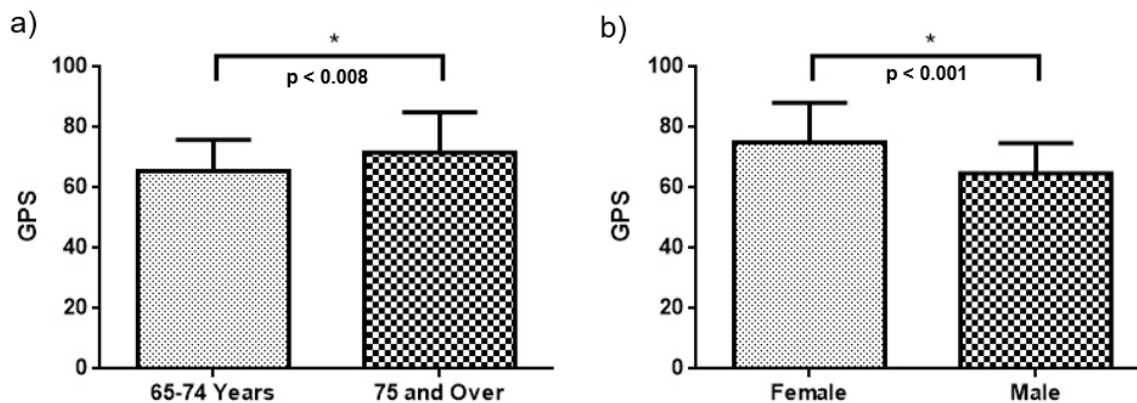
Figure 1. GPS means based on the age and gender of geriatric individuals

Table 2. GPS mean points according to some characteristics of older adults (n = 108).

Characteristics		GPS	Analysis
	n (%)	X ± SD	
Health status assessment			
Mild	30(27.8)	65.84±12.23	F=0.987
Moderate	47 (43.5)	69.43±12.05	P =0.376
Severe	31(28.7)	69.66±12.48	
Having a chronic disease			
Yes	86 (79.6)	70.20±11.98	t=2.956
No	22 (20.4)	61.86±11.08	p=0.004
Location of Pain			
Head, neck, shoulder	48(44.4)	72.43±12.52	F=5.726
Loin	12 (11.1)	69.38±12.38	p=0.004
Knees	48(44.4)	64.36±10.68	
The duration of the pain			
Less than one hour	67(62.0)	67.68±12.18	t=-0.894
More than one hour	41(38.0)	69.85±13.81	p=0.373
Analgesic use			
Yes	89 (82.4)	70.05±12.02	t=2.945
No	19 (17.6)	61.25±10.68	p=0.003
Used non-pharmacological methods			
Yes	45 (41.7)	66.39±10.35	t=-1.528
No	63(58.3)	70.01±13.28	p=0.129

*p < 0.05 (F= ANOVA test, t=Independent samples t-test).

The presence of chronic disease in older adults increases chronic pain complaints. In our research, 80% of participants had a chronic disease, and 90% of those with chronic disease had pain in the head, neck and shoulders, and as a result, most (95%) used analgesics. Studies support our research findings; when medical characteristics are examined in older adults, people experiencing pain have chronic diseases (Busse, Blumel, Scheller-Kreinsen, & Zentner, 2010; Kapucu & Unver, 2017). According to research by Jaul and Barron (2017), most older adults have at least one chronic disease they using unprescribed medications as analgesics (Rahmawati & Bajorek, 2017). The literature studies stated that most older adults in pain used opioids (Galicia-Castillo, 2016; Maree, Marcum, Saghafi, Weiner, & Karp, 2016; Gazelka, Leal, Lapid, & Rummans, 2020).

As stated in our study, in addition to chronic disease in older adults, they stated they used analgesics due to head, neck and shoulder pain. Head, neck and shoulder pains were the most frequently observed complaints and low back pain in older adults and the most common health problems causing pain and disability (Prince et al., 2015). Recognition or neglect of pain and prevention of harmful effects is thought to be only possible with education. Otherwise, pain may not be recognized or maybe neglected by older adults. As a result, it is considered necessary that nurses, with a central role in the care and treat patients most closely, provide awareness training for older adults about not taking medication apart from prescribed by the doctor and information about medications and prospectuses.

Conclusion

Pain is a significant health problem for older adults. In this study, the participants who lived in a nursing home were determined to have moderate pain levels. Using analgesics, those with chronic disease, aged 75 years and older and females had higher mean geriatric pain measure points and experienced most pain in the head, neck and shoulder region and so used analgesics more. A potential strategy to reduce pain in older adults is to increase awareness of pain assessment and management. Due to the negative effects on health status and vital functions of older adults, solution recommendations are needed, and it is considered that better pain management and resolution of pain are required as most cases had moderate levels of pain. Self-management strategies can only resolve this situation. It is recommended that nurses include pain assessment and pain management training in care plans to educate older adults about effective self-management strategies. Studies are performed researching the efficacy of non-pharmacological methods used to guide older adults accurately. At the same time, we think our research will reference experimental studies performed to support pain care improvement and be an essential step for future studies.

Research data was limited to the data of older people living in the nursing home.

Acknowledgements

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