Prevalance and Distribution of Pain in Geriatric Patients

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Geriatrik Olgularda Ağrı Prevalansı ve Dağılımı

Amaç: Yaşlı erişkin nüfusu arttıkça, yaşa bağlı olarak kronik hastalıklar artmaktadır. Kronik ağrı yaşlı erişkinlerde sık görülen bir sağlık problemidir. Ağrı, aile üyeleri ve klinisyenler tarafından yaşlanma sürecinin bir parçası olarak görüldüğü için tedavi edilmemekte veya yetersiz tedavi edilmektedir. Çalışmamızın amacı, yaşlı erişkinlerde ağrı prevalansını ve vücut bölgelerine göre ağrı oranlarını değerlendirmektir.

Gereç ve Yöntemler: Çalışmamız kesitsel olup, Geriatri Kliniğine başvuran 1078 hasta ile yapılmıştır. Hastalar; ağrı, ağrının yeri, cinsiyet, vücut kitle indeksi, eğitim durumu, medeni hal, yaşama ortamı ve kullandıkları ilaç sayısına göre sınıflandırıldı. Elde edilen verilerden ağrı prevalansı ve ağrının dağılımı hesaplandı.

Bulgular: Çalışmaya dahil edilen hastaların yaş ortalaması 73,65±8,05 yıldı. Hastaların %70'inde (n=750) ağrı vardı. Erkek katılımcılarda ağrı sıklığı %45,6 (n=131) iken kadınlarda %78 (n=619) olarak hesaplandı (p<0.001). Tüm hastalar incelediğinde, en sık ağrıyan bölgeler; diz (%25,8), yaygın (%24,1) ve bel ağrısı (%16,1) olarak tespit edildi. En sık ağrı kadınlarda yaygın ağrı (%26,6) iken erkeklerde diz ağrısı (%30,4) olarak tespit edildi.

Sonuç: Geriatrik hastalarda ağrı oldukça sık görülmektedir. Çalışmamızda kadınlarda, erkeklere göre ağrı daha fazla görüldü. En sık ağrı hissedilen üç bölge; kadınlarda yaygın, diz ve bel ağrısı; erkeklerde diz, bel ve karın ağrısıdır. Hayat kalitesinde azalma, kognitif fonksiyonlarda bozulma, yürüme ve denge problemleri, düşme, uyku bozukluğu ve ölüme neden olabileceğinden ağrının değerlendirilmesi ve yeterli tedavi edilmesi önem taşımaktadır.

Anahtar Kelimeler: Ağrı, lokalizasyon, prevalans, sosyodemografik

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Aim: As older adult population increases, chronic diseases are increasing depending on age dramatically. Chronic pain is a common health problem in older adults. Furthermore, pain is not treated or under-treated because it is seen as part of the aging process by family members and clinicians. The aim of our study was to evaluate the prevalence of pain in older adults and pain rates according to body regions.

Material and Methods: This cross-sectional study was carried out with 1078 patients who admitted to Geriatric Clinic. Patients were classified as pain, pain location, gender, body mass index, educational status, marital status, who they live with and the number of drugs they used . Pain prevalence and pain distribution were calculated from the data obtained.

Results: The mean age of the patients in the study was 73.65±8.05 years. 70% (n = 750) of the patients had pain experience. The prevalence of pain in male participants was 45.6% (n = 131) and 78% in women (n = 619) (p <0.001). When all patients were analyzed, the most common pain sites are; knee (25.8%), widespread (24.1%) and low back pain (16.1%). The most common pain was widespread pain in women (26.6%) and knee pain in men (30.4%).

Conclusion: Pain is frequently seen in geriatric patients. In our study, pain was more common in females than males. The three most common pain sites were; widespread, knee and low back pain in women; knee, low back pain and abdominal pain in men. It is important to evaluate the pain and to treat it adequately as it can cause a decrease in quality of life, impairment of cognitive functions, gait and balance problems, falling, sleep disorder and death.

Keywords: Localization, Pain, Prevalence, Sociodemographic.

INTRODUCTION

Pain is a common health problem in the older adults. As the individuals are aging, frailty and chronic diseases associated with pain will likely increase. On account of this, physicians will face more with pain and its management in older adults. These patients are more likely to have arthritis, bone and joint disorders, cancer, and other chronic disorders associated with pain (1).

It is known that untreated or undertreated pain is also quite frequent among both facility-based dwelling and community-dwelling older adults, because pain is usually considered as a normal consequence of aging by patients, family members or clinicians. Consequences of undertreatment for pain can have a negative impact on the health and quality of life, resulting in depression, anxiety, social isolation, cognitive impairment, immobility, and sleep disturbances (2).

There are many reasons that may affect the perception of pain in the last stage of life. These include loss of receptors for pain (nociceptors), changes in conduction properties of primary nociceptive (pain) afferents, changes in central mechanisms subserving the coding and sensation of pain, and psychosocial influences affecting the meaning of pain to the individual (3). Being aware of the multiple components of the pain experience can guide the clinicians in evaluating and planning pain management.

Pain has been described as the "fifth vital sign," and therefore, pain assessment should be a routine part of any medical encounter. Although pain can not be assessed with laboratory studies, some appropriate laboratory and imaging tests can be helpful to evaluate painful conditions. The assessment of pain can be challenging in older adults due to the age-related changes in vision, hearing and cognition. Some of the patients fail to identify the pain because they consider the pain as an expected part of aging or they are fearful that it may lead to more diagnostic testing or added medication (1). Increased agitation, changes in functional status, altered gait, and social isolation may be signs of pain in patients with dementia (4).

A comprehensive assessment should include a careful history, physical examination and diagnostic studies (5). Characteristics such as severity, radiation, exacerbating and relieving factors, locations, past interventions for chronic pain, cognitive functions, and impacts of the pain on the patient's lifestyle such as social and recreational functioning, sleep, exercise should be described.

There are many validated scales can help determine the patient's pain experience. For example, pain can be rated verbally, visually and numerically by Verbal Rating Scale, Visual Analogue Scale and Numerical Rating Scale, respectively (6). The McGill Pain Questionnaire provides more detailed evaluation consisting of emotional, sensory, and evaluative dimensions of the pain

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experience (6), but it is not useful for older adults. The Brief Pain Inventory combined with the Short Form-McGill Pain Questionnaire is more appropriate for cognitively intact older adults (7).

For this reason, the present study aims to evaluate the prevalence of pain, pain rates according to body regions and the most common pain localizations in older adults.

MATERIAL AND METHODS

A total of 1078 out-patients, who were attended a geriatric clinic between April 2017 July 2018 were included in this study. All patients who applied to the geriatric clinic for any reason were included in this study. The investigation conformed to the Declaration of Helsinki and approved by the local ethics committee. Detailed information about pain and distribution was given to all participants. Informed consent form was obtained from the participants.

A questionnaire focused on the experience of pain was made, face to face interview, by a physician. The main questions were:

- Do you have pain just now?
- Have you had pain at any time during the last 14 days?
- Where have you had pain during the last 14 days? (Alternative responses are presented in Table 3)

The patients' sociodemographic data (age, gender, educational level, marital status and who they live with), anthropometric measurements (height, body weight) and the number of drugs used were questioned.

Weight status was assessed using Body Mass Index (BMI) and participants were categorized as underweight ($<18,5$ kg/m^2), normal (18,5-24,9 kg/m^2), overweight (25,0-29,9 kg/m^2), class I obese (30,0-34,9 kg/m^2), class II obese (35-39,9 kg/m^2), class III obese ($\geq$40 kg/m^2) (8).

Data analyses were carried out using the Statistical Package for the Social Sciences 17. Descriptive statistics are reported as mean ± standard deviation for variables with a normal distribution, median (minimum to maximum) for non-normal distributions, and the number of cases and percentage (%) for nominal variables. Demographic characteristics of participants were analyzed using descriptive statistics.

RESULTS

The descriptive characteristics of 1078 participants, of whom the mean age was 73,65±8,05 years. 40% of the participants were over the age of 75. A sample of 288 (26,7%) men and 790 (73,3%) women living in the community took part in the study. The percentage of patients with underweight, normal weight, overweight, class I obese, class II obese, and class III obese were 0,5%, 10,6%, 28,6%, 30,9%, 20,4% and 9,0% respectively. 456 of the participants (43,3%) were not schooled. The majority lived with spouse (56,7%) and had children (24,2%). The percentage of patients who they live with;

single, spouse, relatives, caretaker, child were 17%, 56,7%, 1,8%, 0,3%, 24,2% respectively. Polypharmacy (five or more drugs intake) rate were 41,3%. All of this data are shown in Table I.

70% of the patients defined pain. The prevalence of pain was higher in women participants (78%) than male participants (45,6%). The prevalence of pain experience during the past 14 days was significantly (p<0,001) higher in women than in men. The most painful localizations are knee, widespread, low back and abdomen; 25,8%, 24,1%, 16,1% and 8,3% respectively (Table II).

When the group that reported pain experience was analyzed separately, there were still significant differences between men and women regarding locations of pain (Table III). The three regions with the most pain were; widespread (26,6%), knee (24,9%) and low back (16,3%) in women; knee (30,4%), low back (15,2%) and abdomen (15,2%) in men. There was a statistically significant relationship between gender and pain location variables (p=0,008). The prevalence of widespread pain was higher in women than in men (26,6% vs 11,6%) (p<0,001). The prevalence of abdomen pain was higher in men than in women (15,2% vs 6,9%) (p=0,004).

Table I. Sociodemographic data of the patients

Groups		n	%
Age (n:1078)	45-60	21	1,9
	60- 75	625	58
	≥75	432	40,1
Gender (n:1078)	Male	288	26,7
	Female	790	73,3
BMI (n:886)	Underweight	4	0,5
	Normal weight	94	10,6
	Overweight	253	28,6
	Class I obese	274	30,9
	Class II obese	181	20,4
	Class III obese	80	9
Educational level (n:1051)	Unschooled	456	43,4
	Schooled	138	13,1
	Primary school	320	30,4
	Primary education	50	4,8
	High school	65	6,2
	University	22	2,1
Marital status (n:1026)	Single	10	1
	Married	598	58,3
	Widowed	418	40,7
Live with (n:1039)	Single	177	17
	With spouse	589	56,7
	Relative	19	1,8
	Caretaker	3	0,3
	With children	251	24,2
Number of medicine (n:1051)	0-4	617	58,7
	≥5	434	41,3

Table II. Pain rates and pain distribution in patients

Groups		n	%
Pain (n:1072)	Yes	750	70
	No	322	29,9
Pain according to gender (n:750)	Male	131	45,6
	Female	619	78
Localization of pain (n:675)	Head	24	3,6
	Neck	16	2,4
	Shoulder	31	4,6
	Arm	37	5,5
	Abdomen	56	8,3
	Low back	109	16,1
	Knee	174	25,8
	Feet	34	5
	Neuropathic pain	31	4,6
	Widespread	163	24,1

Table III. Locations of the pain experience

Location of Pain	Male n (%)	Female n (%)	P value
Head	4 (3,6)	20 (3,6)	0,992
Neck	5 (4,5)	11 (2,0)	0,111
Shoulder	4 (3,6)	27 (4,8)	0,572
Arm	4 (3,6)	33 (5,9)	0,331
Abdomen	17 (15,2)	39 (6,9)	0,004
Low back	17 (15,2)	92 (16,3)	0,760
Knee	34 (30,4)	140 (24,9)	0,246
Feet	7 (6,2)	27 (4,8)	0,520
Neuropathic pain	7 (6,2)	24 (4,3)	0,359
Widespread	13 (11,6)	150 (26,6)	<0,001

DISCUSSION

There is a variability in the prevalence according to differences in assessment methods, localization and intensity of pain and composition of the older population. Since pain is a subjective phenomenon, it is extremely difficult to measure. Reliance on self-reporting of the experience means there are no gold standard tools by which the experience can be verified.

Furthermore, our method of determining the prevalence of pain was not the same as other studies. Most studies ask about pain during the past year, whereas we asked about pain within the past 2 weeks. Nevertheless, our study revealed that pain is an important problem for community-dwelling patients. 70% of participants indicated that they were troubled with pain and/or had experienced pain of a noteworthy nature within 2 weeks of interview. Thus, our findings are proportional to other research findings related to pain in older adults. For example, Bergh et al and Blay et al reported that the prevalence of pain in older adults were 65,6% and 76,2%, respectively (9, 10).

In our study, the prevalence of pain was higher in women (78%) than men (45,6%). The prevalence of pain experience during the past 14 days was significantly (p<0.001) higher in women than in men. Most of the studies that

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looked at the prevalence rates of pain in men and women separately, the vast majority of studies found that women had a higher prevalence than men (9, 11-13). In Sweden, Bergh et al found that the prevalence of pain was higher in women (79%) than in men (53%) (9). In another study, Blyth et al showed that pain was reported by 17,1% of men and 20% of women (11).

Pain affecting the musculoskeletal system including joints, feet, legs, and back increase with age. Patel et al have reported that the prevalence of bothersome pain in the last month was 52,9% (14). One of the most common reason of pain in older adults is osteoarthritis which is reported to lead to minimal pain of 52% (15). On the other hand, persistent back pain was found 50,7% in 65 years of age and older people (16).

In our study, the three most common pain sites were knee (25,8%), widespread (24,1%), and low back pain (16,1%). In a study with a total of 833 participants, aged 65-79 years, were shown that the most painful localization were knee (23.9%) (17). Another study, were conducted in Catalonia with 592 participants over 65 years aged, most frequently reported pain site were joints (knee) and low back (18). Additionally, there are not enough studies investigating the pain regions according to gender. But, when analyzed according to gender, these rates vary in men and women in our study. The three regions with the most pain in women were widespread (26.6%), knee (24.9%) and low back (16.3%). In men, the most painful three sites were knee (30,4%), low back (15,2%) and abdomen (15,2%). When evaluated according to BMI, 60,3% of the patients were obese (BMI≥30 kg/m^2) in our study. And it was observed that obese individuals were more sensitive than normal range BMI individuals to pain (19). Pain response varied according to subcutaneous body fat at different body sites (19).

Additionally, diabetic neuropathy and postherpetic neuralgia (PHN) are common in older adults. The risk of Herpes zoster infection ranges from 20% to 30% in the general population, but the risk increases exponentially after 50 years of age and reaches 50% at age 85 years (20).

Persistent and inadequately treated pain can cause many negative outcomes such as impact of quality of life, gait and balance problems, depression, anxiety, social isolation, falls, cognitive impairment, immobility, and sleep disturbances (2). Interdisciplinary approach to assessment and management of pain is advantageous. Strategies need to be sensitive to cultural and ethnic issues, as well as to values and beliefs of patients and their families (5). Therefore clinicians should consider pain as a vital sign that is best measured by the patients (5).

The present study has some limitations. This is a cross-sectional study and any pain scale was not used to assess the severity of pain. The pain in the last 14 days was questioned. Pain

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treatment and treatment responses were not evaluated. The strengths of our work are the large sample size and the calculation of the prevalence of pain by regional and gender.

CONCLUSION

In conclusion, the results show that pain is prevalent in older people, especially in older women. When all patients were analyzed, the most common pain sites are; knee, widespread and low back pain. The most common pain was widespread pain in women, and knee pain in men.

Declaration of Interest

The authors report no conflicts of interest.

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