

Quality of Life of the Elderly People with Chronic Pain.

Authors:

Maria dos Anjos Coelho Rodrigues Dixe**

Ana Isabel Querido* **

WORK PLACE: Escola Superior de Saúde de Leiria do Instituto Politécnico de Leiria

ADDRESS: Escola Superior de Saúde – IPL~

Campus 2 - Morro do Lena

2411-901 Leiria – Portugal

TELEPHONE: 964881092

E-MAIL: querido.ana@gmail.com

*** Tema a apresentar em congresso por Ana Isabel Querido**

**** Professora coordenadora**

**** *Professora adjunta e aluna de Doutoramento.**

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Aims: To determine the prevalence of Chronic Pain in Elderly People, to evaluate health-related quality-of-life of the elderly experiencing pain; and determine predictive factors of their quality-of-life.

Methodology: A Cross sectional co-relational study was conducted. The sample for this study was composed of 296 elderly people, to determine the pain prevalence and subsequently just 194 seniors remained part of the sample, because they were those who had chronic pain. The instrument of data collection was a structured interview composed of: socio-demographic, family, professional and clinical data and Short-Form Health Survey – SF-12

Main results: The prevalence of the chronic pain in the elderly people is 65,5% (164).

Most reported having pain for ten years or more, it is a continuing pain, and it is felt in various places with moderate intensity; the quality of life of elderly people is bad in all dimensions. Have an occupation, age, gender; pain intensity and location of pain are predictors of quality of life

INTRODUCTION

In the 21st century we are assisting an increasing life expectancy, where older people prevail in face of illness. The recent WHO report showed that, on the whole, people live longer today than 30 years ago. By the year of 2050, the world will count 2 billion people over the age of 60, most of them living in urban areas (WHO, 2008).

Ageing has increased the burden of chronic disorders and the frequency of multimorbidity. In the industrialized world, 25% of people of 65-69 years old and 50% of 80-84 years olds are affected by two or more chronic health conditions simultaneously, and present complex symptoms (WHO, 2008). Most of age-related diseases are associated with chronic pain and disability which makes it, a major public health issue throughout the world (Brennan & Cousins, 2004).

Pain is a multidimensional phenomenon with physical, psychological, social and spiritual components. The International Association for the Study of Pain (IASP) defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage by people that experiences pain, and considered chronic if persists the normal time of healing usually for more than 3 months (IASP, 1994).

It is widely recognized that chronic pain is associated with depressive disorders, psychological distress, and impairment of interpersonal relationships. Pain is one of the most important problems that considerably impair autonomy and independence in daily living activities of elderly people (Jakobsson, Hallberg & Westergreen, 2004).

Caraceni et al (2002) stated that descriptive studies of pain are needed to define the prevalence, severity and scope of pain in various patient populations. These include prevalence and severity studies to evaluate pain, clarify clinical variability, pain course and quality of care in specific populations as the elderly.

A recent study conducted by Zannocchi et al (2008) showed that chronic pain in the elderly has a strong affective component and its intensity influences older patients' mood, nutrition, sleep and Quality of life (QOL). These authors stated the importance of pain assessment in the elderly, as a population at increased risk for under-recognition and under-treatment. Dewar (2006) also point out lack of research on assessing the impact of chronic pain on the psychosocial well-being of the older person living in the community.

There are several definitions of QOL in the literature, as a multidimensional concept, but in research among patients there is a lack of consensus about theoretical approaches (Chandra e

Orztuk, 2005). Regarding elderly community populations there is no evidence of a universally validated outcome test to measure it. Because we were interested in comparing chronic pain and QOL in Portuguese older people we choose to use an assessment of the Short Form Health Survey, validated and cultural adapted to this specific population.

The aims of this study were to examine the prevalence of chronic pain in the elderly and correlate chronic pain and quality-of-life in a sample of community living older people (aged 65 and more). We purposed to describe chronic pain in community living elderly people; to evaluate health-related quality-of-life of the elderly experiencing pain; and determine predictive factors of their quality-of-life.

METHOD

Design

Cross sectional and co-relational study.

Participants

The study Population consisted of males and females aged 65 and more years (considered older people by Portuguese Constitutional Law).

Sample was selected using non probabilistic and accidental method and consisted of 296 older people which attended to the community health centers in Leiria' district (centre of Portugal) during 2008.

Inclusion criteria were: aged 65 or more, living in the community setting, ability and capacity to verbally responds to interview, space and time oriented, absence of psychiatric disorders documented, to accept to participate in the study.

All participants were first asked about the presence of chronic pain. 194 confirm chronic pain which became the final sample.

Instruments

We developed and organized a structured interview divided in two parts: I. socio-demographic variables and clinical variables; II. Quality of life (SF-12)

As *Socio-demographical variables* we assessed age, gender, current civil status, current social status, and current work.

Clinical variables consisted of pain history: intensity using simple verbal scale graded in 5 intensity levels (0= no pain till 4=maximum pain). This scale was chosen based on clinical guidelines for pain assessment in Portuguese speaking elderly, which states that a simple verbal scale using words familiar to both patients and health professionals minimize the bias on pain assessment (Direcção-Geral da Saúde, 2003; Andrade, Pereira, Sousa e Aparecida, 2006). Pain duration / length of pain and temporal pattern (continuous, intermittent), causes, location, type of pain / quality, type of treatment for pain control.

The second part of the instrument consists in assessment of health related quality-of-life (HRQOL) using the *Medical Outcomes Study: Short Form* (MOS SF-12) first developed by Sherbourne in 1992, translated and validated into Portuguese by Ribeiro (2007).

The SF-12 consists on 12 items divided into scales to measure eight domains of HRQOL: physical functioning (2 items); role impairment due to physical problems (2 items); bodily pain (1 item); general health perception (1 item); vitality (1 item); social functioning (1 item); role impairment due to emotional problems (2 items); mental health (2 items). There is one more item assessing health transitions, perceived by the individual.

Procedures

Ethics

We asked authorization for the present study to the president of Administração Regional de Saúde (Regional Health Administration).

Before data collection we also asked the participants for consent to participate in the study. We provide written and oral information, explaining the aims of the study. We clearly stated that participation was voluntary and that confidentiality was assured. Thereafter participants gave their informed consent.

Data collection and statistical procedures

The instruments were applied during the year of 2008, at Health Care Centers. In order to guarantee privacy, face-to-face interviews were conducted in a division especially designate for the procedure.

Data were submitted to quantitative analysis using *Statistical Package for the Social Sciences* (SPSS) version 16.0 for Windows. In addition of descriptive statistics, we used *Kolmogorov-Smirnov'* to test data normality distribution. Inferential statistics was used to correlate

variables. Non-parametric statistics were used as the data were not normally distributed for all the variables in study.

RESULTS

Prevalence of chronic pain in the elderly

From 296 older people interviewed, 194 had chronic pain. Therefore, the prevalence of chronic pain is 65,5%. Comparing with our findings lower scores were reported in other studies (Helme & Gibson, 2001) and Dellarozza, Matuso, Pimenta & Anducioli de Mattos, 2007).

Socio-demographical characterization

From the 194 elderly experiencing chronic pain, 117 (60,3%) are females and 77 (39,7%) are males. These results are similar to those presented by Portuguese Association for the study of pain (APED; 2007) and Rippentrop (2005), in which chronic pain has higher incidence in women.

The participants of the study were elderly between 65 and 98 years old. The mean age is 74,9 SD=6,7), which confirm that prevalence of pain increases with age, as previously stated by Helme e Gibson (2001).

The majority of the sample 122 (62,9%) were married, 62 (32%) widowed, 6 (3,1%) were single and 4 (2,1%) divorced. 112 (57,7%) of elderly lived with husband or spouse, 52 (26,8%) lived alone, 30 (15,5%) lived with family (including relatives, sons, daughters, husband or spouse)

Only 47 (24,2%) of the elderly had an occupation. Most of elderly 147 (75,8%) did not refer any work occupation.

Description of chronic pain in community living elderly people

During data collection elderly people report **intensity pain levels** between 0 – 4, with mean of 2,3 (SD=1,1): 21,1% (41) report maximum pain; 17,0% (33) intensive pain; 44,8% (87) mild pain; 10,8% (21) light pain. Only 6,2% (12) report no pain at all. These results are not similar to the findings of Jakobsson, Hallberg e Westergreen (2004) in which 29% of elderly people reporting very much pain, 34% reporting rather much pain and 38% reporting little pain.

When questioned about **temporal pattern of pain**, most of the elderly 60,3% (117) identify continuous pain, and 39,7% (77) referred intermittent pain. Regardless of pain patterns, in mean, elderly people identify **chronic pain for over 12 years** (SD=10).

These data are similar to the findings of Mason, Skevington e Osborn (2008), in which 66,2% (143) of patients experienced continuous chronic pain. These authors report presence of pain for over 9 years in the 216 participants

Osteoarticular disease was the principal cause for chronic pain for 123 (63,4%) elderly, followed by cardiovascular disease (24; 12,4%), accidents (15; 7,7%), neurological diseases (5; 2,6%) and other not specified (13,9%).

These findings are consonant with other previous studies, for example Jakobsson, Hallberg e Westergreen (2004). In Portugal, osteoarticular disturbances are indicated as the major cause for non malignant localized chronic pain (Direcção Geral da Saúde, 2001). Osteoarthritis (34%) and rheumatic diseases (14%) are the major causes of chronic pain (Viveiros, 2008).

Most participants of our study had pain in more than one localization (122; 62,9%). One single pain was indicated by 37,1% (72) elderly people. Although 194 elderly persons experienced chronic pain, only 145 (74,7%) did some kind of treatment to pain control. 49 (25,3%) didn't any kind of pain treatment. Considered the main concern of health care providers regarding patients pain control and quality of life, these numbers expressed poor pain control if compared with others studies Jakobsson, Hallberg e Westergreen (2004) in which only 3,8% of the inquiries wasn't doing pain control treatment.

Pharmacological treatment were the most used (113; 79,6%) followed by an integrated approach using pharmacological and non pharmacological interventions (18,3%). Only 3 participants (2,1%) choose non pharmacological approaches to control chronic pain. In the study of Sanocchi et al (2008) only 37,9% of the elderly persons controlled the chronic pain with pharmacological analgesic therapy.

Analyzing these data, we may infer that the majority of elderly people only use one kind of treatment to pain control.

Quality-of-life of elderly people experiencing chronic pain

Analyzing table 1, the participants of the present study seem to evidence low quality-of-life in several dimensions assessed by SF-12, scoring in mean values lower than 50: general health perception (mean of 16,5; SD=14,8); bodily pain (mean 42,2; SD=24,5); vitality (mean of

30,3, SD=20,6); emotional functioning (mean of 29,5 ; SD=40); physical functioning (mean of 31,7; SD= 27,8); physical activity (mean of 13; SD=31,3).

Reyes-Gibby (2002) and Dias (2007) also stated that in community living elderly people, experiencing pain on a daily-basis, is related to poor and fragile health status. Hopman-Rock, Kraaimaat e Bijlsma (1997) also reported a relatively low QOL in elderly people with more non malignant chronic pain symptoms.

Social dimension is referred by the elderly as the one with better quality of life, with mean values on social functioning of 66,4 (SD=28,3). These results are contrasting with findings of Sofaer-Bennett, Couns, Walker, Lamberty e O'Dwyer (2007), in which the participants appeared to regret the demise of their social life. They faced pain-related limitations and uncertainties that led to social withdrawal for themselves and social isolation for them and their spouse or partner.

Vasconcelos (2006) stated that elderly people with chronic pain had changes in daily living activities: 30% in walking, 20% in standing, and 20% present difficulties in social relations.

Mental health and social health dimensions do not confirm literature review. Findings of Berkow, Beers, Bogin e Fletcher (2002) evidence psychological disturbances associated with chronic pain: enhancing of irritability, mood disorders, worries about self –image, distancing from others and depression.

Table 1: Sample characterization of Quality-of-life Dimensions

Health Related Quality-of-life	N	minimum	maximum	Mean	Std.deviation
General Health	194	0	75	16,5	14,8
Bodily pain	194	0	100	42,8	24,5
Vitality	194	0	100	30,3	20,6
Social functioning	194	0	100	66,4	28,3
Mental Health	194	0	100	56,5	26,6
Emotional Functioning	193	0	100	29,5	40,0
Physical Functioning	194	0	100	31,7	27,8
Physical Activity	193	0	100	13,0	31,3

Table crossing quality-of-life and age, evidenced statistical significance correlations on item “Bodily pain”; “Physical Activity” and “Physical Functioning” (Table 2). Correlations are statistically significance ($p < 0,05$) and negative, evidence that less age is correlated with better quality of life regarding experiencing pain, physical functioning and physical activity. These data are similar to the findings of Jakobsson, Klevsgard, Westergren e Hallberg (2003) in which the quality of life, especially physical health, was significantly lower with increasing age.

Table 2 - Spearman correlation between quality-of-life and age

Health Related Quality-of-life	Spearman Correlation	P
General Health	-0,051	0,478
Bodily pain	-0,182	0,011
Vitality	-0,124	0,084
Social functioning	-0,011	0,876
Mental Health	-0,059	0,410
Emotional Functioning	-0,094	0,193
Physical Functioning	-0,167	0,020
Physical Activity	-0,210	0,003

When comparing gender of elderly with chronic pain, we verified that gender is a variable predictive of HRQOL in several dimensions, such as General Health, Bodily pain, Mental Health, Physical Functioning and Physical Activity. Although the limitation of Mann-Whitney U-test is using means to extract the differences, we verified that men had means of HRQOL better than women (Table 3). These data are similar to the findings of Zannocchi et al (2008), in which the intensity of pain influences quality of life

Also, in the study of Nejati1 et al (2008) the mean scores between the two genders showed that these scores were higher in men in aspects of physical functioning, general health, physical activity, vitality, mental health, and bodily pain.

Table 3 – Results from application of Mann-Whitney U-test, relating HRQOL and gender

Health Related Quality-of-life	gender	Mean	Std. deviation	U Mann-Whitney	Z	P
General Health	Man	20,4545	15,56358	3538,000	-2,879	0,004
	Women	13,8889	13,71054			
Bodily pain	Man	47,7273	25,05974	3769,500	-2,014	0,044
	Women	39,5299	23,72601			
Vitality	Man	33,5065	23,26994	4003,500	-1,390	0,165
	Women	28,2051	18,41174			
Social functioning	Man	69,1558	27,47490	4124,000	-1,030	0,303
	Women	64,5299	28,84996			
Mental Health	Man	63,3766	24,79444	3400,000	-2,906	0,004
	Women	51,9658	26,88543			
Emotional Functioning	Man	33,5526	41,14054	4053,000	-1,187	0,235
	Women	26,9231	39,13860			
Physical Functioning	Man	37,6623	31,05157	3743,000	-2,092	0,036
	Women	27,7778	24,73519			
Physical Activity	Man	20,3947	39,30872	3928,000	-2,140	0,032
	Women	8,1197	23,63266			

Lower quality of life was found in elderly who reported more than one localization of pain than in elderly who reported only one localization (table 4). Significant differences were found ($p < 0,05$) in general health, bodily pain, vitality and social functioning scores between elderly people with pain in one localization and those with had pain in more than one localization.

No significant differences were found in the subscales mental health, emotional functioning, physical functioning and physical activity between those had pain in one localization and those had more than one localization.

Table 4 - Results from application of Mann-Whitney U-test, relating HRQOL and pain localization

Health Related Quality-of-life	Doing treatment	Mean	Std.deviation	U Mann-Whitney	Z	p
General Health	One localization	19,7	13,8	3530,000	-2,601	0,009
	more than one localization	14,5	15,0			
Bodily pain	One localization	48,9	24,2	3336,000	-2,931	0,003
	more than one localization	39,1	24,0			
Vitality	One localization	36,1	22,1	3367,500	-2,878	0,004
	more than one localization	26,8	18,8			
Social functioning	One localization	72,5	28,1	3459,500	-2,555	0,011
	more than one localization	62,7	27,8			
Mental Health	One localization	60,4	28,0	3743,000	-1,729	0,084
	more than one localization	54,1	25,5			
Emotional Functioning	One localization	35,2	41,7	3825,500	-1,548	0,122
	more than one localization	26,2	38,6			
Physical Functioning	One localization	33,6	25,5	3981,000	-1,143	0,253
	more than one localization	30,5	29,0			
Physical Activity	One localization	15,4	33,3	4089,500	-1,011	0,312
	more than one localization	11,4	30,0			

The results showed a moderate negative correlation statistically significance between pain intensity and HRQOL of the elderly experiencing chronic pain, in almost all dimensions, exception to Physical Activity. Therefore, we stated that, to the lowest pain intensity correlate a better quality-of-life (Table 5).

Table 5- Spearman correlation between quality-of-life and pain intensity

Health Related Quality-of-life (HRQOL)	Spearman correlation	p
General Health	-0,335	0,000
Bodily pain	-0,385	0,000
Vitality	-0,178	0,013
Social Functioning	-0,286	0,000
Mental Health	-0,282	0,000
Emotional functioning	-0,220	0,002
Physical Functioning	-0,176	0,014
Physical Activity	-,0102	0,160

CONCLUSION

The main conclusions are

- a) The prevalence of the chronic pain in the elderly people is 65,5% ;
- b) Most reported having pain for more than ten years;
- c) The prevalent temporal characteristic of pains is continuing, and it is felt in various places with moderate intensity. However, the sample from this study is not a clinical sample and therefore lower pain severity scores cannot be taken as an indication that elderly people suffer less pain than other people;
- d) Participants had reporting three methods of pain management and these were mostly pharmacological. Few non-pharmacological methods were also used. So, treatment combining pharmacological and non – pharmacological methods are needed;
- e) The quality of life of elderly people is bad in all dimensions;
- f) Have an occupation, age, gender; pain intensity and location of pain are predictors of quality of life.

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