

Prevalence of chronic pain in patients attending primary healthcare facilities in south-west Tshwane

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Abstract

Objectives: Despite the significant biopsychosocial impact of chronic pain on the health and quality of life of an individual, as well as on healthcare utilisation, no published data are available on the prevalence of chronic pain in the South African primary healthcare context. The aim of this study was to investigate the prevalence and intensity of chronic pain in patients attending primary healthcare facilities in south-west Tshwane.

Design and setting: A prospective, cross-sectional study was carried out in four primary healthcare clinics, situated in south-west Tshwane.

Subjects: The study was conducted on 1 066 adult patients, aged 18 years or older, over a nine-week period between October and December 2010.

Outcome measures: The prevalence and intensity of chronic pain was determined.

Results: Chronic pain prevalence was 41%. The confidence interval (CI) was 37.2-45.6. Chronic pain was most frequently experienced as lower back pain [prevalence 30.83% (CI: 19.56-42.09)] and joint pains [prevalence 23.48% (CI: 7.58-39.38)]. Chronic pain was significantly more prevalent with advancing age (p -value = 0.0014), in women than in men (p -value = 0.019), and in widowed and divorced patients, than in married and single patients (p -value = 0.0062). Patients with chronic pain reported their pain intensity over the previous month as maximum pain intensity (mean: 7.69 ± 0.99), minimum pain intensity (mean 2.54 ± 0.89), and average pain intensity (mean 4.57 ± 0.62).

Conclusion: Chronic pain was highly prevalent in patients who attended primary healthcare facilities in south-west Tshwane. The intensity of pain was high in a significant proportion of patients.

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Introduction

Chronic pain may have a significant bio-psychosocial impact on the health and quality of life of an individual. Chronic pain also has a significant impact on the utilisation of healthcare services.¹ Population-based epidemiological surveys confirm that chronic pain is highly prevalent. The prevalence of chronic pain varies across different populations in different parts of the world.²⁻⁴ Despite the high prevalence of reported chronic pain in different population-based surveys and the significance of chronic pain as a healthcare problem, research that has been conducted worldwide on the prevalence of chronic pain in patients attending primary healthcare facilities is limited.⁵ The fact that research is limited suggests that chronic pain might be neglected in

the primary healthcare context.^{6,7} Previous studies have shown that the high intensity of chronic pain experienced by patients has a negative impact on their quality of life.⁸ No published data are available on the prevalence and intensity of chronic pain in the South African primary healthcare context.⁹

The aim of this study was to investigate the prevalence and intensity of chronic pain among patients attending primary healthcare facilities in south-west Tshwane. In this study, chronic pain was defined as persistent daily pain for most of the time every day, for a minimum period of six months.^{7,10} The study was approved by the Research Ethics Committee of the University of Pretoria.

Method

Study design and setting

A prospective, cross-sectional study was conducted in the primary healthcare outpatient clinics of two hospitals and two primary healthcare clinics situated in the south-western part of Pretoria in Tshwane. Usually, patients suffering from a variety of acute and chronic general medical conditions who reside in the vicinity of the facilities attend these primary healthcare clinics.

Sampling

Four study clinics, including the two primary healthcare outpatient clinics of the two hospitals, were chosen randomly out of 11 primary healthcare clinics in the area. The study clinics were considered as clusters. The minimum required sample size from each site was 250, as calculated by the biostatistician. Data were collected from one clinic at a time by the trained research assistants from 8h00 to 13h00 on working days. Data collection continued until the desired number of patients had been interviewed. Data collection was completed between approximately two and two-and-a-half weeks in each clinic. The final number of selected patients in each cluster (clinic) was proportional to the total number of patients who attended the clinic during the study period. Every fourth patient was invited to participate in this prevalence study and had to supply written informed consent. If a patient declined to participate, the next patient was invited.

Inclusion and exclusion criteria

All patients who were aged 18 years and older who attended the four facilities during the study period, and who were willing and able to participate, were included in the study. Patients who were unable to complete the data-collection questionnaire because of mental incompetence such as delirium, psychosis or mental retardation were excluded.

Data collection method

Data collection from the four study clinics was completed over a nine-week period from October-December 2010. Data were collected using interviewer-administered questionnaires. Research assistants were trained on the content of the survey, as well as in interview techniques, in order to reduce reporter bias and participant anxiety. The interviews were conducted in private rooms while participants were waiting to receive medical attention. This assured patient confidentiality, as well as minimal intrusion into patient time and resources. The research assistants explained the purpose of the study to prospective participants in their local language and gave each of them an information leaflet. Those who were willing to participate were asked to provide written informed consent. Patients who agreed to participate in the study were asked for

demographic information and were screened to determine the presence of chronic pain and its duration. All patients who reported feeling pain for six months or longer were considered to be patients with chronic pain and to be eligible study respondents.

Data collection instrument

All patients with chronic pain were interviewed using the Wisconsin Brief Pain Questionnaire (BPI).¹¹ The BPI was designed to assess the impact of pain and has been found to be reliable and valid, with an internal consistency (Chronbach's alpha = 0.85) in different cultural and socio-economic settings.¹² The BPI was translated into four local South African languages. These translations were used as a reference by the research assistants. With the help of the research assistants and using the BPI, participants rated their most severe pain, least severe pain and pain that was experienced on average, most of the time, in the month prior to the interview. Pain intensity was described according to pain scores on scales of 0 (no pain) to 10 (worst imaginable pain). The location of the pain was established by using a body diagram.

The questionnaires were completed in English. However, patients could respond to questions in their language of choice, as the research assistants were proficient in English and in speaking and reading local languages. Collected data were reviewed by the principal investigator to check the correct completion of the questionnaires. All data were coded and analysed anonymously.

Data analysis

Data were analysed with the use of Stata® Release 11 statistical software¹³ to examine the prevalence and severity of chronic pain. Prevalence was reported as a percentage, together with a 95% confidence interval (CI). Means and standard deviations were used for continuous variables, and frequency distribution for categorical variables. Associated factors with chronic pain were identified using a chi-square test. Significance was set at p-value < 0.05. Univariate logistic regression was carried out. Odds ratios (OR) were calculated for gender, age and marital status.

Results

One thousand and eighty-three patients were invited to take part in the study. Seventeen patients declined participation initially or during data collection, as summarised in the schematic overview of sampling (Figure 1).

Of the 1 066 patients (481 males and 585 females) in the study, 437 suffered from chronic pain (prevalence 41%; CI: 37.2- 45.6). The mean age of patients with chronic pain was 45 ± 15.24 years.

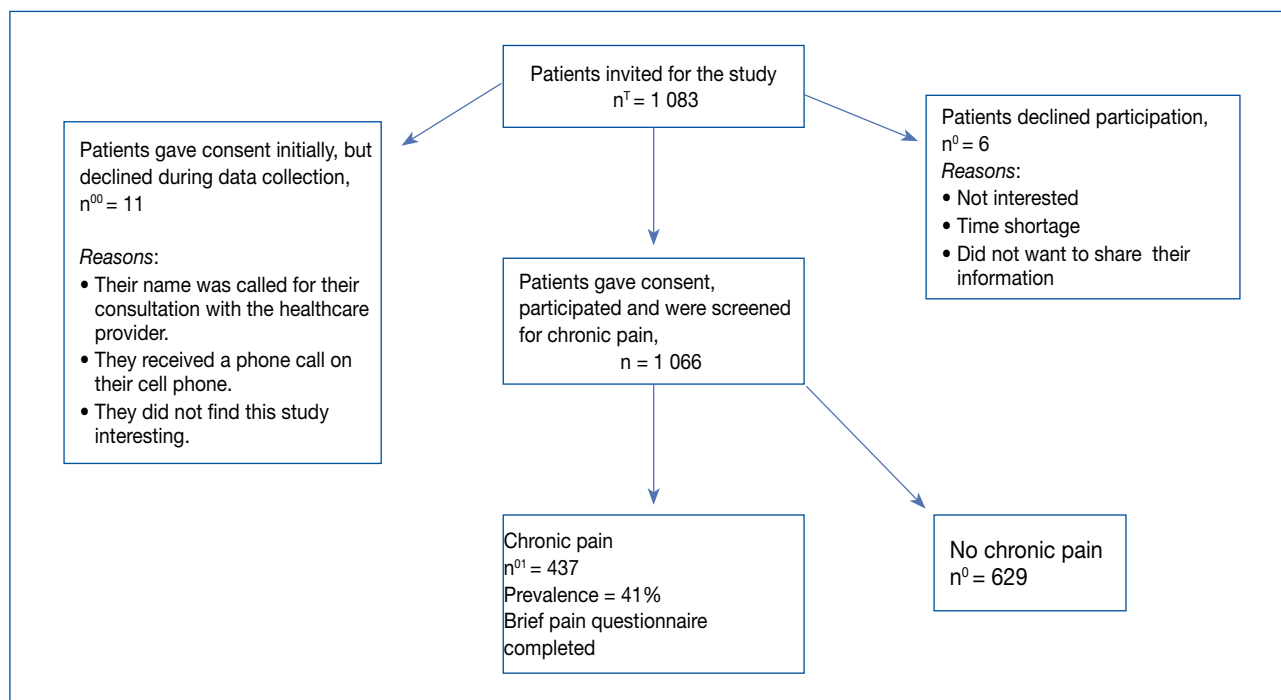


Figure 1: Overview of sampling for data collection

Table I: Chronic pain prevalence by age, gender and marital status

Socio-demographic variables n = 1 066		Pain prevalence 41%	Adjusted OR and 95% CI
Gender	Male	34.65%	1
	Female	46.59%	1.80 (1.17; 2.75)
Age (years)	18-30	28.23%	1
	31-45	36.19%	1.56 (0.88; 2.75)
	45-60	55.54%	3.61 (1.59; 8.19)
	61-80	65.56%	5.02 (1.24; 20.22)
Marital status	Single	33.52%	1
	Married	45.41%	1.65 (1.11; 2.44)
	Divorced or widowed	54.82%	2.41 (1.29; 4.49)

CI: confidence interval, OR: odds ratio

Chronic pain was significantly more prevalent in higher age groups (p-value = 0.0014) and in women than in men (p-value = 0.019). Widowed and divorced patients had a higher prevalence of chronic pain than married and single patients (p-value = 0.0062) (Table I). However, race (p-value = 0.193), education (p-value = 0.336), employment status (p-value = 0.0084), and spouse’s employment status (p-value = 0.183) showed no association with the presence of chronic pain.

Table II shows corporal pain distribution in patients with chronic pain. Backache (30.83%) and joint pains (23.48%) were the most commonly reported sites of chronic pain. The majority of the patients [63.79%; 95% CI: (56.94;70.13)] reported chronic pain in one body location, 26.57% patients in two, and the remaining 8.03% patients in three or more body locations.

Table II: Pain distribution in patients with chronic pain

Chronic pain body location	Proportion of patients	95% CI
Backache	30.83%	19.56-42.09
Joint pains	23.48%	7.58-39.38
Chest pains	20.32%	10.22-30.42
Abdominal pains	15.43%	7.81-23.05
Pelvic region and groin pain	12.56%	10.52-14.61
Legs	12.04%	6.10-17.97
Headache	9.08%	3.35-14.80
Shoulders	8.27%	0-17.11
Face, ear, nose and throat	5.56%	2.41-8.71
Neck	2.64%	0-5.75
Arms	1.73%	0-6.74
Generalised aches and pains	0.91%	0-3

CI: confidence interval

Table III: Pain intensity as reported by the patients with chronic pain

Pain intensity (0-10)	Mean	SD
Maximum pain intensity	7.69	0.99
Minimum pain intensity	2.54	0.89
Pain intensity on most of the days	4.57	0.62
Pain intensity at the time of interview	4.33	0.81

SD: standard deviation

Table III summarises pain intensities [pain scores on scales of 0 (no pain) to 10 (worst imaginable pain)] as reported by the patients with chronic pain.

“Maximum pain intensity” (mean 7.69) was described as the highest intensity of pain endured during the day of worst

pain as reported by the patient with chronic pain. "Minimum pain intensity" was the least pain experienced by the patient any time during the previous month. Pain intensity on most of the days was the average pain that the patient suffered most of the time in the month prior to being interviewed.

Discussion

The results of this study suggest that chronic pain is an important problem in the South African primary healthcare context because of the high prevalence and intensity of chronic pain in the study group. To date, there are no published data on the prevalence of chronic pain in South Africa.¹⁴ Therefore, the study findings have significant implications for the management of chronic pain in the South African primary healthcare context.

There are differences in the prevalence of chronic pain in different populations in different parts of the world. Data from a World Health Organization (WHO) survey⁷ indicated a 20-30% prevalence of chronic pain in primary healthcare clinics, as compared to the 41% prevalence in the present Tshwane study. In population-based surveys, the estimated prevalence of chronic pain was 35.5% in the US,¹⁵ 11-44% in Canada,⁴ 29.34% in Europe¹⁶ and 18.5% in Australia.¹⁷ This illustrates a high prevalence in various populations. Different reporting of pain by different cultures, co-morbidities and lifestyles in different populations may partially explain this diversity in the prevalence of chronic pain. The high prevalence of chronic pain in this study may partially be explained by a high prevalence of human immunodeficiency virus-related disorders in the primary healthcare population in South Africa. Poor awareness among healthcare providers and consequent inappropriate or lack of treatment might also contribute to the reported high prevalence of chronic pain.

In this study, more women than men reported chronic pain (46.59% vs. 34.65%), which is similar to population-based studies in the United Kingdom, (51.8% vs. 48.9%),³ Europe (34.4% vs. 24%)¹⁶ and Australia (20% vs. 17.1%),¹⁷ where the prevalence of chronic pain was also higher in women than in men. There is no definite explanation for the greater prevalence of chronic pain in women. Possible explanations include differences in the transmission and modulation of pain signals, pathological patterns, hormonal variations, as well as complex bio-psychosocial gender differences in pain perception.^{18,19}

This study showed a higher prevalence of chronic pain in older patients and the divorced or widowed population. This finding is in agreement with the findings of a previously published study in Turkey.²⁰ Chronic pain that relates to older age may be linked to the presence of co-morbidities and age-related diseases, such as degenerative joint disease.

Although reports in the literature indicate a higher prevalence of chronic pain in patients with lower education levels,²⁰⁻²² no significant difference in the prevalence of chronic pain in patients with lower education was observed in this study.

The study findings that backache and joint pains were the most commonly reported sites of chronic pain are similar to those of Australian population-based observations, as well as WHO findings from primary healthcare clinics worldwide.^{7,23}

Research shows that patients with uncontrolled chronic pain repeatedly visit healthcare facilities.²⁴ Chronic pain, given its high prevalence, may be particularly burdensome on primary healthcare services.²⁰ The high intensity of pain reported by patients in the present study suggests that there is a need for the implementation of effective strategies for chronic pain treatment in primary healthcare facilities. A patient-centred primary healthcare approach could control pain effectively by combining appropriate evidence-based pharmacological treatment, educational interventions, cognitive behavioural therapy and supervised exercise training for patients with chronic pain.^{14,25} The composition of such teams should be determined by different primary healthcare contexts. In resource-limited settings, there is a need for primary healthcare clinicians (doctors, professional nurses and clinical associates) to have a fundamental grounding in pain management, and whenever possible, to get assistance from physiotherapists and occupational therapists. In well-resourced settings, the interdisciplinary team could be extended to include specialists in anaesthesia with intervention skills, psychiatry, psychology, orthopaedic surgery, neurology, social work and biokinetics.¹⁴ In both well-resourced and resource-limited settings, the primary healthcare clinician would be central to ensuring effective communication within the team, as well as forming an effective partnership with patients and their families in the pain-management process.

Lastly, the nature and extent of healthcare providers' knowledge of chronic pain management in South Africa is poorly understood.¹⁴ Healthcare providers' knowledge of chronic pain requires further investigation in order to develop an appropriate education and training response.

Limitations

This study is limited to the primary healthcare clinics, where patients with chronic diseases and those presenting with chronic pain, are more likely to present than patients with acute pain problems.

This study involved mostly urban patients who attended four healthcare facilities located in one district of Gauteng province. Therefore, the results cannot be extrapolated to other populations.

Despite the limitations, these study findings strongly suggest the distribution, intensity and significance of chronic pain in the South African primary healthcare population. Future studies in other South African population groups and studies on chronic pain management and its impact on the quality of life of primary healthcare patients would be useful in helping to understand and treat chronic pain.

Conclusion

In this study, chronic pain was shown to be a highly prevalent disorder and was mostly experienced as lower back pain and joint pain. This study is a step towards the recognition of chronic pain as a significant and major challenge in the South African primary healthcare context. The high prevalence and intensity of chronic pain reported in this study emphasises the need for further interventions and appropriate training of healthcare professionals in appropriate pain management. This would minimise the intensity of pain experienced by patients with chronic pain who attend primary healthcare facilities.

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