Chronic pain in the community: a survey in a township in Mthatha, Eastern Cape, South Africa

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Keywords: chronic pain, community-based survey, epidemiology, Mthatha, Eastern Cape, South Africa

Abstract

Background: Comprehensive information is needed on the epidemiology and burden of chronic pain in the population for the development of appropriate health interventions. This study aimed to determine the prevalence, severity, risk indicators and responses of chronic pain among adults in Ngangelizwe, Mthatha, South Africa.

Method: A cross-sectional survey utilising structured interviews of a sample of adult residents was used. Interviews elicited information on socio-demographic characteristics, general health status, and the prevalence, duration, frequency, severity, activity limitation and impact of chronic pain.

Results: More than 95% (n = 473) of the sampled adults participated in the study. Of these, 182 [38.5%, 95% confidence interval (CI): 36.3-42.5%] reported chronic pain in at least one anatomical site. The most common pain sites were the back and head. The median pain score was 5 on a scale of 0 to 10 [interquartile range (IQR) = 4-7] and the median number of sites of pain was 1 (IQR = 1-2). Female gender [odds ratio (OR) = 2.6, 95% CI: 1.7-3.9] and being older than 50 years of age (OR = 3.5, 95% CI: 2.6-4.1) were identified as risk indicators for chronic pain in the sample. Over 65% of respondents reported that they self-treated; 92.1% had consulted with a doctor or nurse, 13.6% consulted a traditional healer, and 34.5% consulted a pharmacist because of their pain. Despite this, over 50% reported that relief of their pain was transient.

Conclusion: Chronic pain is a common general complaint in this community, but there is a need for focused attention on women and the elderly.

℗ Peer reviewed. (Submitted: 2011-04-29. Accepted: 2011-08-01.) © SASA   **South Afr J Anaesth Analg 2011;17(5):329-337**

Introduction

Chronic pain is a common complaint in industrialised countries and constitutes a major public health and socio-economic problem. Estimates of its prevalence in the general population range from 10% to 50%, depending on the definition of chronic pain applied and the population studied.[1] The prevalence rate of chronic pain was previously estimated 20.2% in Denmark,[2] 22.1% in Australia,[3] 31.4% in Sweden,[4] 35.1% in Finland,[5] 35.5% in the USA,[6,7] and 46% in Israel.[8]

The direct and indirect costs (i.e. costs associated with consequent disability, lost time from work, reduced productivity or tax revenue) of medical care are substantial.[9] In Finland, chronic pain accounts for as much as 40% of all visits to general practitioners,[5] while data from the USA suggest that chronic pain is responsible for more than $150 billion spent on healthcare- and disability-related costs.[9] In Australia, the total financial cost of chronic pain was estimated to be $22.8 billion in 2007, including real costs of productivity losses (51%), health system costs (31%), deadweight losses (11%), caregiver costs (6%) and other indirect costs (1%).[3]

For the individuals experiencing chronic pain, and their families, the human cost is indeed incalculable, but is easily evident in the decreased quality of life, activity limitation and

reduced functional capacity. For society, evidenced by the estimates above, the financial burden arising from increased use of health services and medication, absenteeism from work, early retirement and the reduced or complete loss of productivity is considerable. Simply stated, "[chronic] pain hurts – individuals, significant others and society!"[9]

However, there is a lack of epidemiological information on chronic pain in the South African general population. An extensive search for literature yielded no substantive studies estimating chronic pain prevalence in population groups in Africa.[10] The literature review further identified that different epidemiological studies have been undertaken to investigate specific pain complaints in different population samples. However, few studies have explored different kinds of pain conditions in the same set of subjects, and even fewer studies have been conducted among African subjects. Yet, comprehensive information is needed on the epidemiology and burden of chronic pain in the population for the development of well-targeted health interventions.

Indeed, chronic pain may be viewed as an important bellwether of the general health status of the population. There is therefore an increasing need for epidemiological research to establish the prevalence of chronic pain and to describe its risk factors.

As part of a larger study on the epidemiology and burden of chronic pain within the Eastern Cape, this paper reports on a survey conducted to:

- Estimate the prevalence of chronic pain in a general population of adult residents in Ngangelizwe, Mthatha.
- Determine whether the pattern of chronic pain differs with age, gender, socio-economic status and health status of the community residents.
- Determine the severity of chronic pain, and spectrum of remedies used to relieve chronic pain in the community.

Method

Study design

A cross-sectional descriptive study was conducted. Comparative analyses of the risk indicators associated with chronic pain prevalence, severity and responses were also included.

Setting and study population

The study population comprised adults (defined as individuals aged 18 years and older) who resided in Ngangelizwe, Mthatha, in the Eastern Cape province of South Africa. Ngangelizwe is a township of Mthatha and is located about 2 km east of the Mthatha central business district. Settlement in Ngangelizwe is said to date back to the 1930s and the township is considered a historic part of the King Sabata Dalindyebo (KSD) Municipality. It is estimated that about 70 000 people reside in Ngangelizwe, occupying 12 600 households, mostly within formal housing

but also some areas of informal settlement (personal communication: Prof MA Gumbi, Municipal Manager, 23 June 2005).

Uncontrolled development in this settlement has seen informal housing increase in numbers, without planning for infrastructure, basic services and health needs. Levels of employment and income are low. Formal education is mostly to high school level and housing is of poor quality, crowded and with a poor supply of water.[11] Residents in Ngangelizwe have been reported to "prefer traditional healers over medical doctors" and predominantly speak isiXhosa.[11] Health surveys have described poor health status and a high prevalence of specific health problems, such as epilepsy and neurocysticercosis, estimated to occur at a rate of about 13.1 per 1 000 population.[11]

A working definition of a "resident" was developed in this study as "any individual who ate and slept in the selected household on most days of the week and for most weeks of the year, and who considered the household as his/her primary place of habitation."

Study sample

Sample size

The sample size was calculated using the Raosoft® sample size calculator. The acceptable margin of error was selected as 5% and confidence level (coverage) at 95%. The population size of 12 600 was applied with the most conservative prevalence of 50%.[12] This gave a calculated sample size of 373. However, to accommodate non-contact or refusal by participants, an additional 112 (30%) participants were added to the calculated sample size. So, in total, the target was to sample 485 participants for interviews. Assuming the average number of adults per dwelling was three, 161 dwellings were determined to be sampled.

Sampling procedure

The principal sampling units for this survey were households/dwellings within Ngangelizwe. A street map obtained from the KSD Municipality covered streets in the formal housing areas, but excluded the sprawling informal housing units. This meant that two sampling strategies had to be applied, one for the formal housing units and the other for the informal housing units. In the first instance, the formal housing units were sampled using a sampling frame of the street map. There were 27 distinct streets on the map, and a preparatory visit to the community revealed that there were on average 130 households per street. To improve the representativeness of the sample, it was decided that a random sample of eight streets would be selected, potentially yielding 1 040 households. In the selected streets, a systematic sample of every tenth household was drawn, so that a total of 104 households were selected.

A random sampling technique could not be effected for the informal households/dwellings. Rather, applying an

arbitrary starting point, alternate dwellings were taken until 55 households were selected. In combination, it was anticipated that the combined sampling approaches would yield 312 respondents from the formal households and 165 respondents from the informal households (assuming an average of three adults per household).

Data collection procedure

Face-to-face interviews using structured questionnaires were conducted among eligible respondents in selected households in August 2006. Interviews were administered by 12 trained data collectors who were bilingual (English and isiXhosa) health sciences students.

Following the demarcation of the households to be included in the survey, all eligible adults in selected households were invited to participate. Interviews were administered in the preferred language of the respondent (English or isiXhosa). Appointments were made to revisit participants who were not present. After three attempts, those who still could not be contacted were considered non-respondents. At the second visit, the data collector left a copy of the English and isiXhosa versions of the questionnaire behind for the participant. These were picked up at the third visit. Interviews were mostly conducted in the afternoons, evenings and during weekends.

Data analysis

Data handling and cleaning

Data were entered twice in Microsoft Excel® spreadsheets (by two different data capturers). The two entries were then compared and discrepancies were corrected. Following this, the data were imported to SPSS® version 16.0 for Windows®. In SPSS®, impossible and implausible values were checked using codebook and frequency tabulation. When impossible or implausible values were obtained, the respective questionnaire was re-examined and data were corrected. Data which could not be corrected by referring to the questionnaires were recoded as missing.

Descriptive statistics and univariate analyses

Descriptive analysis was conducted, not only in the process of cleaning the data, but also to explore and describe the sample. Frequency tables for categorical variables like sex and level of education and descriptive statistics for quantitative variables like age were summarised. Univariate analysis was performed to compare different mean scale scores of chronic pain severity complaints and socio-demographic characteristics. For this purpose, a two-sample Student's test (t-test) was used. Bivariable analysis with a chi-square test was also performed to determine the relationship between the independent categorical variables of chronic diseases and socio-demographic characteristics with the dependent variable of chronic pain intensity. Pain intensity was recorded on a 0-10 scale (where 0 represented no pain at all and 10 represented unbearable pain). For

analysis, scale scores were aggregated as mild (scores 1-3), moderate (4-7) and severe (8-10) as suggested by Neville et al.[8] For the dichotomous socio-demographic characteristic sex, the t-test was used to compare the mean pain severity score between men and women. For variables with more than two subcategories, namely age group, marital status, level of education and income level per month, analysis of variance (ANOVA) was used to compare pain responses among the subcategories. Whenever the F-statistics were found to be significant, the Bonferroni test was performed to identify the significantly different subcategories or groups. In all cases, a p-value significance level of 0.05 was taken as the cut-off point.

Multivariable analyses

Multiple logistic regression analysis was used to investigate the association between chronic pain and the independent variables sex, age, marital status, education level, religion and income. Model interpretation was done using odds ratios (OR) and the goodness of fit of the models was assessed by the Hosmer-Lemeshow test.[13] The test indicated that the models fitted the data adequately.

Ethical considerations

This study was approved by the Research Ethics Committee of the University of the Western Cape as part of a doctoral study titled "Epidemiology and burden of chronic pain within the Eastern Cape Province." Permission was also obtained to undertake the study from the ward councillors covering the community.

The purpose and nature of the study was explained to prospective participants and verbal informed consent was obtained before commencement of the interviews. Participants were assured of the confidentiality of information collected and they had the right to withdraw from the study or refuse to participate in the study entirely. No physical or psychological harmful effects to participants were expected from this study. Indeed, none was observed by the researcher or reported by the participants.

Results

Socio-demographic characteristics of respondents

A total of 161 residential dwellings were surveyed and 496 adult respondents meeting eligibility criteria were contacted for interviews. Of these, 23 refused or were not contactable by the third visit, giving a response rate of 95.4%. The analysis of chronic pain prevalence reported in this study is therefore based on the 473 respondents.

The study sample characteristics are presented in Table I, which also compares the study sample with the population estimates of the King Sabata Dalindyebo (KSD) Municipality, in which Ngangelizwe falls.

Table I: Socio-demographic characteristics of respondents compared to population figures[a]

Characteristics	Respondents (%)	Population figure[a] (%)	Chi-square p-value
Sex	473	415 229	0.537
Male	211 (44.6)	187 931 (45.3)	
Female	262 (55.4)	227 298 (54.7)	
Age (years)[b]	473	415 229	0.806
≤ 24	41 (8.7)	48 636 (11.7)	
25-34	97 (20.5)	122 511 (29.5)	
35-44	193 (40.8)	142 539 (34.3)	
45-54	74 (15.6)	54 613 (13.2)	
55-64	52 (11.0)	26 083 (6.3)	
≥ 65	16 (3.4)	20 847 (5.0)	
Mean (SD)	38.2 (6.4)	37.6	
Marital status	473	N/A	-
Single	64 (13.5)		
Married	281 (59.4)		
Divorced/separated	36 (7.6)		
Widow/widower	29 (6.1)		
Cohabiting	63 (13.3)		
Highest level of education	473	415 229	0.071
No formal education	56 (11.8)	58 118 (31.0)	
Primary education	111 (23.5)	39 184 (20.4)	
Secondary education	214 (45.2)	75 243 (40.1)	
Post-secondary education	92 (19.5)	15 064 (8.0)	
Income per month (Rand)	473	N/A	-
<1 000	104 (22.0)		
1 000-3 000	291 (61.5)		
>3 000	78 (16.5)		
Employment	473	415 229	0.663
Working full-time	67 (14.2)	59 180 (14.3)	
Working part-time	106 (22.4)	92 398 (22.3)	
Unemployed	176 (37.2)	150 530 (36.3)	
Looking for a job	42 (8.9)	42 571 (10.3)	
Retired/pensioner	82 (17.3)	70 550 (17.0)	
Religion	473	N/A	-
Christian	453 (95.8)		
Muslim	7 (1.5)		
Traditional	13 (2.7)		

[a]Population figures derived from the King Sabata Dalindyebo (KSD) Integrated Development Planning Review 2005 relate to the larger KSD Municipality
[b]Population age values were recategorised from the original report in order to be comparable

The mean age of the respondents was 38.2 [standard deviation (SD) = 6.4] years. This is not statistically different from the mean age of the population of KSD, which is estimated to be 37.6 years. As with the population, the majority of the study respondents were female (n = 262, 55.4%). The gender composition of the respondents was not significantly different from the KSD population (P = 0.53).

The majority of the respondents (n = 281, 59.4%) were married. The median income per month of the study respondents was R1 250 (minimum R120 and maximum R6 000). The majority of the study respondents (n = 395, 83.5%) earned less than R3 000 per month. Over 37% (n = 176) of respondents were unemployed, while an additional 8.9% (n = 42) stated that they were "looking for a job." Almost all respondents were Christians (n=453, 95.8%).

General health status of respondents

Respondents were asked to rank their general health status on a five-level scale ranging from excellent to poor. Figure 1 shows that, of the 473 respondents, 78 (16.5%) reported excellent general health, 123 (26.0%) ranked their general health as very good, and 189 (40.0%) as good. Those who ranked their health status as less than good (i.e. fair and poor) were about 18%.
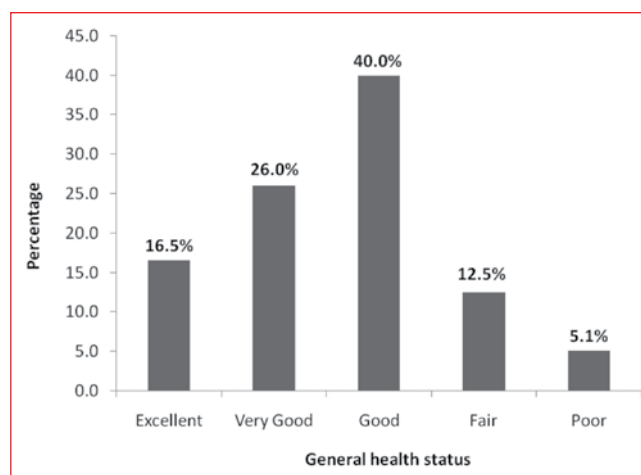

Figure 1: Self-ranking of general health status by respondents (n = 473)

Because health status is not a static phenomenon, transition in health status was determined by asking respondents to compare their current health with that of the previous year. Figure 2 shows that about 20% (n = 93) of all the respondents said their health status was much better than in the previous year. Almost 23% (n = 107) of the respondents said their health was somewhat better than in the previous year. Therefore, in total, about 200 (42.3%) of all the respondents perceived their health status as being better than the year preceding the study. Those who said their health had worsened compared to the past year were 154 (32.5%). The rest (n=119, 25.2%) said their health status was nearly the same as in the previous year.
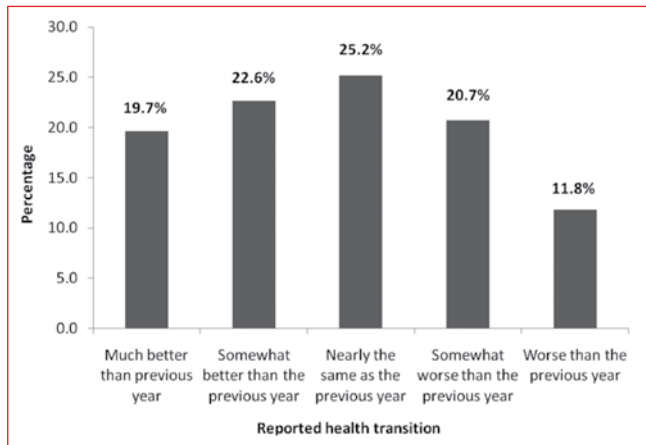
Figure 2: Self-ranking of health transition by respondents (n = 473)

Chronic diseases were common among the study respondents, the distribution of which is shown in Table II. Those who reported at least one chronic disease were 127 out of 473 (26.8%). The "other" group of conditions comprised less frequent diseases such as chronic sinusitis, hernia, chronic pelvic inflammatory disease and non-specific chronic symptoms and signs signifying undiagnosed underlying disease. A total of 127 respondents reported having a chronic disease (data not shown in table).

Table II: Distribution of chronic diseases among study respondents

Chronic disease	Frequency[a]	%
Hypertension	71	24.0
Tuberculosis	66	22.3
Asthma	39	13.2
Arthritis	36	12.2
Epilepsy	24	8.1
Cerebrovascular accident	24	8.1
Diabetes	19	6.4
Cancer	8	2.7
Peptic ulcer diseases	5	1.7
Others	4	1.4
Total	296	100

[a]These are "case counts" and not "head counts", as some respondents reported more than one condition

Among those reporting a chronic disease (n = 127), hypertension and tuberculosis were the most frequently reported, as shown in Figure 3. More than 5% of the respondents also reported diabetes (5.5%), cerebrovascular diseases (6.3%), epilepsy (6.3%), arthritis (8.7%) and asthma (10.2%).

Prevalence and severity of chronic pain

Of the 473 respondents, 152 (32.1%, 95% CI: 29.4%-35.8%) reported suffering from chronic pain. The majority of those who reported chronic pain were female (n = 89, 58.6%). Of all women (n = 251), 46.2% reported chronic pain, compared to 37.1% of men who reported experiencing chronic pain.
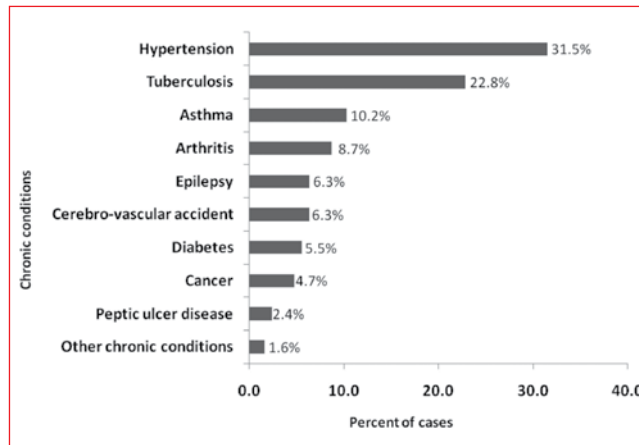

Figure 3: Ranking of chronic conditions by the order of frequency of occurrence (n = 127). Note: Percentage of cases add up to more than 100%, because some respondents reported more than one chronic condition

Figure 4 shows the prevalence of chronic pain by age and gender. The age distribution of chronic pain prevalence shows that for both men and women, there is a sharp increase in prevalence from the age of 55 years. There is also a high prevalence in the youngest age group (i.e. ≤ 24 years) for women.
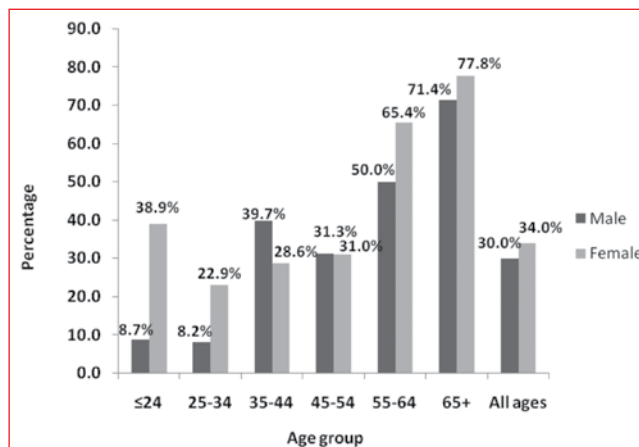

Figure 4: Prevalence of chronic pain by age and gender

The duration of pain was investigated among respondents who reported chronic pain. Most chronic pain lasted between one and five years for both men (39.7%) and women (30.3%). Table III shows that almost 10% of all respondents who had chronic pain reported pain duration of more than 10 years.

Table III: Prevalence of chronic pain by duration (n = 152)

	Men	Women	Respondents
3-6 months	9.5%	12.4%	11.2%
7-12 months	19.0%	15.7%	17.1%
1-5 years	39.7%	30.3%	34.2%
5-10 years	27.0%	29.2%	28.3%
> 10 years	4.8%	12.4%	9.2%

The distribution of reported chronic pain by anatomical sites was explored. The common sites of chronic pain were the back and head. In all body locations, women consistently reported higher prevalence of chronic pain as shown in Table IV.

Table IV: Prevalence of chronic pain in different body locations by gender (n = 473)

	Women		Men	
	%	(95% CI)	%	(95% CI)
General body pain	3.2	(2.2-5.6)	2.6	(1.1-3.4)
Headache/migraine	6.7	(5.1-7.4)	6.4	(5.2-8.7)
Face/tooth/jaw/ear[a]	2.4	(1.2-3.8)	1.8	(0.7-3.3)
Neck	1.2	(0.4-2.1)	0.9	(0.1-1.9)
Shoulder/elbow	4.4	(3.2-6.9)	4.1	(2.5-6.2)
Arm/hand	2.1	(1.6-3.2)	2.0	(1.3-4.1)
Chest	4.5	(2.7-5.8)	3.9	(2.6-5.4)
Back	20.3	(14.4-25.9)	17.9	(13.2-21.6)
Abdomen	1.9	(1.0-3.9)	1.2	(0.6-2.5)
Hip/thigh	2.8	(1.2-4.3)	2.4	(1.1-3.9)
Knee/ankle	6.3	(5.6- 8.5)	4.1	(3.9-5.2)
Leg/foot	5.0	(3.9-8.3)	2.9	(1.4-3.7)

[a]Excludes ear infection;

The median number of sites of pain was one [interquartile range (IQR) = 1-2]. The distribution of self-rated general health status among those reporting chronic pain is shown in Table V.

Table V: Distribution of self-rated health status among respondents who experienced chronic pain (n = 152)

Variable	Chronic pain (%)	(95% CI)
Excellent	9 (5.9)	(3.1-9.3)
Very good	18 (11.8)	(8.4-14.0)
Good	59 (38.8)	(33.2-41.3)
Fair	47 (30.9)	(27.5-34.1)
Poor	19 (12.5)	(9.4-14.2)

Among all respondents who experienced chronic pain, the median pain severity score on the 0-10 scale was five (IQR = 4-8). Twenty-one respondents (13.8%) reported suffering from mild pain (scale score 1-3), 73 (48%) reported a moderate level of pain (scale score 4-7), and 58 respondents (38.2%) reported severe pain (scale score 8-10). Severe pain was found to be associated with female gender (P = 0.01),

Table VI: Association of pain intensity[a] with demographic variables (n = 169)

	1-3		4-7		8-10		Chi-square p-value
	n	%	n	%	n	%	
Sex							
Male	13	61.9%	32	43.8%	19	32.8%	0.01
Female	8	38.1%	41	56.2%	39	67.2%	
Age (years)							
< 50	7	33.3%	37	50.7%	42	72.4%	0.04
≥ 50	14	66.7%	36	49.3%	16	27.6%	
Marital status							
Single	4	19.0%	18	24.7%	17	29.3%	0.11
Married	9	42.9%	46	63.0%	34	58.6%	
Divorced/separated	3	14.3%	5	6.8%	3	5.2%	
Widow/widower	5	23.8%	4	5.5%	4	6.9%	
Level of education[b]							
No formal education	4	19.0%	29	39.7%	23	39.7%	0.06
Primary education	9	42.9%	35	47.9%	28	48.3%	
Post-primary education	8	38.1%	9	12.3%	7	12.1%	
Income level/month (Rand)							
< 1 000	4	19.0%	57	78.1%	33	56.9%	0.03
1 000-3 000	11	52.4%	14	19.1%	19	32.8%	
> 3 000	6	28.6%	2	2.7%	6	10.3%	
Employment							
Employed[c]	6	28.6%	29	39.7%	39	67.2%	0.04
Unemployed	13	61.9%	34	46.6%	13	22.4%	
Retired/pensioner	2	9.5%	10	13.7%	6	10.3%	
Religion							
Christian	19	90.5%	66	90.4%	55	94.8%	0.01
Other	2	9.5%	7	9.6%	3	5.2%	

[a]Pain intensity scored as "0" = no pain at all and "10" = unbearable pain. Score of 0 therefore does not appear in table
[b]Total percentage exceeds 100% because of rounding of values
[c]Employed includes "working full time" and "working part time"

age greater than 50 years (p-value = 0.04), lower income level (p-value = 0.02) and Christian religion (p-value = 0.01). Table VI shows the association of pain intensity with demographic variables.

Risk indicators associated with chronic pain

Overall, female gender [odds ratio (OR) = 2.6, 95% CI: 1.7-3.9] and age older than 50 years (OR=3.5, 95% CI: 2.6-4.1) were the only significant variables associated with chronic pain. Table VII shows the results of the logistic regression models for chronic pain with respect to age and gender. Women had higher odds than men for pain at all anatomical sites, but this was statistically significant only for headache, abdominal pain and chronic widespread pain. Further analysis of this model to include other socio-demographic variables was found to be not significant.

Table VII: Logistic regression model predicting chronic pain occurrence in the sample

Variable[a]	OR	95% CI	p-value
Sex			
Male	1		
Female	2.6	1.7-3.9	0.02
Age (years)			
<50	1		
≥50	3.5	2.6-4.1	0.01

[a]The following variables introduced into the model were not found significant: marital status, level of education, income level, employment and religion

Therapy sought by chronic pain sufferers

The survey examined whether having chronic pain was associated with greater use of health services. The majority of respondents reported that they consulted with a doctor or nurse (92.1%). There was also a high report of self-treatment (65.4%), consulting a pharmacist (34.5%), consulting a traditional healer (13.6%) and consulting a spiritual healer (6%). Of all respondents reporting chronic pain, 53.9% (n = 82) reported that relief of their pain was transient.

Discussion

Community-based surveys are valuable tools for estimating the prevalence and burden of health problems in specified populations, and therefore in defining the population's health status. The focus of this study was on estimating the prevalence of chronic pain among adult residents of Ngangelizwe, a periurban community in the Transkei region of the Eastern Cape. Although health surveys have been conducted in this community previously,[11,14-15] none of these are known to have investigated chronic pain in this population group. In fact, no studies were found for the Eastern Cape or South Africa.

A major strength of this study is its use of a relatively large and representative sample of residents in the community. The observed response rate of 95% was impressively high and it is noteworthy that non-respondents tended to be male. In the survey by Foyaca-Sabat et al,[11] there was a preponderance of female respondents, even though the gender distribution of non-respondents was not described. It is difficult to explain higher female participation in surveys in our context and this may be an area for future qualitative investigation. Importantly, the gender and age distributions of the study sample were similar to those of the general population.

The socio-demographic characteristics of the study sample are reflective of the poor socio-economic status of the population. Only about 37% of the sample respondents were employed, and the majority (over 83%) earned less than R3 000 per month. This is similar to the observation of previous surveys in Ngangelizwe: one study reported a trend of increased unemployment, between 2001 and 2003, to as high as 45%.[11] The socio-economic status of a community may be viewed as an important bellwether of its health status, and there is a need for underserved periurban areas such as Ngangelizwe to be prioritised for research and interventions.

Although the self-rated general health status of the majority of the respondents (approximately 83%) ranged from good to excellent, the current health status compared to the previous year reflects a perceived deterioration in general health. About a third of the respondents reported that their health had worsened compared to the past year. Poor health status in this community has been reported previously.[11] However, the observation of worsening health status requires further investigation and calls for public health attention in Ngangelizwe.

A very high self-reported prevalence rate of chronic diseases was observed in this study. Of these, hypertension and tuberculosis were reported by almost a quarter of the respondents. There was no definitive clinical examination of respondents to validate these reports, and no screening of those who did not report chronic conditions to confirm that they did not have any of these conditions. Notwithstanding, the self-reported estimates are unacceptably high and reflect a high disease burden in the surveyed community. Burden of disease studies in the Eastern Cape have highlighted the triple burden of communicable, nutritional and maternal conditions, compounded by the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) epidemic, chronic noncommunicable diseases and injuries.[16,17] The spectrum of conditions reported by study participants attest to this pattern in Ngangelizwe.

The primary objective of this study was to document the prevalence rate of chronic pain in Ngangelizwe. We found an overall prevalence rate of 32.1% for both men and women. This is very high and implies that chronic pain is an important problem in the community. The study also showed that women reported more frequent and more severe pain than men. This is consistent with the literature, as several population-based surveys have reported the same observation.[2,18-29] A number of explanations exist for the sex and gender differences in the epidemiology of pain.

Firstly, women are known to have a greater risk for several painful disorders, associated with endogenous or exogenous sex hormone changes such as a migraine headaches.[30] Buckwalter and Lappin have reported that women are at greater risk of autoimmune disorders that have a pain component such as rheumatoid arthritis, lupus and scleroderma.[31] Secondly, a number of pain conditions are unique to reproductive organs. Women may suffer from conditions such as dysmenorrhea, vulvodynia and labour pain, which men will not experience. At the same time, men can experience prostatic pain and testicular pain, which women will not have to endure. Thirdly, there has been a suggestion that women are subjected to a greater number of surgico-medical procedures, leading to postoperative pain.[32,33]

Regardless of the underlying reason for the "feminisation" of the chronic pain burden, it is important that interventions that alleviate the problem target women. The age distribution of chronic pain prevalence was fairly typical: chronic pain prevalence increased with increasing age. However, it is striking that, even in younger women (18-24 years), there was a very high report of chronic pain. There is a need to investigate this observation further and implement pain management interventions for this age and sex group.

Consistent with the literature, the back, head and joints (knee and ankle) were the most common anatomical sites of chronic pain. This is useful in understanding risk factors for chronic pain.

Respondents reported a high use of healthcare services. Chronic pain is generally associated with higher utilisation of healthcare services. There are several reasons why this is the case, including the significant impact of chronic pain on everyday functioning and quality of life.[3] There was a fairly high use of traditional and spiritual healers. A previous survey on the use of traditional remedies in Ngangelizwe showed that there is a widespread acceptance and use of traditional medicines.[14] It is important that the development of comprehensive public health interventions takes into account traditional remedies.

Study limitations

This study is not without a number of limitations. First, the study is cross-sectional and so gives a weak level of evidence of the association between the measured variables. In order to investigate the course of chronic pain, a longitudinal study is required. Secondly, the reliance on respondents' self-report and recall of events could have led to measurement and recall biases. Lastly, the study did not measure adequately the psychological well-being of respondents, which is known to influence the report of chronic pain. Future studies should include assessment of mental health and the psychological state of respondents.

Conclusion

Chronic pain is an important public health problem for adults in Ngangelizwe. Particular population groups affected by chronic pain are women and people in the lower socio-economic class. The cross-sectional design of this study does not allow for exploration of the cause-effect relationship, but it is clear that consideration of social determinants of health is needed even in understanding the occurrence of chronic pain. This study provides support for population-based surveys and the potential insights that may be gained through an epidemiological approach to studying pain complaints.

This study shows that there is a need for focused and improved management of chronic pain in the community. Healthcare professionals should be trained in chronic pain management and health education, and promotion campaigns should be instituted to inform the community of pain prevention strategies. Pain relief should not be the only goal. Treatments need to address functional goals and obstacles to progress. A comprehensive approach to prevention and management of chronic pain should be adopted to tackle effectively the diverse pain complaints. In this regard, close collaboration between doctors, nurses, pharmacists, community health workers and traditional healers should be instituted to alleviate the negative effects of chronic pain. Lastly, future longitudinal studies on the life course of chronic pain among individuals in the community are needed.

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