Research Paper

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Almost 1 in 5 South African adults have chronic pain: a prevalence study conducted in a large nationally representative sample

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Abstract

Limited information on the prevalence and risk factors for chronic pain is available for developing countries. Therefore, we investigated the prevalence of chronic pain and the association between this pain and various personal and sociodemographic factors by including questions in the South Africa Demographic and Household Survey 2016. The survey was conducted by face-to-face interviews with a nationally representative sample of the adult population (ages 15 and older, n = 10,336). Chronic pain was defined as pain or discomfort that had been experienced all the time or on and off for 3 months or more. The prevalence of chronic pain was 18.3% (95% confidence interval [CI]: 17.0-19.7). Women were more likely than were men to have chronic pain (men = 15.8% [95% CI: 13.9-17.8]; woman = 20.1% [95% CI: 18.4-21.8]), and the prevalence of chronic pain increased from 11.3% (95% CI: 9.6-13.3) for the age range 15 to 24 years to 34.4% (95% CI: 30.6-38.4) for the age range over 65 years. The body sites affected most frequently were the limbs (43.6% [95% CI: 40.4-46.9]), followed by the back (30.5% [95% CI: 27.7-33.6]). This article presents the prevalence of chronic pain in the general population of a middle-income African country. These data give much needed insights into the burden of, and risk factors for, chronic pain in low-resource settings, and identify priority groups for intervention.

Keywords: Chronic pain, Developing country, Population-based survey, Epidemiology, Prevalence

1. Introduction

Surveys using nationally representative samples have reported the prevalence of chronic pain in adults to range between 14% and 37%.[6,7,18,25,30,33] Although the prevalence varies widely across nations, there has been remarkable consistency in the association between the increased likelihood of chronic pain and female sex,[2,5,6,9,10,15–18,21,25,28,33] older age,[2,5,6,8–10,15–17,21,25,26,28,33] lower educational levels,[2,10,15,16,28] and poorer socioeconomic status.[2,8,26] Moreover, these studies associate chronic pain with numerous unfavorable health outcomes, including depression,[2,9,15,26] lower health status,[2,7,9,10,12,17,25,26] and functional limitations.[7,9,12,25,33] As such, these studies agree with other evidence that chronic pain comes at a significant personal and societal cost. For example, compared to people without chronic pain, people with chronic pain are less likely to be able to work, are more likely to be absent from work, and are more likely to have lower productivity when present at work.[23] Moreover, chronic pain is associated with significant health care costs, whether direct costs to the individual (eg, direct expenses of doctor visits and medication) or society (eg, provision of health care services, social grants, and caregiver burden).[4,11,24,35]

Most of the national surveys completed to date have been conducted in developed countries, with only 2 studies providing data on chronic pain in sub-Saharan African countries (Nigeria, South Africa, and Uganda)[32,34] and one providing data for North Africa (Morocco).[13] However, the structures of the studies in sub-Saharan and North Africa have prevented them being generalizable. One sub-Saharan Africa study focused only on musculoskeletal pain in the elderly,[34] while another used the presence of specific, potentially painful, diseases as a surrogate measure of chronic pain.[32] In North Africa, the study outcomes potentially were biased by the method of sampling and by the poor response rate (56%).[13] Therefore, for the first time in Africa, we have now investigated the prevalence of chronic pain reported in face-to-face interviews in a nationally representative sample of the adult population, namely that of South Africa. We defined chronic pain as pain or discomfort that had been experienced all the time or on and off for 3 months or more. In respondents reporting chronic pain, we investigated what body sites were involved. We also analysed the possible association of chronic pain with a suite of respondent attributes and sociodemographic factors.

Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

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2. Methods

2.1. Ethical clearance

The study protocol was approved by the South African Medical Research Council Ethics Committee (EC008-2/2015).

2.2. Survey design

A full description of the survey design is provided in the full report of the survey.[20] In brief, our data were obtained as part of the South African National demographic Survey, a survey designed to provide estimates of health, and associated demographic information, for South Africa as a whole and separately for the 9 provinces in the country, and for urban and nonurban areas. The Statistics South Africa Master Sample Frame was used for the survey. This sampling frame was created by the national statistical agency from enumeration areas used in the 2011 South African population census, and these enumeration areas were treated as the primary sampling units (PSUs). A stratified two-stage sample design was used, with a probability proportional to size sampling of PSUs at the first stage and systematic sampling of dwelling units (DUs) at the second stage. Households then were selected from within the DUs (DUs may have contained more than one household). A total of 750 PSUs were selected from 26 sampling strata, with 468 PSUs in urban areas, 224 PSUs in traditional areas (tribal land), and 58 PSUs in farm areas. A listing operation was performed in all selected PSUs from January to March 2016, and the updated lists of DUs served as a sampling frame for the selection of DUs in the second stage. A fixed number of 20 DUs for each PSU were selected for further analysis, with special arrangements for informal settlements.

In the even-numbered DUs within a PSU, all men and women older than 15 years, and who were residents of the household or who had stayed in the household the night before, completed the adult health module, which included questions on pain. In addition to health data, data were collected on household attributes (household questionnaire) and individual sociodemographic variables (standard individual questionnaire). Trained fieldworkers administered all questions in 1 of the 11 official languages of South Africa, according to the preference of the interviewee. The translations of all the questions were performed by mother-tongue speakers of each language and then reviewed by an independent translator. Alternative translations were shared with the first translator until there was a consensus. Minor adjustments to the translations were incorporated at the end of the fieldwork training based on the feedback. Data collection took place between April 2016 and November 2016.

2.3. Pain questions

Three questions on pain were asked in the adult health module: (1) Are you currently affected by pain or discomfort, either all the time of on and off? (YES/NO), (2) Have you had this pain or discomfort for more than 3 months? (YES/NO), (3) Where do you feel this pain of discomfort? (options included back pain; neck and shoulder pain; chest pain; headache, facial, or dental pain; stomach ache or abdominal pain; pain in the limbs; and other). An affirmative answer to both questions 1 and 2 was taken to indicate chronic pain, that is, pain or discomfort that had been experienced all the time or on and off for 3 months or more.

2.4. Statistical analysis

All respondents who completed the adult health module interview were eligible for inclusion in the analyses. Data are reported as the crude estimate (95% confidence interval [CI]) of the population prevalence of chronic pain. Statistical methods that incorporated design weights were used to calculate all estimates and to assess for associations between sociodemographic variables and the presence of chronic pain using logistic regression. Only a full multivariable logistic regression model was performed (ie, no variable selection procedures such as prescreening with bivariate analyses or best model selection using stepwise procedures were used), and adjusted odds ratios are reported. The *P*-value threshold for statistical significance was set at $P < 0.05$.

Sociodemographic variables assessed in the logistic regression model included age (15-24 [reference group], 25-34, 35-44, 45-54, 55-64, ≥65 years); sex (female [reference group], male); population group (Black African [reference group], Coloured, White, Indian/Asian); residence (urban [reference group], nonurban); province (Free State [reference group], Western Cape, Eastern Cape, Northern Cape, North West, KwaZulu-Natal, Gauteng, Mpumalanga, Limpopo); education (none [reference group], primary school [grades 1-7], secondary school [grades 8-12], tertiary education); wealth index (poorest [reference group], poorer, middle, richer, richest quintiles); receives a government grant (no [reference group], yes); has employment (in the past 12 months) (no [reference group], yes); and has private health insurance (no [reference group], yes).

The wealth index[31] was used to quantify respondents' level of poverty and was generated using quintiles of scores calculated for households based on the number and kinds of consumer goods possessed (eg, televisions, cars, and livestock), and housing characteristics (eg, wall and flooring materials, source of drinking water, and ablution facilities). Population group assignment was based on self-identified ancestry, such that respondents were classified as Black African when they were of African ancestry, White when of European ancestry, coloured when of mixed ancestry (a uniquely South African classification), and Indian/Asian when of East Asian ancestry, particularly the Indian subcontinent. Those respondents not falling into any of these population groups were recorded as "other," but because of the low sample size (n = 7), this group was dropped from all analyses involving population group. For the place of residence, nonurban included traditional areas and farm areas. Levels of education were collapsed to include partial and full completion (eg, those respondents completing grade 5 and those completing grade 7 both were classified as having completed primary school level of education; grades 1-7). Having employment required respondents to have had either full-time or part-time/piece work in the past 12 months. Receiving government grants required respondents to have been recipients of a child grant, disability grant, or a state pension, while having health insurance required respondents to have held private medical insurance.

In addition to the multivariable logistic regression model, we performed a cross-tabulation with Pearson χ^2 to assess for an association between self-rated health status and the presence of chronic pain. Participants rated their current health status on a 4-item ordinal scale (poor, average, good, and excellent). We also performed exploratory (graphical) analyses of the relationship between age and prevalence of chronic pain stratified by sex. Finally, we performed an exploratory analysis of the prevalence of chronic pain by body site, with and without stratification by sex.

All statistical analyses were completed using STATA (StataCorp LLC), and graphics were plotted using the ggplot2 package in R v3.6.0.[27,36] Raw data files are available from https://dhsprogram.com/data/dataset/South-Africa_Standard-DHS_2016.cfm.

3. Results

Of the 12,717 adults aged 15 years and older who were eligible for an interview, 10,336 were interviewed successfully (response rate: 81%).

Table 1 shows the unweighted respondent numbers and the prevalence of chronic pain for each sociodemographic variable (graphical representations of these data are shown in Supplement 1, available at http://links.lww.com/PAIN/A970). **Table 1** also shows the adjusted odds ratios and associated *P*-values from the multivariable logistic regression.

The overall prevalence of chronic pain was 18.3% (95% CI: 17.0-19.7), but there were significant age, sex, and regional differences in this prevalence. Older age groups were more likely to have pain than were younger age groups, such that the prevalence of chronic pain increased from 11.3% (5% CI: 9.6-13.3) for the age range 15 to 24 years to 34.4% (95% CI: 30.6-38.4) for the age range over 65 years. Women were more likely to have chronic pain than were men (men = 15.8% [95% CI: 13.9-17.8]; women = 20.1% [95% CI: 18.4-21.8]). This sex bias was not readily apparent in the youngest age group (15-24 years) but progressively developed as age increased (**Fig. 1**). Regionally, the prevalence of chronic pain varied between 12.2% (95% CI: 9.7-15.3) in the central province of the Free State to 26.5% (95% CI: 22.9-30.4) in the North Western province of the Northern Cape. These regional differences remained after adjusting for all the other covariates including age, sex, wealth index, and level of education (**Fig. 2**). The prevalence of chronic pain was not associated with the sociodemographic variables of population group, education, residence, employment, wealth, receives a grant, and access to private health insurance.

Table 1

Chronic pain prevalence and full logistic regression model for associations between chronic pain and sociodemographic variables.

Variable	Categories	Observed number, N (%)*	Chronic pain, % (95% CI)	Adjusted odds ratio (95% CI)	*P*
Age group (y)	15-24	2723 (26)	11.3 (9.6-13.3)	1.00	
	25-34	2262 (22)	13.2 (11.1-15.5)	1.17 (0.92-1.48)	0.209
	35-44	1663 (16)	16.2 (13.4-19.4)	1.49 (1.15-1.92)	**0.002**
	45-54	1373 (13)	22.0 (19.5-24.8)	2.22 (1.77-2.77)	**<0.001**
	55-64	1133 (11)	29.2 (25.8-32.8)	3.22 (2.49-4.17)	**<0.001**
	65+	1182 (11)	34.4 (30.6-38.4)	4.14 (3.11-5.51)	**<0.001**
Sex	Men	4210 (41)	15.8 (13.9-17.8)	1.00	
	Women	6126 (59)	20.1 (18.4-21.8)	1.28 (1.07-1.52)	**0.007**
Population group†	Black African	8752 (81)	18.5 (17.1-20.1)	1.00	
	White	451 (4)	15.3 (10.1-22.5)	0.72 (0.45-1.18)	0.191
	Coloured	986 (10)	19.3 (15.9-23.2)	1.07 (0.79-1.45)	0.670
	Indian/Asian	140 (1)	13.5 (8.9-20.0)	0.97 (0.51-1.85)	0.926
Residence	Urban	5685 (55)	17.3 (15.5-19.1)	1.00	
	Non-urban	4651 (45)	20.4 (18.4-22.5)	1 (0.77-1.29)	0.978
Province	Free state	1031 (10)	12.2 (9.7-15.3)	1.00	
	Kwazulu-Natal	1571 (15)	13.1 (10.5-16.2)	1.11 (0.74-1.66)	0.622
	Western Cape	754 (7)	16.2 (13.2-19.7)	1.44 (0.98-2.12)	0.062
	Gauteng	1031 (10)	18.0 (14.6-22.0)	1.90 (1.31-2.75)	**0.001**
	Limpopo	1410 (14)	18.6 (16.3-21.2)	1.56 (1.11-2.20)	**0.011**
	North West	1085 (10)	21.5 (16.7-27.2)	2.04 (1.31-3.18)	**0.002**
	Mpumalanga	1220 (12)	24.1 (19.7-29.2)	2.52 (1.67-3.80)	**<0.001**
	Eastern Cape	1352 (13)	24.2 (21.3-27.5)	2.18 (1.56-3.05)	**<0.001**
	Northern Cape	882 (9)	26.5 (22.9-30.4)	2.49 (1.75-3.56)	**<0.001**
Education	None	893 (9)	31.6 (27.4-36.0)	1.00	
	Primary (grades 1-7)	1882 (18)	26.3 (23.6-29.2)	1.1 (0.86-1.41)	0.432
	Secondary (grades 8-12)	6607 (64)	15.9 (14.4-17.6)	0.95 (0.73-1.22)	0.670
	Tertiary	954 (9)	12.1 (9.5-15.3)	0.71 (0.49-1.03)	0.069
Wealth index	Poorest (quintile 1)	2098 (20)	20.9 (18.0-24.2)	1.00	
	Poor (quintile 2)	2227 (22)	18.9 (16.2-22.0)	0.91 (0.68-1.22)	0.523
	Middle (quintile 3)	2337 (23)	18.6 (16.0-21.5)	0.91 (0.67-1.23)	0.549
	Rich (quintile 4)	2066 (20)	17.7 (15.4-20.2)	0.86 (0.63-1.19)	0.374
	Richest (quintile 5)	1608 (16)	15.7 (13.1-18.8)	0.77 (0.52-1.14)	0.192
Has employment (past 12 months)	No	6349 (61)	18.8 (17.2-20.6)	1.00	
	Yes	3987 (39)	17.5 (15.8-19.4)	1.06 (0.90-1.25)	0.479
Receives a grant	No	7992 (77)	16.1 (14.6-17.6)	1.00	
	Yes	2344 (23)	27.3 (24.7-30.0)	1.05 (0.84-1.33)	0.653
Has health insurance	No	8890 (86)	18.9 (17.5-20.4)	1.00	
	Yes	1446 (14)	15.0 (12.4-18.0)	0.89 (0.69-1.15)	0.379
Total		10,336	18.3 (17.0-19.7)		

* Percentages may not add to 100% because of rounding.

† N = 10,329 because the 7 individuals self-identifying as "other" were omitted.

CI, confidence interval.

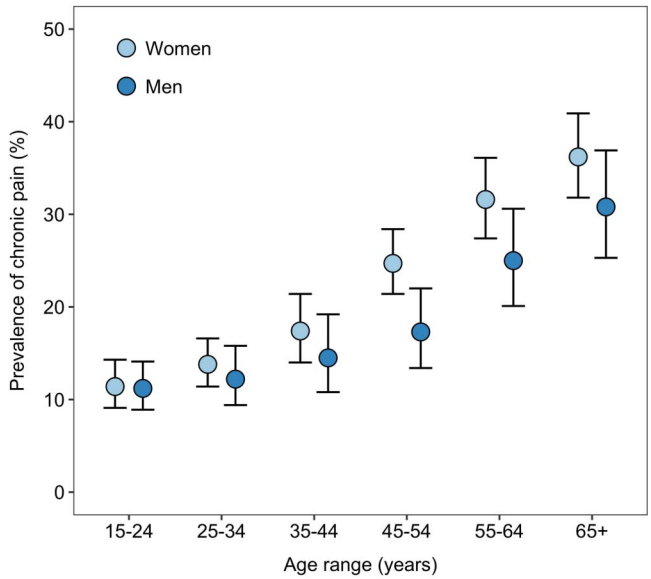

Figure 1. Point estimate (with 95% CI) of the prevalence of chronic pain in men and women aged 15 years and older by age category. CI, confidence interval.

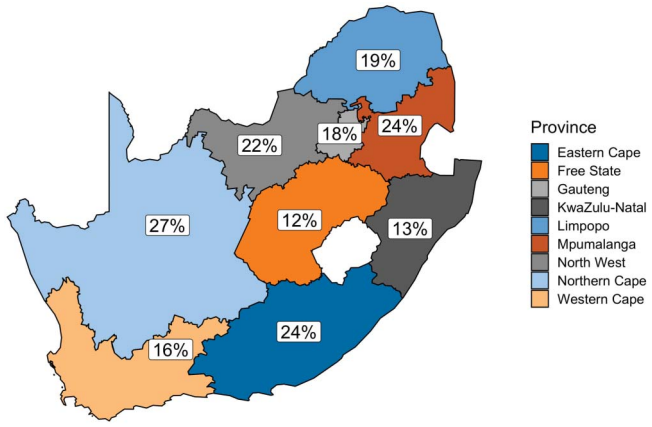

Figure 2. Adjusted point estimate of the prevalence of chronic pain in each of the 9 provinces of South Africa. The estimates were adjusted for age, sex, population group, residence (urban vs nonurban), wealth index, employment, grant support, and having private health insurance. The 95% confidence intervals are: Eastern Cape = 23.6% to 24.9%, Free State = 11.8% to 12.6%, Gauteng = 17.3% to 18.8%, KwaZulu-Natal = 12.5% to 13.7%, Limpopo = 18.0% to 19.3%, Mpumalanga = 23.4% to 24.9%, North West = 20.2% to 22.8%, Northern Cape = 25.5% to 27.4%, and Western Cape = 15.4% to 17.0%.

The body sites affected most frequently in individuals with chronic pain were the limbs (43.6% [95% CI: 40.4-46.9]), followed by the back (30.5% [95% CI: 27.7-33.6]) (**Table 2**). The regions of the body affected by pain followed similar trends in men and women, but compared with men; women were worse affected by stomach/abdominal pain (men = 12.4% [95% CI: 9.7-15.7]; women = 22.9% [95% CI: 19.8-26.4]) and neck/shoulder pain (men = 10.7% [95% CI: 8.0-14.3]; women = 18.1% [95% CI: 15.7-20.9]) (**Fig. 3**).

There was a significant association between having chronic pain and having a worse self-rated health status (Pearson $\chi^2_{(3)}$ = 639.5, $F_{(2.9,\ 2030.5)}$ = 114.2, $P < 0.001$; **Fig. 4**). Although 7.1% (95% CI: 6.4-7.9) of those respondents without chronic pain rated their health as poor, 24.3% (95% CI: 21.8-26.9) of respondents with chronic pain rated themselves as having poor health.

4. Discussion

We investigated the prevalence of chronic pain in a representative sample of the adult population of South Africa. We found that chronic pain affected 18% of adults, with women and the elderly being worst affected significantly more frequently than were men and younger respondents. These data mean that almost 1 in every 5 South African adults had chronic pain, with this prevalence rising from about 1 in every 10 respondents between the ages of 15 and 24 years to 3 times more, about 1 in every 3 respondents, above the age of 65 years. Moreover, the prevalence of chronic pain in South African women was about 20% greater than it was in men (15.5% in men, 20.1% in women). Having pain was associated with having a lower self-rated health status. Although both men and women were likely to experience limb pain and back pain, women had almost double the prevalence of abdominal/stomach pain than did men (**Fig. 3**; 12.4% in men, 22.9% in women). No other sociodemographic variables were associated with the prevalence of chronic pain.

Three studies have investigated chronic pain in 4 African countries, namely Morocco,[13] Nigeria,[32] South Africa,[32,34] and Uganda.[34] The study in Morocco reported chronic pain prevalence of 21% (pain definition: do you currently suffer from pain every day, for more than 3 months?), which is similar to the prevalence of 18% we report.[13] Despite this similarity, it is unclear how representative this Moroccan survey was of their general population; it was a telephonic survey based on random sampling of home telephone numbers (the penetration of home telephones in the population, especially rural populations, was not reported), with a low response rate (56%). In sub-Saharan Africa, our data are not directly comparable with the data reported by Wang and colleagues[34] for South Africa and Uganda because their study focused on an older age group (age >50 years) and was limited to musculoskeletal pain (pain definition: (1) "during the last 12 months/year have you experienced pain, aching, stiffness, or swelling in or around joints [arms, hands, and feet] not related to injury and lasted for more than a month, and (2) have you had back pain in the last month). Nevertheless, and consistent with the age-related trend in pain prevalence in our data, the prevalence of generalized musculoskeletal pain in the study by Wang and colleagues was greater than 30% in both countries. Nor are our data directly comparable with that of a multicountry study of 17 countries that included Nigeria and South Africa.[32] In that multicountry study, very high chronic pain prevalences of 30.4% and 48.4% were reported for Nigeria and South Africa, respectively. These data were based on nationally representative samples of the adult population, but the definition of chronic pain was reliant on the identification of medical conditions that typically are associated with chronic or intermittent pain over the course of a lifetime (arthritis and rheumatism) or the past 12 months (neck/back problems and headache). Using a limited number of surrogate, potentially painful, medical conditions, with different durations of affliction, to identify chronic pain may have produced biased estimates. Thus, in the context of African studies, it is not possible to compare our data directly with data reported in the literature.

The prevalence of chronic pain in our sample, however, was similar to that reported in several studies in the United States that used similar face-to-face interview methods and similar chronic pain definitions to that which we used.[7,15,25,33] In Europe, where telephonic[2,5,9,21] and postal surveys[12,17,26,28] have dominated, there was a high degree of variation in response rates (37%-80%)

Table 2

Body sites affected by chronic pain.

Body site	Chronic pain, % (95% CI)*†
Limbs	43.6 (40.4-46.9)
Back	30.5 (27.7-33.6)
Stomach/abdomen	19.2 (17.0-21.7)
Neck/shoulders	15.5 (13.6-17.7)
Chest	12.7 (11.1-14.6)
Head/face/teeth	10.7 (9.0-12.8)
Other	2.6 (1.8-3.8)

* Observed N = 1947 with chronic pain.
† Participants could have more than one pain site.
CI, confidence interval.

and a high degree of variation in chronic pain prevalence (17%-37%). The 2 countries with the highest response rates, Germany (80% response rate)[21] and Finland (71% response rate),[17] reported high prevalences of pain lasting 3 months or more (25% and 35%, respectively). The regional difference in chronic pain prevalences across Europe may be an artefact of the different survey methods used in different countries and the consequent response rates achieved, but in a single multinational European telephonic study of pain lasting 6 months or more, Breivik and colleagues[3] reported prevalences ranging between 12% (Spain) and 30% (Norway). Thus, large geographic variation may be a real phenomenon. Indeed, we also observed substantial geographical variation across the 9 provinces of South Africa (**Fig. 2**; 12%-26%), a country with a surface area greater than that of Western Europe. Moreover, as with the regional differences reported in Europe,[3] the reason for the regional differences in chronic pain prevalence across South Africa are not readily apparent, with no sociodemographic variables explaining the geographic variation.

Our data support previous findings that women[2,5,6,9,10,15–18,21,25,28,33] and the elderly[2,5,6,8–10,15–17,21,25,26,28,33] are more likely to have chronic pain. The association with increasing age is particularly worrying in an aging population. About 60% of the current South African population is under the age of 35 years,[29] and as this population ages, the prevalence of chronic pain is expected to increase. The consequences of this additional pain burden are unknown in developing countries such as South Africa, but our data indicate that there is an association between having chronic pain and lower self-rated health status.

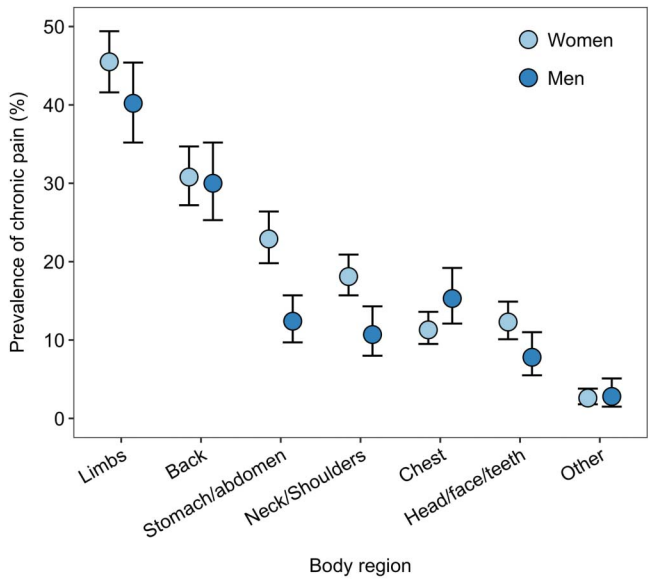

Figure 3. Point estimate (with 95% CI) of the prevalence of chronic pain in men and women aged 15 years and older by body site. Limbs include the hands, arms, feet, and legs.

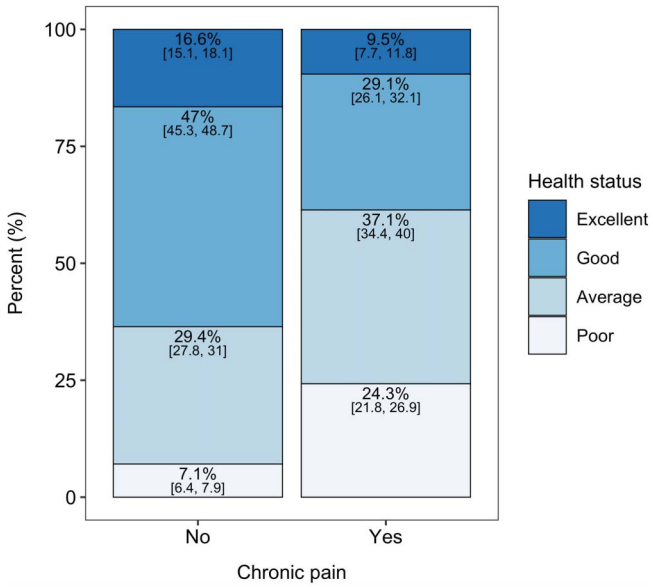

Figure 4. Self-rated health status (with 95% CI) of participants with and without chronic pain. CI, confidence interval.

Other than age, sex, and province of residence, we did not find any association between sociodemographic factors that we measured, namely educational level, level of urbanization, wealth index, population group, employment status, and dependence on welfare, and having chronic pain. This lack of association was surprising given the body of evidence that supports a role for lower educational levels,[2,10,15,16,28] and poorer socioeconomic status[2,8,26] in having chronic pain, including our own evidence for HIV-related chronic pain in South Africans, which revealed a higher prevalence in nonmetropolitan communities.[19] We had expected that in a developing country with poor educational attainment, high levels of unemployment, and large disparities (particularly along population group lines), there would have been an association between these factors and having chronic pain.[29] Also, in the survey from which our data were derived, better education was associated with far fewer reports of poor health.[20] Instead, chronic pain seems to have affected the population fairly uniformly across the educational and socioeconomic spectrum of the country. Thus, interventions to mitigate the burden of chronic pain need to be broad ranging, and inclusive of the whole population, although they legitimately could give priority to women and the elderly.

The 2 most prevalent body sites of pain in our sample were the limbs and the back (**Fig. 3**). This finding is consistent with data from other population-based studies that have identified body sites affected by chronic pain.[2,15,16,26,28] We also reported a high prevalence of abdominal/stomach pain, a region not identified by most investigators. It is unclear why abdominal/stomach pain featured so strongly in our cohort, but we draw attention to the greater prevalence of abdominal pain in women than in men. It is tempting to speculate that this greater prevalence may have been the result of dysmenorrhea, but dysmenorrhea is an acute

recurrent pain rather than a chronic pain. Dysmenorrhea is, however, associated with an increased sensitivity to pain, particularly visceral pain, even outside of the period of menstruation.[14,22] An alternative explanation is that the additional burden of abdominal pain reported by women is the result of chronic pelvic pain.[1]

Our study had limitations. Other than self-rated overall health status, we did not measure any indicators of well-being, for example, health-related quality of life, comorbid depression and anxiety, or pain interference on normal function. Thus, although we have information on the prevalence of chronic pain, we do not know good insight into the impact of chronic pain on those affected by it. Also, we cannot tie the prevalence data to direct and indirect costs of having chronic pain. Thus, although there is strong evidence for chronic pain being associated with significant personal and societal costs in developed countries,[4,24] we do not know whether the same applies in developing countries. There also are some important caveats regarding our sample. The response rates were a little lower in the more affluent provinces of Gauteng and the Western Cape than in other parts of the country. Also, when compared with the population of the country, the White and Indian/Asians population groups, the employed, and males were under-represented in the sample. Design weights will have corrected for some of this under-response, but there may still have been some residual bias in the estimates. Finally, we had no means of investigating why factors like poor education and poverty, often associated with higher prevalence of chronic pain, did not significantly affect the prevalence of chronic pain in our population.

In summary, we investigated the prevalence of pain or discomfort lasting at least 3 months in a representative sample of the South African population. We found that 18% of the population was affected by chronic pain. Ours are the first data on chronic pain in Africa that have been collected on the adult population using a rigorous sampling method and to achieve a high response rate. Moreover, we used a broadly used definition of chronic pain, which will allow our data to be compared more easily with data from other countries. In particular, our data provide that a benchmark should similar studies be conducted in other African countries and a benchmark within South Africa to track changes in chronic pain prevalence over time. Being able to track long-term changes is especially important if public health interventions are made to address the level of chronic pain in the country. Indeed, our study provides much needed data for the planning of such interventions, which may include better training of primary health care workers on the routine assessment and management of pain, and ensuring that there is adequate and uniform supply of pharmacological and nonpharmacological interventions.

Conflict of interest statement

The authors have no conflicts of interest to declare.

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Appendix A. Supplemental digital content

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