## G Model SJPAIN-570; No. of Pages 4

# **ARTICLE IN PRESS**

Scandinavian Journal of Pain xxx (2017) xxx-xxx

Contents lists available at ScienceDirect

# Scandinavian Journal of Pain

journal homepage: www.ScandinavianJournalPain.com



# Clinical pain research

# Prevalence and characteristics of chronic pain: Experience of Niger

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#### HIGHLIGHTS

- Chronic pain is common reason for consultation in Niger with a prevalence of 21.33%.
- Men and patients aged over 50 years were the most affected in 61.8% and 51.6%, respectively.
- Musculoskeletal and joint pathologies were the most common causes (86.8%) of chronic pain in Niger.

### ARTICLE INFO

### Article history: Received 21 April 2017 Received in revised form 13 June 2017 Accepted 5 July 2017 Available online xxx

Keywords: Chronic pain Prevalence Niger

### ABSTRACT

**Introduction:** Chronic pain is a major health problem, considered as a disease in its own right. The prevalence of chronic pain is estimated to be between 2% and 40% in adult populations. In Niger, there are no data on chronic pain.

**Aims:** This study was designed to provide the demographic, clinical and etiological profile of chronic pain in patients from Niger in order to create a database on chronic pain in Niger.

**Patients and methods:** Our study is prospectively conducted at the department of external consultation of the Hôpital National de Niamey over a period of 10 months from 31 May 2016 to 30 January 2017 collecting all cases of chronic pain. The demographic, clinical and etiological characteristics of all patients were collected and analyzed.

**Results:** During the period of the study, 1927 patients consulted at the department of external consultation of the Hôpital National de Niamey, among which 411 patients had chronic pain (21.33% [95% CI: 19.53% and 23.13%]). The average age was 48.28 years ( $\pm 12.84$ ) with 51.6% of patients aged over 50 years. The male sex was predominant (61.8%). The most common sites of chronic pain were legs (25.5%), back (14.4%), neck (13.6%), knees (13.4%) and feet (13.1%). Osteoarthritis was the most common cause of chronic pain (35.5%), followed by herniated disc (22.2%), spondylodiscitis (14.6%) and migraine (4.1%). Significantly patients aged 50–59 years suffered from neck and legs pain (p value <0.001). Significantly chronic headaches and rheumatoid arthritis were more common in women while osteoarthritis, herniated disc and spondylodiscite were more common in men (p value =0.001). Significantly osteoarthritis and herniated disc were more common in patients older than 40 years (p value <0.001).

**Conclusion:** Our study provides demographic, clinical and etiological data of chronic pain in patients from Niger, and shows that chronic pain is a common reason for consultation in Niger concerning 1 in 5 patients with a high prevalence among men and patients aged over 40 years.

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# 1. Introduction

Chronic pain is a major health problem, considered as a disease in its own right [1]. It affects mainly women and patients

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aged over 60 years [2]. The prevalence of chronic pain is estimated to be between 2% and 40% in adult populations [3]. The most common causes of chronic pain are musculoskeletal and joint pathologies (30–40%), neck and back pain (30%), headache and migraine (7%) [4]. In Niger, there are no data on chronic pain.

The purpose of this study is to provide the demographic, clinical and etiological characteristics of chronic pain in patients from Niger in order to create a database in Niger on this pathology.

http://dx.doi.org/10.1016/j.sjpain.2017.07.008

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Please cite this article in press as: Assadeck H, et al. Prevalence and characteristics of chronic pain: Experience of Niger. Scand J Pain (2017), http://dx.doi.org/10.1016/j.sjpain.2017.07.008

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#### 2. Materials and methods

#### 2.1. Data source

We conducted a prospective and descriptive study over a period of 10 months from May 2016 to January 2017, at the department of external consultation of the Hôpital National de Niamey (HNN), Niger. It is the largest urban and tertiary-care referral centre in Niger. It covers an area of 23120.50 m² and comprises 36 buildings with a beds capacity of 790. This hospital attracts people from all corners of the country to seek medical care. Ethical approval was obtained from the Institutional Review Committee of this hospital. For the collection of the data, we have crafted a computerized exploitation sheet including the following informations: age, sex, duration of pain, pain site, type of pain, and etiologic diagnosis retained by the physicians.

We considered the pain to be chronic, any pain persistent or recurrent evolving for more than 3 months [5].

## 2.2. Study population

Our study included 411 patients without age limit according to the following criteria: 1) pain persistent or recurrent evolving for more than 3 months whatever its nature and its site, and 2) patients who consulted at the department of external consultation of the HNN during the period of the study (May 2016 to January 2017). Patients with pain which evolved less than 3 months had not been included in the study as well as those suffering from chronic pain with cancer. For each patient, we collected the following information: age, sex, duration of pain, pain site, type of pain, and etiologic diagnosis retained by the physicians.

## 2.3. Statistical analysis

In the descriptive analysis of the data, patient characteristics were expressed as percentages for the qualitative variables and mean  $\pm$  standard deviation for the quantitative variables. The Chisquare test of Pearson was used to compare the variables. p value was considered statistically significant at p < 0.05. All data were analyzed by using SPSS software version 20.0 for Windows (SPSS Inc, Chicago, IL, USA).

## 3. Results

During the period of the study, 1927 patients were received at the department of external consultation of the HNN for various symptoms, among which 411 patients had chronic pain with a prevalence of 21.33% [95% CI: 19.53% and 23.13%]. We noted a male predominance (61.8%, 95% CI: 59.4% and 64.2%) with a sex ratio at 1.62 (Table 1). The average age of the patients was 48.28 years ( $\pm 12.84$ ) with 55.5% (95% CI: 50.7% and 60.3%) of the patients aged 40-59 years. The most common sites of chronic pain were legs (25.5%), back (14.4%), neck (13.6%), knees (13.4%) and feet (13.1%) (Table 1). Peripheral neuropathic pain was the most common (49.5%), followed by musculoskeletal pain (42.3%), orofacial pain and headache (7.5%) and central neuropathic pain (0.7%) (Table 2). Among the peripheral neuropathic pain, lumbosciatic and cervicobrachial neuralgia were the most common in 35% and 11.4% respectively which are secondary to a herniated disc or spondylodiscitis or osteoarthritis. Osteoarthritis was the most common cause of chronic pain (35.5%), followed by herniated disc (22.2%), spondylodiscitis (14.6%) and migraine (4.1%) (Table 2). Significantly patients aged 50 to 59 years suffered from neck pain and legs pain (p value < 0.001) (Table 3). There was no significant difference between the sexes in the pain site (p value 0.567) and in the type of pain (p value = 0.076). Significantly

**Table 1** demographic and clinical characteristics of the patients (n = 411).

Variables		Values
Sex	Females	38.2% (95% CI: 33.5% and 42.9%)
	Males	61.8% (95% CI: 59.4% and 64.2%)
	Sex ratio (males/females)	1.62
Age (years)	Average	$48.28 \pm 12.84$
	Median	50
	Average/female	$46.29 \pm 12.2$
	Average/male	$49.51 \pm 13.1$
	8-18	2.4%
	19-29	5.6%
	30-39	13.4%
	40-49	27%
	50-59	28.5%
	≥60	23.1%
Pain site	Neck	13.6%
	Elbow	0.7%
	Back	14.4%
	Shoulder	1.2%
	Knee	13.4%
	Leg	25.5%
	Jaw	0.2%
	Hand	8.3%
	Muscle	1.2%
	Foot	13.1%
	Head	7.5%
	Chest	0.7%

**Table 2** etiologies and types of pain.

Etiologies of pain		Values	
Arthritis	Knee	1.3%	1.5%
	Temporomandibular joint	0.2	
Osteoarthritis	Cervical	9.7%	35.5%
	Elbow	0.2%	
	Shoulder	0.2%	
	Knee	8.8%	
	Lumbar	16.5%	
Chronic headaches		1%	
Sickle cell anaemia		1.9%	
Herniated disc	Cervical	2.7%	22.2%
	Lumbar	19.5%	
Thalamic ischaemia		0.7%	
Migraine		4.1%	
Myositis		1.2%	
Post-zosteral neuralgia		0.7%	
Trigeminal neuralgia		2.4%	
Ankylosing polyarthritis		1%	
Rheumatoid arthritis		2.7%	
Diabetic polyneuropathy		1.7%	
Spondylodiscitis	Cervical	2.2%	14.6%
1 0	Dorsal	1%	
	Lumbar	11.4%	
Carpal tunnel syndrome		0.7%	
Tendinitis	Elbow	0.5%	1.5%
	Shoulder	1%	
Other		6.6%	
Types of pain			
Musculoskeletal	Tendinitis	42.3%	
pain	Rheumatoid arthritis		
•	Ankylosing polyarthritis		
	Myositis		
	Osteoarthritis		
	Spondylodiscitis		
	Arthritis		
	Other		
Peripheral	Diabetic polyneuropathy	49.5%	
neuropathic pain	Carpal tunnel syndrome		
• •	Post-zosteral neuralgia		
	Lumbosciatic (35%)		
	Cervicobrachial neuralgia (11.4%)		
Central neuropathic pain	Thalamic ischaemia	0.7%	
Headaches and	Migraine	7.5%	
orofacial pains	Chronic headaches		
*	Trigeminal neuralgia		

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