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Characteristics of chronic pain in Mexican adults from urban areas

Características del dolor crónico en adultos mexicanos de zonas urbanas

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ABSTRACT. Introduction: pain is defined as «an unpleasant sensory and emotional experience associated with or resembling that associated with actual or potential tissue damage». It suggested that chronic pain in Latin America has regional differences. Characteristics of chronic pain in Mexican adults have been poorly documented. **Material and methods:** we use a researcher-administered in-person questionnaire that was applied to Mexican adults at urban areas from six major cities of six Mexican States (6 of 32, 19%). **Results:** researchers interviewed 1,755 subjects. 1,505 questionnaires contained complete data. 286 persons reported pain in one or more anatomical sites that persisted for over three months (19% of the responders). **Conclusion:** this is the first survey on chronic pain in Mexican adults from urban areas. We need a robust sample to estimate the impact of chronic pain in Mexico.

RESUMEN. Introducción: el dolor se define como «una experiencia sensorial y emocional desagradable asociada a un daño tisular real o potencial o algo que asemeja dicho daño». Es posible que el dolor crónico en América Latina tenga diferencias regionales. Las características del dolor crónico en adultos mexicanos han sido poco documentadas. **Material y métodos:** se aplicó un «cuestionario administrado por un investigador en entrevista directa» a adultos mexicanos en áreas urbanas de seis ciudades de seis estados de México (6 de 32, 19%). **Resultados:** los investigadores entrevistaron a 1,755 sujetos. Sólo 1,505 cuestionarios contenían datos completos. 286 personas informaron dolor en uno o más sitios anatómicos que persistió durante más de tres meses (19% de los que respondieron). **Conclusión:** esta es la primera encuesta sobre dolor crónico en adultos mexicanos de zonas urbanas. Necesitamos una muestra robusta para estimar el impacto del dolor crónico en México.

INTRODUCTION

The *International Association for the Study of Pain* (IASP) defined pain as «an unpleasant sensory and emotional experience associated with or resembling that associated with actual or potential tissue damage»⁽¹⁻⁴⁾ and **chronic primary pain** as «a localized pain in one or more anatomical sites, that persists or recurs for longer than three months, that is associated with significant emotional distress or functional disability, and that cannot be better accounted for by another chronic pain condition»⁽²⁻⁴⁾.

Chronic pain is major health concern. It affects 20% of adults worldwide and is the leading source of human suffering and disability^(1,5-8). However, in Latin America, chronic pain prevalence has regional differences. According to prevalence studies on adult population it ranges from 29 to 41% (29% in Costa Rica, 32% in Chile, 34% in Colombia, and 41% in Brazil)⁽⁹⁻¹²⁾.

Studies of **chronic pain prevalence** in Mexican adult population are scarce. A survey from a national database in older Mexican adults (> than 65 years old) revealed that 42%

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of the elderly had chronic pain⁽¹³⁾. Some authors suggest that 25% of adults have chronic pain⁽¹⁴⁾.

A report from the **Algia Center for Health Education**, about chronic pain in Mexico, documented that: (i) 97% of general practitioners attend patients with chronic pain, and (ii) 39% of web centered media users (Facebook, Twitter, and Instagram) report chronic pain⁽¹⁴⁾. Since chronic pain is a frequent cause of medical assessment our **main objective** was to characterize chronic pain in Mexican citizens from urban areas.

MATERIAL AND METHODS

After the approval from a research ethics committee, we conducted a non-randomized transversal study to characterize chronic pain in Mexican adults from urban areas. We use a researcher-administered 17-item in-person questionnaire, applied on a single occasion to adults located in public areas from large cities, from 2016 to 2019.

We include people over 18 years old, no gender distinction, who wanted to participate in the survey and could complete the questionnaire. We exclude subjects that didn't want to participate or wouldn't be able to answer the questionnaire. We mobilized those with incomplete questionnaires. All subjects gave their consent orally and written.

We stored the data obtained from questionnaires maintaining the anonymity of all subjects. We analyzed data with the SPSS v.13.0 statistics software. Descriptive statistics are described in this report.

RESULTS

Demographics

Questionnaires were applied to Mexican adults from six major cities (Mexico City, Puebla City, Tlaxcala City, Chihuahua City, Toluca, and Monterrey) from six Mexican States (6 of 32, 19% of the Mexican Republic).

We interviewed 1,755 persons. We excluded 250 questionnaires with incomplete information. We analyzed 1,505 complete questionnaires. 286 subjects reported pain in one or more anatomical sites that persisted longer than three months (256 of 1,505 questionnaires, 19% of the responders had chronic pain).

We present data from responders with chronic pain (n = 286). From those with chronic pain, 65% were women and the mean age was 50 years (SD: 17 with an age range from 19 to 97 years old). According to their occupation: 27% were housewives, 17% sellers or businesspersons, 15% retired or unemployed, 14% workers (informal, professional, technical or licensed), 9% secretary/assistant/clerk, 6% executive/business owner, 6% students, and referred other occupation (6%).

Pain characteristics

Time with chronic pain had an average of 61 months (DS: 81, min 3 months, and max 534 months). Causes of chronic pain were as follows: tumors/cancer (15%), mechanical lower back pain (10%), stress (7%), osteoporosis (7%), respiratory system diseases (7%), osteoarthritis/arthritis (7%), herpes (5%), diabetes mellitus (4%), heart and circulatory diseases (3%), digestive system diseases (1%), fibromyalgia (1%), neurological diseases (1%), others (14%), non-specified (10%), and multiple causes (9%) (*Figure 1*).

According to chronic pain frequency, respondents referred: 1-2 days in pain per week (30%), 3-4 days in pain per week (29%), 5-6 days in pain per week (8%), and daily pain (33%) (*Figure 2*). Pain duration was documented as follows: a few minutes (41%), a few hours (35%), a few days (7%), and all the time (17%) (*Figure 3*). Pain location was reported as follows: head (12%), face (2%), arms (3%), chest (4%), wrist (1%), hand (4%), abdomen (9%), low back (8%), hip (5%), pelvis (3%), thigh (0.5%), shoulder (0.5%), knee (6%), leg (4%), ankle (3%), foot (2%), other sites (7%), and multiple sites (26%).

Using the Numerical Analogue Scale from zero to ten (where zero is the absence of pain and ten is unimaginable pain) we observed that subjects have a mean intensity of 5 (DS: 2.5). We also identified the following pain characteristics: burning pain in 37% of all subjects, cold pain in 48% of all subjects, electric pain in 46% of all subjects, tingle-pain in 41% of all subjects, prick-like pain in 48% of subjects, needle-like pain in 53% of subjects, numb-like pain in 55% of subjects, hypoesthesia in 34% of all subjects, allodynia in 32% of subjects, and pressure pain

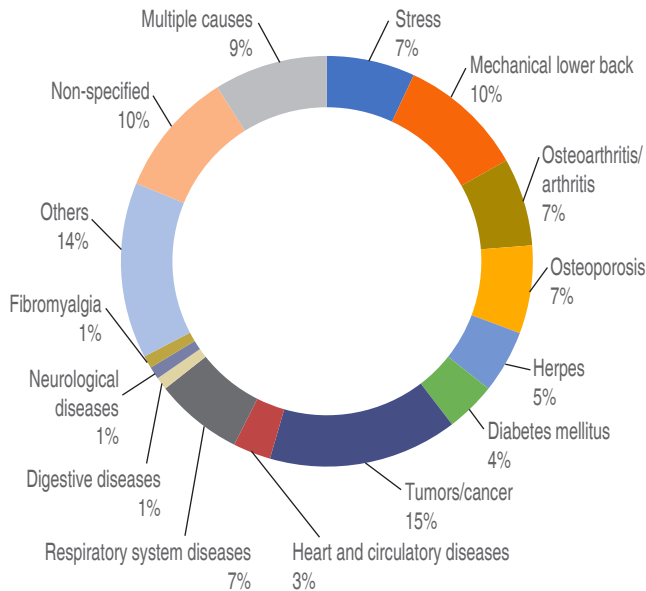
in 53% of subjects. 42% of the responders didn't attend work due to incapacity to work (Table 1).

Treatment and response

We observed the following approaches for pain relief: (i) blockages (15 out of 286, 5%), (ii) prescription drugs (117 out of 286, 41%), (iii) physiotherapy (34 out of 286, 12%), (iv) nothing (30 out of 286, 10%), and (v) other approaches (8 out of 286, 3%). Respondents also described the use of herbal medicine for pain management (17 out of 286, 6%), alternative medicine (16 out of 286, 6%), and homemade remedies (51 out of 286, 18%).

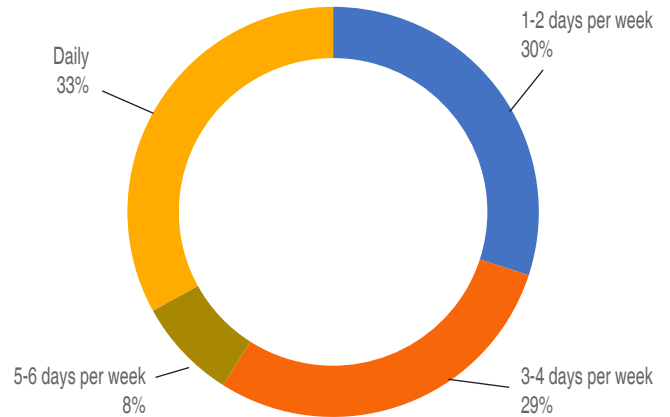
Subjects who take prescription drugs for pain relief (117 out of 286, 41%) (Figure 4, Tables 2 and 3) reported the following medication: (i) non-opioid analgesics (59 out of 117, 50%), (ii) non-steroid anti-inflammatory drugs or NSAID (117 out of 117, 100%), (iii) opioid analgesics (55 out of 117, 47%), (iv) anticonvulsants (25 out of 117, 21%), and (v) others (14 out of 117, 12%).

1. Non-steroid anti-inflammatory drugs or NSAID (117 out of 117, 100%) included: diclofenac (50 out of 117, 42%), naproxen (29 out of 117, 25%), aspirin (15 out of 117, 13%), metamizole/dipyrone (12 out of 117, 10%), ibuprofen (9 out of 117, 8%), and ketorolac (2 out of 117, 2%).



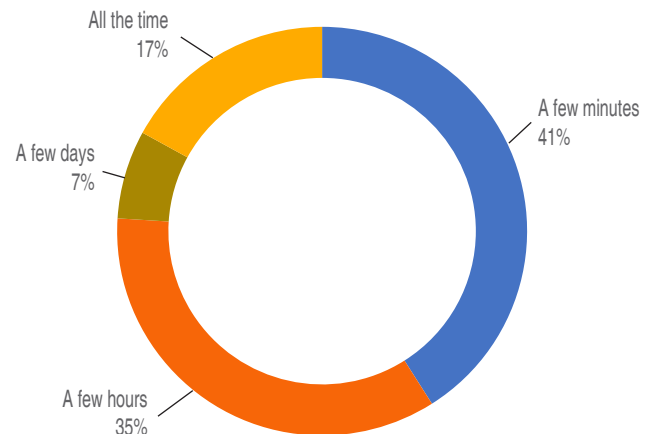
The figure shows the causes of chronic pain in 286 Mexican adults from urban areas. We found that mechanical causes for low back pain and tumors accounted for 25% of all causes. We identified that multiple causes, non-specified causes, and other causes accounted for 33% of all causes.

Figure 1: Causes of chronic pain in Mexican adults. N = 286.



The figure shows the frequency of chronic pain in 286 Mexican adults from urban areas. Calls our attention that 33% of the sample have pain daily while 30% present pain once or twice a week.

Figure 2: Frequency of chronic pain in Mexican adults (days per week). N = 286.



The figure shows the duration of pain in 286 Mexican adults from urban areas. Calls our attention that 17% have pain all the time while 41% have pain just for a few minutes. It is possible that chronic pain is not continuous in most of the cases.

Figure 3: Duration of chronic pain in Mexican adults. N = 286.

2. Opioid analgesics (55 out of 117, 47%) included: tramadol (15 out of 117, 13%), codeine (1 out of 117, 1%), buprenorphine (19 out of 117, 16%), morphine (11 out of 117, 9%), oxycodone (3 out of 117, 3%), hydrocodone (1 out of 117, 1%), fentanyl (4 out of 117, 3%), methadone (1 out of 117, 1%).

3. Anticonvulsants (25 out of 117, 21%) included: gabapentin (20 out of 117, 17%) and pregabalin (5 out of 117, 4%).

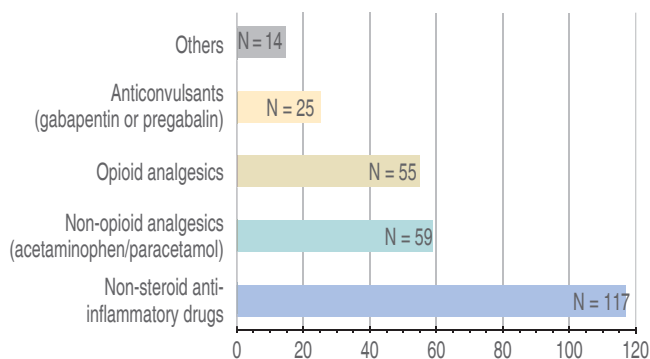
4. Other medications (14 out of 117, 12%) included: butylhyoscine (5 out of 117, 4%), clonazepam (3 out of

117, 3%), acetaminicene (1 out of 117, 1%), capsaicin (2 out of 117, 2%), and caffeine (3 out of 117, 3%). We identified that 78% (225 persons out of 286) take more than one medicine for pain relief.

Pain relief prescriptions were made by doctors (134 out of 286, 47%), self-prescribed (52 out of 286, 18%), family members (20 out of 286, 7%), media (12 out of 286, 4%), drugstore desk personnel (7 out of 286, 2%). Self-perceived response to treatment were categorized as follows: I do not know (5%), no response to treatment (8%), little response (16%), a good response (49%), more than a good response (17%), an excellent response (2%), and «not applicable because I do not receive any treatment» (3%).

DISCUSSION

Chronic pain is a significant health problem worldwide⁽⁹⁻¹⁴⁾. Prevalence studies about chronic pain in adults from Latin America suggest that it ranges from 29 to 41%⁽⁹⁻¹²⁾. In Mexico,



The figure shows the assessed categories for prescription drugs for pain relief in 286 Mexican adults from urban areas. It is important to emphasize that 117 subjects received prescription drugs while 55 persons did not have any treatment at all. All subjects with a prescription received NSAIDs while 47% received opioid analgesics.

Figure 4: Prescription drugs for pain relief in Mexican adults. N = 117.

Table 1: Characteristics of chronic pain in Mexican adults. N = 286.

Variable	n (%)
Numb-like pain	157 (55)
Needle-like pain	152 (53)
Pressure pain	151 (53)
Cold pain	137 (48)
Prick-like pain	137 (48)
Electric pain	132 (46)
Tingle-pain	117 (41)
Burning pain	106 (37)
Hypoesthesia	97 (34)
Allodynia	91 (32)

Table 2: Chronic pain treatment [non-opioid analgesics]. N = 117.

Variable	n (%)
Non-steroid anti-inflammatory drugs	117 (100)
Acetaminophen/paracetamol	59 (50)
Diclofenac	50 (42)
Naproxen	29 (25)
Aspirin	15 (13)
Dipyron/metamizole	12 (10)
Ibuprofen	9 (8)
Ketorolac	2 (2)

Table 3: Chronic pain treatment [opioid analgesics]. N = 117.

Variable	n (%)
Opioid analgesics	55 (47)
Buprenorphine	19 (16)
Tramadol	15 (13)
Morphine	11 (9)
Fentanyl	4 (3)
Oxycodone	3 (3)
Codeine	1 (1)
Methadone	1 (1)

some studies about chronic pain in adults inferred that it ranges from 15 to 42%⁽¹³⁻¹⁵⁾.

The World Health Organization (WHO) identified that chronic pain affects one of every five adults⁽¹⁾. European studies reported a similar prevalence^(6,16). Our study suggests that 19% of adults in urban areas from the Mexican Republic may have chronic pain. One of our weaknesses is that only functional adults were included and those confined due to disabilities, caused or not by chronic pain, were not assessed.

Causes of chronic pain may be single or multiple. We identified that osteoarthritis, back pain, neuropathic pain, and cancer-related pain are frequent and like other Latin American studies⁽⁹⁻¹⁵⁾. Calls our attention that one-third of the subjects reported neuropathic symptoms. Since 70% of Mexican adults have metabolic syndrome, it is possible that diabetic neuropathy could be underdiagnosed. The overweight and obesity problems might be related to mechanical low back pain in one quarter of the responders.

Improving chronic pain management in Mexico requires a recognition of its characteristics. This exploratory study demonstrates the need to assess Mexicans with chronic pain to improve healthcare policies.

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