

# Opiate drug use in the city of Madrid: Associated health and sociodemographic factors

## *Consumo de fármacos opiáceos en la ciudad de Madrid: Factores sanitarios y sociodemográficos asociados*

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### Abstract

The use of opiate analgesics has led to a health and social emergency in the United States. In Spain, according to official data, the prescription of these drugs has risen dramatically in the last decade. This study explores the prevalence of the use of these drugs and the health and socio-demographic characteristics of their consumers in the city of Madrid. A telephone survey was carried on a stratified, randomised sample, asking about the use of these drugs and whether or not they were medically prescribed. The sample consisted of n=8,845 subjects aged between 15 and 98 years. Sixteen percent stated that they had used these drugs in the last year and 9.1% had taken them in the last two weeks. Consumption was more frequent among women, lower social class and lower level of education. Among the youngest group (15-29 years old) 12.5% had already used it. Those who use opioids report worse perceived health, lower quality of life, more mental health problems, more loneliness, more use of other psychoactive drugs, more frequent daily use of tobacco and less problematic consumption of alcohol. Ten percent of those who use them do so without a doctor's prescription. Combining these data with the prescription data offered by the Ministry of Health, it is necessary to pay attention to a problem that may become apparent in the coming years, and the adoption of urgent measures to tackle it before it brings the Spanish situation closer to that already well known in countries of our socio-political environment is advised.

**Keywords:** Opioids; addiction; health survey; mental health; psychopharmaceuticals.

### Resumen

El consumo de analgésicos opiáceos ha provocado una situación de emergencia sanitaria y social en Estados Unidos. En España, según datos oficiales, la prescripción de estos fármacos ha experimentado un espectacular ascenso en la última década. Este estudio explora la prevalencia del uso de estos fármacos y las características sanitarias y socio-demográficas de sus consumidores en la ciudad de Madrid. Se realizó una encuesta telefónica aplicando un muestreo estratificado y aleatorizado, en la que se preguntó por el uso de estos fármacos y si fueron médicamente prescritos o no. La muestra estuvo compuesta por n=8,845 sujetos de edades entre 15 y 98 años. Un 16,0% declara haber usado estos fármacos en el último año y un 9,1 los toma en las dos últimas semanas. El consumo es más frecuente en mujeres, clase social baja y menor nivel de estudios. El grupo más joven (15-29 años) ya lo usa en el 12,5%. Quienes usan opioides refieren peor salud percibida, menor calidad de vida, más problemas de salud mental, más soledad no deseada, más uso de otros psicofármacos, más frecuente uso diario de tabaco y menos consumo problemático de alcohol. Un 10% de quienes los usan lo hacen sin prescripción médica. Combinando estos datos con los de prescripción ofrecidos por el Ministerio de Sanidad, resulta necesario prestar atención a un problema que puede hacerse patente en los próximos años, aconsejando la adopción de medidas urgentes para atajarlo antes de que aproxime la situación española a la ya bien conocida en otros países.

**Palabras clave:** Opiáceos; adicción; encuesta de salud; salud mental; psicofármacos.

*Received: April 2019; Accepted: June 2019.*

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## Introduction

Opiates, both prescribed and illegally obtained, have become a major health issue in recent years. The terms opiates and opioids are often used indistinctly, but while the former are natural derivatives, opioids are synthetic. Both are usually used for pain-related problems, although some, such as methadone, are also used to treat people with addiction.

Pain is defined as an unpleasant sensory or emotional experience resulting from actual or potential tissue damage. It is a major health problem and one of the main causes of medical consultation. Chronic pain is defined as pain that lasts longer than three months or longer than expected after the injury or underlying illness has healed or been cured (Merskey, 1986). The treatment of chronic pain includes both pharmacological and non-pharmacological approaches. Among the former are non-opioid analgesics, opioids and adjuvants (used to prevent or treat the side effects of opioids or enhance analgesia). Opioid drugs constitute a group of drugs characterized by having selective affinity for central and peripheral opioid receptors, inhibiting the transmission of nociceptive input and the perception of pain (Rosenquist, 2019). They are widely used for treatment of severe acute pain and moderate to severe chronic pain that does not respond to other treatments (Dowell, Haegerich & Chou, 2016).

The use of this type of drug entails a series of risks. A recent study (Gaspari et al., 2014) has revealed that the use of opioid substances impairs the activity of a specific protein necessary for the normal functioning of the reward centre of the brain. Since the reward centre of the brain has such a strong impact on analgesic responses, the authors argue that non-opioid medications would be more appropriate for the treatment of severe chronic pain. In addition, opioids lead to neuroadaptations which decrease the drug's analgesic action in the medium and long term, producing opposite effects, i.e., an increase in existing pain (opioid-induced hyperalgesia) and the facilitation of chronic pain development (Lavand'homme & Steyaert, 2017). Other studies list complications arising from opioid use for chronic non-cancer pain which should be taken into account (Els et al., 2017). For these reasons and because of the limited usefulness of opioids in the treatment of chronic pain, much less moderate or mild pain, their use beyond a hospital context is currently not recommended. (Ashburn & Fleisher, 2018).

The indiscriminate use of these drugs has generated a significant health problem in developed countries, for example the so-called opiate epidemic in the United States (USA) with more than 250,000 fatalities (Guardia Serecigni, 2018; Marshall, Bland, Hulla & Gatchel, 2019; Skolnick, 2018). This epidemic and all its consequences cannot be explained merely by the pharmacological properties of the substances involved, but are the result of very different

psychosocial, cultural and economic circumstances which have not always been considered (Kolodny et al., 2015). For example, recent studies have found a positive correlation between pharmaceutical industry spending on the promotion of these opioid analgesics and the number of deaths in different areas of the country (Hadland, Cerdá, Li, Krieger & Marshall, 2018; Hadland, Rivera-Aguirre, Marshall & Cerdá, 2019).

Before 1997, morphine was practically the only third step opioid prescribed in Spain (94% of the total), but since the appearance of fentanyl in the Spanish pharmacopoeia, this drug has a spectacular rise in use. From 1997 to 2001, the prescription of opiates doubled in Madrid (Alonso Babarro, Varela Cerdeira & Aparicio Jabalquinto, 2003), and then tripled between 2004 and 2011 (Ruiz-López & Alonso-Babarro, 2019). In the last few years, the most prescribed opioid active ingredients in Spain for out-patient treatment of pain have been tramadol (62.2% of opioids), fentanyl (17.5%) and buprenorphine (6.9%), according to data obtained from prescription records of dispensed drugs kept by the Spanish Agency for Medicines and Health Products (Agencia Española del Medicamento & Productos Sanitarios, AEMPS, 2017). The recent AEMPS report (2019) verifies the constant growth of the use of this type of drug, with prescribed daily human doses (DHD) up 179% in 2017 from 2010 (Figure 1). As for fentanyl in particular, the increase since 2008 has been of 185%. The increase in the prescription and use of this drug has been exponential, so that, according to data from the Pain & Policy Studies Group of the University of Wisconsin, Spain rose from 15<sup>th</sup> in the fentanyl use rankings by volume in 2000 to 5<sup>th</sup> place in 2014 (Calabozo Freile, 2017).

Tramadol is a special case because it is currently prescribed as a drug of first choice for mild pain and can even be obtained without a prescription, since it is considered a "weak opioid"; however, this drug is linked to premature death, either due to its addictive capacity or its interactions with other drugs (Randall & Crane, 2014). Figure 2 shows how, according to AEMPS data (2019), the prescription of tramadol, in any of its presentations, tripled between 2010 and 2017.

For the first time, the most recent EDADES study by the Spanish National Plan on Drugs (DGPNSD, 2018) includes questions which explore this issue across the whole of the Spanish population. Although the situation in Spain is not nearly as serious as that reflected in the US figures, the increase in prescriptions as well as in the number of cases of addiction in recent years has led several scientific organizations to develop guidelines for the proper use of opioid analgesics (Socidrogalcohol, 2017), similar to those already written in other countries (Busse et al., 2017; Dowell et al., 2016).

All the available data on this topic have been obtained on the basis of the medicines prescribed, without the pos-

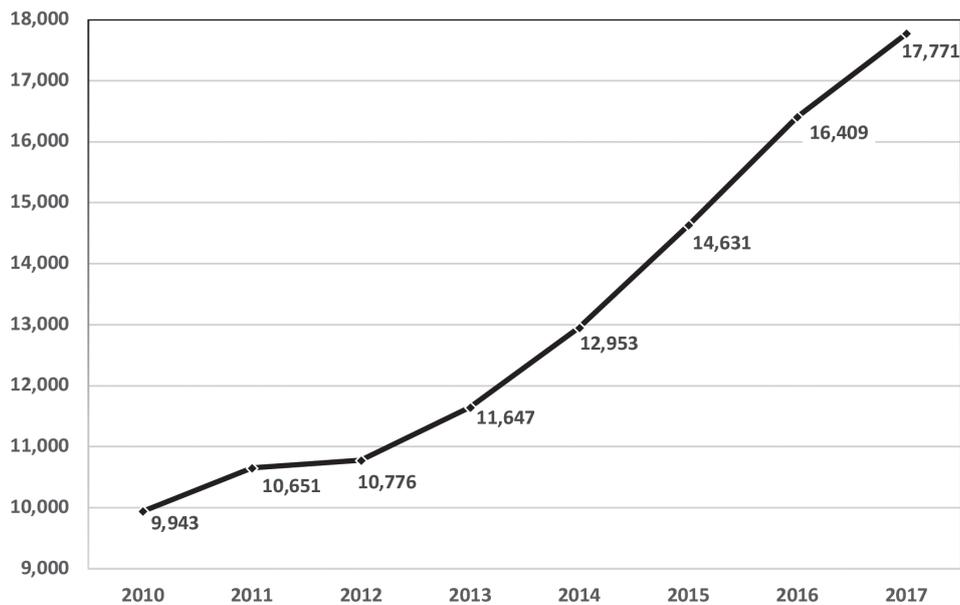


Figure 1. Daily human doses (DHD) of medically prescribed opioid medicines in Spain. SOURCE: AEMPS, 2019.

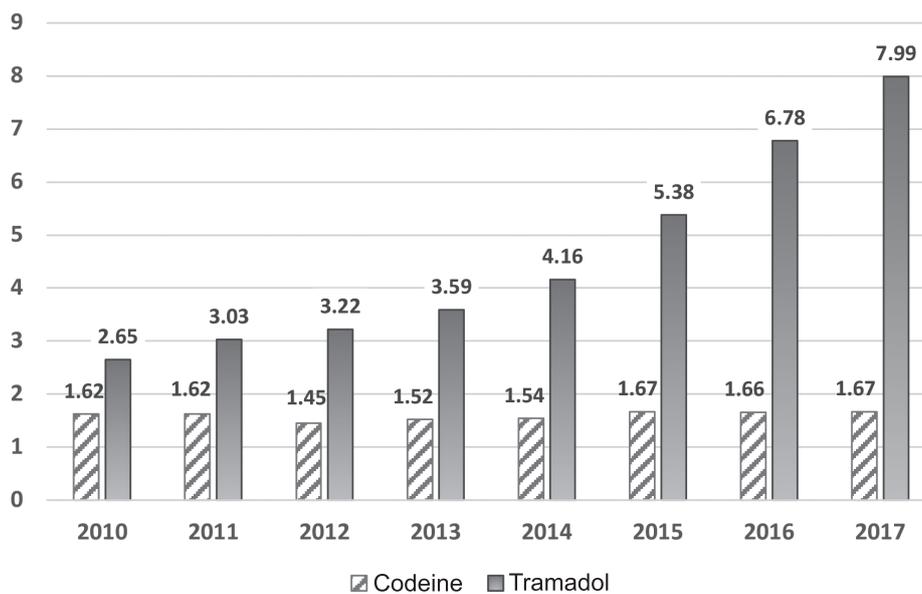


Figure 2. Daily human doses (DHD) of codeine (with ibuprofen or paracetamol) and tramadol (with paracetamol and, en the last year, dexketoprofen) prescribed in Spain. SOURCE: Modified AEMPS, 2019.

sibility of including non-prescribed use sourced from the grey or directly from the black market (nor the possible acquisition of drugs over the Internet). None of the reports explores the individual use of these drugs, the reasons for their use or the characteristics of those who use them. The present study seeks to reveal current levels of use of this type of medication in the population of the city of Madrid and its association with sociodemographic variables and health indicators, as well as to discover how they are ob-

tained and used, by medical prescription or self-administration.

## Material and Method

### Sample and procedure

The survey population comprised people living in the city of Madrid aged 15 and above. A representative sample of the whole city and its districts was estimated using

the municipal census of 2017, with a sampling error of less than 1% for a 95% confidence level in estimates corresponding to equiprobable categories ( $p=q=0.5$ ) and in the case of simple random sampling. We designed a stratified random sample, using the 21 city districts as the stratification criteria, with  $n = 400$  at least for each district, and, as a second step, post-stratification by sex and age group with minimum sizes set in advance. In this way, sampling error of less than 5% in districts was ensured under the same conditions as those defined. Of the 9,676 telephone interviews carried out, 8,845 could be completed and considered valid (see descriptions in Table 1). Interviewees for each stratum were selected at random in households by calling landlines and mobile phones. The sample was obtained in two stages: In the first, homes were accessed by telephone call to randomly chosen numbers on a database of landlines classified by city district, and in the second, the interviewee was selected from members of the household until age and sex quotas were completed (poststratification), with a single interview per household. Fifty per cent of the calls were made to mobile phones following the same procedure, although in this case the location of the home of the person answering the call was not known previously. In the final recruitment approximately 70% of participants were called by landline. The telephone interview was conducted by trained interviewers aided by computer and the CATI technique (*Computer Assisted Telephone Interviewing*<sup>7</sup>) using a structured questionnaire. This field work was carried out between October and December 2017.

Table 1. *Sample descriptives.*

	Men	Women	Total
n	4,055	4,790	8,845
<b>Age (%)</b>			
15 - 29	18.7	16.3	17.4
30 - 44	28.6	25.6	26.9
45 - 64	32.4	31.5	31.9
> 64	20.3	26.7	23.8
<b>Primary education</b>			
Or less	7.9	13.2	10.8
Secondary	48.3	46.6	47.3
University	43.9	40.2	41.9
<b>Social class</b>			
Advantaged	42.2	37.1	39.4
Middle	23.3	25.3	24.4
Disadvantaged	34.5	37.6	36.2

The relative level of development of each district was obtained by calculating the Combined Index of Health, Education and Income (ICSCR; Díaz Olalla & Benítez Robredo, 2015; pp. 200-201), a composite index involving three indicators: (1) Health: Life expectancy at birth (this study used values for 2016); (2) Education: The proportion of

the population aged 30-64 with higher than secondary educational level (2017 data), and (3) Income: Gross disposable income per capita (data available: 2014). After obtaining the index, a cluster analysis was carried out which grouped the districts into four categories, labelled high development, medium-high development, medium-low development and low development.

For social class characterization, respondents were classified into their occupational class, following the recommendations of the Spanish Society of Epidemiology for health research (Domingo-Salvany et al., 2013). Respondents were assigned the social class of the household in which they were included, which is not necessarily that of the person answering the questionnaire, but rather of the main provider of the household.

The survey included the question: *"I am going to read a list of types of medications, please tell me if you have used them."* Medicines included *"strong pain medications"*, listing the most used as examples: *"Tramadol, adolonta, dolantina, pazital, codeine, morphine patches, etc."* Respondents were asked specifically: (a) if they had taken the drug in the last 2 weeks, in the last year except in the last two weeks, or if they had not taken it in the last year; (b) if it had always been by medical prescription or sometimes without prescription. Similar questions were asked for antidepressant and anxiolytic/sleep-inducing drugs.

The COOP/WONCA is an instrument for estimating health-related quality of life (HRQoL). The adapted Spanish version by Lizán and Reig (1999) was used. Items explore aspects related to this variable through charts in which the five response options are visualized by drawings, with the respondent marking the one that best defines how he/she feels. Although versions with 6, 7 and 9 items have been used, for the present study we opted for the broader 9-item version. However, being a telephone interview, the visual prompts in the charts could not be used and were replaced by verbal stimuli, with previous studies guaranteeing that this administration method provided good results (Pedrero-Pérez & Díaz-Olalla, 2016). Scores were generated on a five-point Likert scale, with higher scores corresponding to worse quality of life.

The 12-item version of the General Health Questionnaire (GHQ-12; Goldberg & Williams, 1998, Spanish version by Rocha, Pérez, Rodríguez-Sanz, Borrell & Obiols, 2011) is a self-administered screening instrument aiming to detect indicators of psychological distress and possible cases of psychopathological disorder in contexts such as primary care or in the general population. Item responses are given on a four-option Likert scale, which can be scored in several ways. The present study used the GHQ Likert 0-3 scoring option, where the highest scores correspond to worse health indicators, and the total test score ranges from 0 to 36 points.

A list of diseases and other health problems was provided, with participants asked to specify whether they had

been diagnosed with any of them one-by-one. The following questions were asked: “*In the last twelve months, would you say that your health has been very good, good, regular, bad, very bad?*” And “*How often have you felt lonely during the last year?*”. Respondents were asked whether they smoked daily. The level of daily physical activity was estimated by calculating the metabolic rate (METs) using formulas by Ainsworth et al. (2000). Demographic variables were also obtained (sex, age, level of education and social class).

### Analysis of data

For the comparison of categories, the chi-square test was used ( $\chi^2$ ), with the sub-index stating the degrees of freedom for each comparison. To estimate effect size, Cramer's V was used. For the comparison of continuous variables, the analysis of univariate or multivariate covariance and omega squared ( $\omega^2$ ) was used as an estimator of the effect size of the differences. For these analyses, SPSS 17 was used, and  $\omega^2$  was manually calculated from the ANOVA table.

## Results

Table 2 summarizes the values of the variables under study.

Of those interviewed, 16.0% (CI95% 15.0-17.0) reported having taken opioid analgesics at some point in the previous year, of which 9.1% (CI95% 8.3-9.9) had done so within the previous two weeks. The proportion of women taking opioid medication was significantly higher than that of men (19.0% vs. 12.4%;  $\chi^2_1 = 72.5$ ;  $p < 0.001$ ;  $V = 0.09$ ), which is repeated in the case of use in the previous two weeks (11.9% vs. 5.8%;  $\chi^2_1 = 98.6$ ;  $p < 0.001$ ;  $V = 0.11$ ). Figure 3 shows the frequencies of opioid use over the previous year by sex and age group.

Opioid use among those with primary education or lower was more frequent (24.1%; CI95% 20.5-27.7) than in those with secondary education (17.6%; CI95% 16.1-19.1) or university studies (12.1%; CI95% 10.7-13.5), and differences were significant ( $\chi^2_2 = 95.7$ ;  $p < 0.001$ ;  $V = 0.10$ ). It was also more frequent in individuals from disadvantaged social classes (20.0%; CI95% 18.2-21.8) than from middle (15.0%; CI95% 13.0-17.0) or advantaged classes (13.0%; CI95% 11.4-14.6), again with significant differences ( $\chi^2_2 = 61.3$ ;  $p < 0.001$ ;  $V = 0.08$ ).

When asked about the perception of health status, 43.4% of those who took opioid drugs answered that it was good or very good compared to 77.9% of those who did not, which represents a significant difference and with a considerable effect size ( $\chi^2_1 = 848.1$ ;  $p < 0.001$ ;  $V = 0.31$ ). When asked about loneliness, 15.5% of those taking these drugs said they always or almost always felt lonely, compared to 9.8% of those who do not take them; again, the difference was significant ( $\chi^2_1 = 23.0$ ;  $p < 0.001$ ;  $V = 0.05$ ).

When considering only those taking opioids at the time of the survey, the percentage of women is double that of men in all age groups, as can be seen in Figure 4. Those who took opioid analgesics in the two previous weeks reported more mental health problems on the GHQ-12 ( $M = 12.5$ ;  $SD = 6.3$ ) than those who did not ( $M = 9.5$ ;  $SD = 4.5$ ), representing a significant difference ( $F_1 = 302.9$ ;  $p < 0.001$ ;  $\omega^2 = 0.03$ ). They also reported worse health-related quality of life (WONCA:  $M = 25.9$ ;  $SD = 5.9$  vs.  $M = 19.6$ ;  $SD = 4.7$ ;  $F_1 = 1305.2$ ;  $p < 0.001$ ;  $\omega^2 = 0.12$ ).

Table 2. Summary of study variables.

	Have used opioids		Have not used opioids
	El in the last year, but not in the last 2 weeks	In the last 2 weeks	
<b>Sex</b>			
Men	7.0%	5.8%	87.2%
Women	8.1%	11.9%	80.0%
<b>Age</b>			
Mean	47.6	53.4	49.1
SD	16.4	17.9	17.9
<b>Level of education</b>			
Primary or lower	11.2%	20.0%	9.7%
Secondary	50.0%	53.7%	46.4%
University	38.8%	26.4%	43.8%
<b>Social class</b>			
Advantaged	40.0%	26.0%	40.9%
Middle	23.6%	22.4%	24.7%
Disadvantaged	36.5%	51.7%	34.5%
<b>Perception of health</b>			
Good or Very good	55.8%	34.1%	77.9%
Normal/Bad/Very bad	44.2%	65.9%	22.1%
<b>Quality of life (WONCA)</b>			
Mean	2.84	3.35	2.42
SD	0.87	0.73	0.80
<b>Mental health (GHQ-12)</b>			
Mean	11.40	12.50	9.37
SD	5.93	6.29	4.34
Risk of poor mental health	33.2%	40.2%	17.9%
<b>Loneliness</b>			
Always or often	15.5%	21.0%	8.7%
<b>Level of activity</b>			
High	43.0%	40.2%	43.5%
Moderate	46.1%	43.4%	44.4%
Low	10.9%	16.5%	12.1%
<b>Body mass index</b>			
Underweight	2.9%	1.8%	2.6%
Normal weight	47.5%	40.5%	52.1%
Overweight	35.3%	35.5%	34.6%
Obese	14.4%	22.2%	10.8%

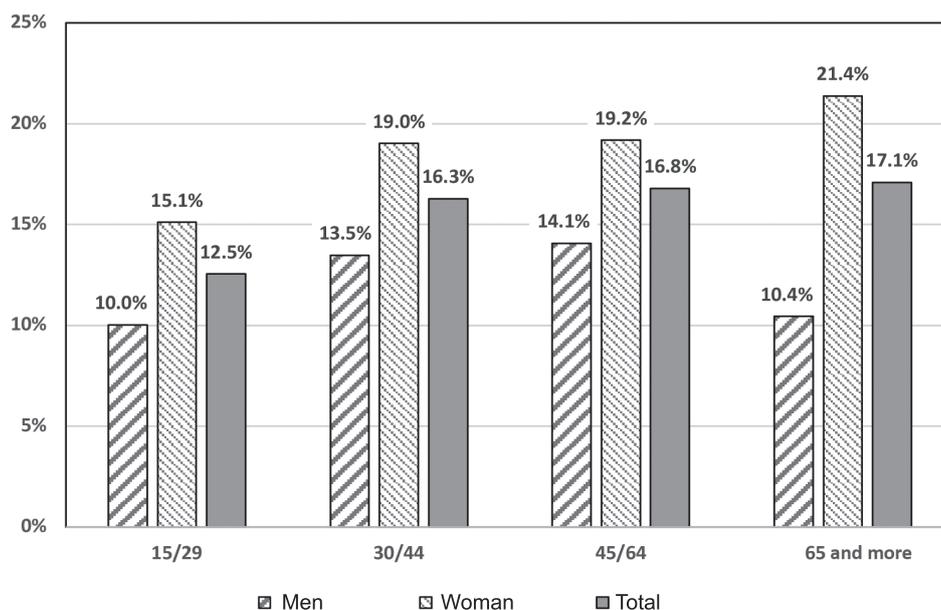


Figure 3. Frequency of use of opioids in the last year by sex and age group.

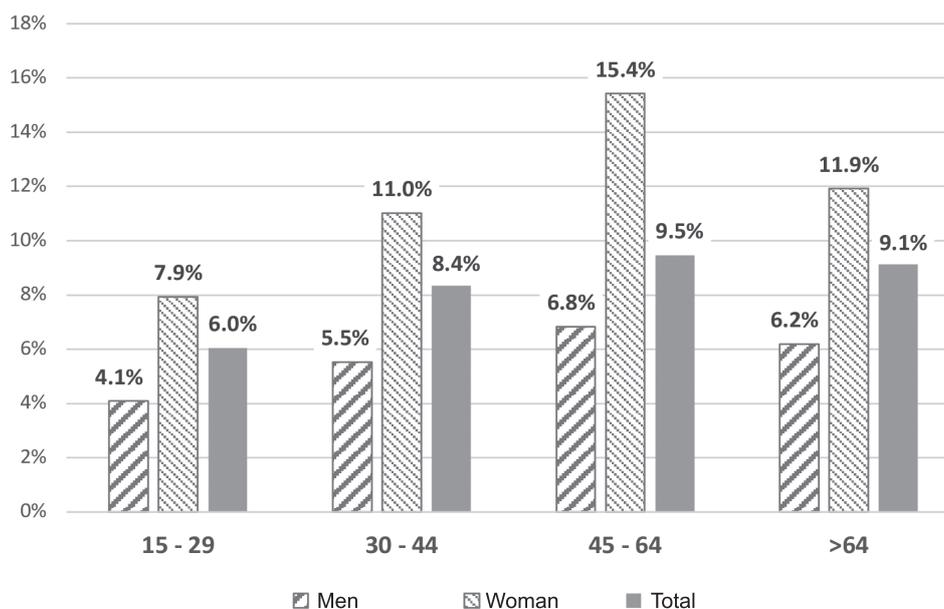


Figure 4. Consumption of opioid analgesics in the last two weeks by sex and age group.

Of those taking opioid analgesics, 14.1% also took antidepressants, compared to 4.9% of those who did not take them ( $\chi^2 = 115.3$ ;  $p < 0.001$ ;  $V = 0.11$ ) and were also taking more anxiolytics (30.4% vs. 10.1%;  $\chi^2 = 284.8$ ;  $p < 0.001$ ;  $V = 0.18$ ). Table 3 shows the diagnoses of those taking opioid analgesics in the previous two weeks.

The most frequent diagnoses among the youngest users of opioid drugs (15-29-year olds) were: Headaches or migraine (42.7%), chronic allergy (30.1%), lower back pain (19.8%), asthma (18.5%), neck or back pain (13.9%), hypo/hyperthyroidism (11.8%), depression (8.7%), hypercholesterolemia (8.4%) and anxiety (5.1%).

Those using opioids at the time of the survey presented sedentary habits more frequently than those who did not (16.5% vs. 12.0%;  $\chi^2 = 10.9$ ;  $p < 0.001$ ;  $V = 0.04$ ), were more often obese (22.2% vs. 11.0%;  $\chi^2 = 92.4$ ;  $p < 0.01$ ;  $V = 0.10$ ), smoked daily more often (21.6% vs. 18.6%;  $\chi^2 = 9.6$ ;  $p < 0.05$ ;  $V = 0.03$ ) and presented problematic alcohol use less frequently (9.8% vs. 16.9%;  $\chi^2 = 27.1$ ;  $p < 0.001$ ;  $V = 0.06$ ).

Of those respondents using opioid analgesics, 9.9% did so without a prescription. The differences by sex between those taking non-prescribed drugs are not significant (men 11.0%, women 9.3%;  $\chi^2 = 0.99$ ;  $p = 0.35$ ). On the other hand, there are significant differences by age group: The

Table 3. Percentage of subjects diagnosed with health problems, and whether or not they have taken opioid analgesics to treat them in the last two weeks.

Diagnosis	Have not taken opioids	Have taken opioids	$\chi^2_1$	V
Hypertension	17.7%	29.7%	69.2*	0.08
Heart disease	3.8%	6.8%	17.7	0.04
Arthrosis	14.6%	40.5%	350.0*	0.19
Pain (neck or back)	13.2%	43.4%	495.8*	0.23
Pain (lumbar)	15.2%	51.7%	645.3*	0.27
Chronic allergy	21.6%	27.3%	13.7	0.03
Asthma	7.9%	12.1%	17.6	0.04
Bronchitis, COPD	2.7%	6.7%	37.8*	0.06
Diabetes	5.5%	11.0%	39.2*	0.06
Gastric ulcer	2.0%	6.2%	54.6*	0.07
Hypercholesterolemia	20.1%	30.5%	47.1*	0.07
Depression	6.5%	20.4%	197.4*	0.14
Anxiety	5.3%	15.7%	137.4*	0.12
Migraine	9.8%	30.5%	303.1*	0.18
Hypo/hyperthyroidism	8.3%	17.7%	78.8*	0.09

Note. \*  $p < 0,001$ .

youngest (aged 15-29) used non-prescription opioids in 17.6% of cases, while 13.9% of the 30-44-year olds did so, as did 8.6% of 45-64 year olds and 3.1% of those aged 65 or older ( $\chi^2 = 39.5$ ;  $p < 0.001$ ;  $V = 0.17$ ).

## Discussion

The data of the present study offer striking figures for the use of opioid analgesics in the general population. Between 15% and 17% had used these drugs in the previous year and about 9% were doing so at the time the survey was conducted. These prevalences exceed those found in Spain as a whole in the 2017 EDADES study (DGPNSD, 2018), which showed use standing at 6.7% in the previous year and at 2.9% in the previous month. It is very likely that, as has already happened in other countries, the use of this type of medicine occurs with greater likelihood in urban environments, at least initially, gradually spreading to nearby rural areas (Keyes, Cerdá, Brady, Havens & Galea, 2014). Furthermore, the EDADES findings coincide with those of the present study in the higher prevalence of women users and the increase in the prevalence of use with age.

It is difficult to conceive that almost 10% of the population of a large city like Madrid present pathologies which justify the use of these drugs. Were these pathologies to be present, it would be expected that medication to treat them would be more frequently used among the most advanced age groups. However, there are hardly any differences be-

tween the percentages of subjects taking them from the age of 30 until over 65. Even more surprising is the fact that around 12.5% of those aged over 15 but not yet turned 30 had taken them in the last year, and half of these were still taking them at the time of the survey. When reviewing the diagnoses of this age group we discovered that headaches or migraines topped the list, making up more than 40%. In the case of migraine, opioid analgesics are contraindicated (Casucci & Cevoli, 2013; Tepper, 2012), even more so for less severe pain (DeVries, Koch, Wall, Getchius, Chi & Rosenberg, 2014). Back pain at any level is unlikely to require medical treatment in all cases, and it is difficult to conceive why opioids should be prescribed when medication is needed (Fleming, Rabago, Mundt & Fleming, 2007; Sturgeon, 2014). Even more difficult to explain is the relationship between the use of these drugs and problems such as allergy, asthma or hypercholesterolemia, among others.

The link between the use of opioid analgesics and mental health problems is well documented (Richardson et al., 2012). Patients with mental health and substance abuse disorders are more likely to receive long-term opioid treatment for chronic pain and more likely to have adverse outcomes from this therapy, and there is little evidence of any long-term benefits of opioid treatment in people with psychopathological disorders (Edlund et al., 2010; Davis, Lin, Liu & Sites, 2017; Howe & Sullivan, 2014; Seal et al., 2012). Although it is difficult to establish causal direction, there are indications that the chronic use of prescription opioids can cause or at least aggravate various psychopathological disorders (Becker, Sullivan, Tetrault, Desai & Fiellin, 2008). The risk of developing depression grows with increasing length of exposure to opioid analgesics (Scherrer et al., 2014). In our sample, those taking opioid analgesics were diagnosed three times as often with anxiety and depression and simultaneously consumed three times more antidepressant and anxiolytic drugs. It is not possible to determine whether such diagnoses favour the prescription of opioid drugs or whether the acute or chronic use of these analgesics is the factor which increases the anxiety-depressive symptoms, but the link between opiates and mental health problems is beyond doubt.

The use of opioid drugs in the present study is more frequent among women, at a ratio of 2:1, and people with low educational level and from a disadvantaged social class. Differences by sex are commonly found in most studies, and the use of these drugs in women is systematically more frequent (Dale et al., 2015). Women report their pain experience more frequently than men, have higher rates of pain-related diagnoses, are more sensitive to pain and have a variable response to pain and analgesia (Koons, Greenberg, Cannon & Beauchamp, 2018).

Of those who report using these drugs, almost 10% often do so without a prescription, with this being more frequent among younger people. The present study does

not provide information regarding how non-prescribed opioid analgesics are obtained. This may largely be due to the domestic availability of this type of drug in the ‘medicine cabinet’ and that family members facilitate its use to the rest of the household, assessing the analgesic strength without awareness of risks. It is also possible that a black market for these medicines (which can be purchased without a prescription on the Internet, for example, <https://seasano.net/oxycodone>) is establishing itself, triggered by youth subcultures, such as that around *reggaeton* and *You-Tube*, some of whose figures have popularized songs about “perco” (slang name for Percocet, Oxycodone), which is already known to be used by teenagers in peripheral Madrid neighbourhoods and in specific treatment centre clinics. However, this phenomenon is so recent that we are operating in the field of mere speculation because, although stories abound in the news media, we still lack valid scientific approaches. It must be remembered from previous studies that it is the youngest who can switch more easily from use to abuse, thus multiplying the risk of overdose (Nechuta, Tyndall, Mukhopadhyay & McPheeters, 2018). The National Strategy on Addictions 2017-2024, formulated by the National Plan on Drugs (PNSD, 2018), has barely paid any attention to this potential risk, which may become a serious public health problem in the coming years.

The present study has some limitations. The data have been obtained from three simple questions, with a short list of opioid medications provided. It is likely that an individual identifying some of them will answer affirmatively, but the list does not include all possible commercial presentations containing these preparations. Therefore, it is possible that the frequency of use reported is lower than actual use. Neither does this survey include children under 15, who may be the population group most at risk of starting to use these drugs and becoming accustomed to their use, changing from initially regulated use to the black market, as we know has happened in other cultural contexts. However, the main strength of the study is its focus on a representative sample of an urban population, providing for the first time data to enable an initial quantification of the problem and to suggest more audacious hypotheses in future studies.

In conclusion, the present study finds that opioid drug use is highly prevalent in the population of Madrid, which is not easily justifiable on the basis of pathologies advising their prescription. In addition, a significant quantity is used irrespective of medical prescription. Although we cannot go so far as to draw a parallel with the so-called “opioid epidemic” in the United States, it can be considered that we may be on the threshold of similar problems. Official studies on the prescription of opioid analgesics have long warned of the sustained growth of medical prescription of this type of drug, and the present study finds that there are sectors of the population with special vulnerability (wom-

en, young people, the underprivileged and with low cultural level). As we already know from other countries, this problem and those that can arise are of a very complex nature, involving biochemical, psychological, commercial, cultural, political, legal factors, etc. In any case, this study complements the available official data and alerts experts, health authorities and professionals to take into consideration what could be the seeds of an enormously serious problem, which should in no way surprise us given the well-known models of other countries.

## Conflict of interests

The authors declare that they do not have any conflict of interests.

## Acknowledgments

The authors would like to thank each of the contributors to this study: Alejandro Blanco Quintana, Gema Blasco Novalbos, Nieves Botella Cañamares, Yolanda Quintana Moreno, José Manuel Díaz Olalla, M<sup>a</sup> Rosario Sanz Cuesta, Isabel Junco Torres, Carmen López Jiménez, and Mercedes Rodríguez Pérez, all from Madrid Salud.

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