Opioid use in patients presenting with pain in Zahedan, Islamic Republic of Iran

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استخدام الأدوية الأفيونية المفعول في المرضى المتألمين في زاهدان، إيران

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الخلاصة: لدراسة معدل انتشار استخدام الأدوية الأفيونية المفعول لمعالجة الألم والعوامل المصاحبة له، أجريت دراسة شملت 480 من المرضى المتعاقبين الذين كان الألم هو الشكوى الرئيسية لديهم، وذلك باستكمال استمارة أثناء المقابلة في عشر عيادات في زاهدان. واستُخدم كل من كي مربع واختبار t و التحوف اللوجستي لتحليل استخدام الأدوية الأفيونية المفعول بالمقارنة مع 18 من العوامل المرافقة المحتملة. لقد كان معدل انتشار استخدام الأدوية الأفيونية المفعول 28.5٪ من بين المرضى الذين كانت شكواهم الرئيسية هي الألم. ولم تكن هناك علاقة قوية بين استخدام الأدوية الأفيونية المفعول والألم المزمن (الذي يعود لفترة أطول من ستة أشهر)، ولكن كانت هناك علاقة مع العوامل الخمسة التالية: سوابق استخدام الأدوية الأفيونية المفعول مع الأصدقاء (72.9٪ بالمقارنة مع 20.4٪ بدون استخدامها مع الأصدقاء) والمهنة (58.5٪ لدى رجال أعمال مقابل 17.4٪ لدى سيدات منزل) تدخين السجائر (60.8٪ مدخنين مقابل 21.8٪ من غير المدخنين)، الاستشارة بسبب مشكلات نفسية (38.3٪ مقابل 23.3٪ بدون تلك الاستشارة)، وموت الزوج (60٪ مقابل 26.1٪ بدون موت الزوج).

ABSTRACT To study the prevalence and factors associated with opioid use in pain, 480 consecutive patients with a chief complaint of pain were interviewed at 10 clinics in Zahedan. The data were analysed in relation to 18 possible associated factors. The prevalence of opioid use was 28.5% in patients presenting with pain. There was no significant relation between opioid use and chronic pain (≥ 6 months), but there was a relationship with the following 5 factors: previous opioid use by friends (72.9% versus 20.4% without friends using), occupation (58.5% private sector employees/self-employed versus 17.4% housewives), cigarette smoking (60.8% versus 21.8% not smoking), consultation for a psychological problem (38.3% versus 23.3% without), and death of a spouse (60.0% versus 26.1% without).

L'utilisation des opioïdes chez les patients souffrant de douleurs à Zahedan (République islamique d'Iran)

RESUME Afin d'étudier la prevalence et les facteurs associés à l'utilisation d'opioïdes pour les douleurs, 480 patients consécutifs qui se plaignaient principalement de douleurs ont été interrogés dans dix centres de santé à Zahedan. Les données ont été analysées en relation avec 18 facteurs associés possibles. La prévalence de l'utilisation des opioïdes était de 28,5 % chez les patients souffrant de douleurs. Il n'y avait aucune relation significative entre l'utilisation des opioïdes et les douleurs chroniques (≥ 6 mois), mais il y avait une relation avec les cinq facteurs suivants : l'utilisation d'opioïdes précédemment par des amis (72,9 % contre 20,4 % sans utilisation par des amis), la profession (58,5 % employés du secteur privé/ travailleurs indépendants contre 17,4 % femmes au foyer), le tabagisme (60,8 % contre 21,8 % non-fumeurs), la consultation pour un problème psychologique (38,3 % contre 23,3 %), et le décès du conjoint (60,0 % contre 26,1 %).

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Introduction

Opium is one of many drugs that decrease pain [*1*]. Little is know about whether chronic pain leads to opioid misuse; studies have shown that from 3% to 23% of patients with chronic pain are addicted to opioids [*2,3*]. Some believe chronic pain leads to opioid use, more hospitalization, reduced physical efficiency and more psychiatric symptoms [*4*]. Others argue that it is the biopsychosocial nature of humans, rather than the pain itself, that predisposes certain individuals to opioid use [*5*].

Between 9% and 27% of white male opioid addicts reported that their addiction started with a prescription from a doctor for an opioid analgesic to treat a painful condition [*2,3*]. In a similar recent study of 58 patients, the authors warn physicians that severe oral opioid dependency occurs more frequently than previously recognized [*6*]. In a national study of opium addicts in the Islamic Republic of Iran, pain was mentioned by 17.5% as a trigger to opioid use [*7*].

There are multiple factors that have been documented as associated with opioid use, including demographic characteristics, personality, genetics and environment. Some of these include: younger age, being divorced/widowed/separated, having a family member who uses drugs, encouragement to use by friends or others [*8–10*], failure in education, severe economic deprivation, social isolation (separation from family) [*10*], illiterate or poorly literate father or mother [*9,11*], unemployment [*11,12*], cheap price of opioids [*13*], not knowing the harmful effects of opioids or believing they are useful [*9,10,12*], cigarette smoking [*8*], alcohol use [*11,14,15*], history of drug use [*16*], psychosocial problems such as depression [*9,10,17,18*], HIV positive, history of sexual abuse [*19*], past history of consultation in opioid clinic and/or treatment during 12 months before being in prison [*20*].

As far as we know, there has been no evaluation of the prevalence of opioid use in patients suffering from pain in the Islamic Republic of Iran. Our study was done in the south-east of the Islamic Republic of Iran, an area which is the main gateway of opium transit from Afghanistan and Pakistan to Europe and where opioids may be easily accessible. Sistan va Baluchestan province is also socioeconomically a very deprived province. We studied opioid use in patients with pain attending clinics in Zahedan, the main city of the province. The aims of the study were to ascertain: whether chronic pain causes opioid use; the prevalence of opioid use in patients presenting with pain; and the predisposing factors for opioid misuse (i.e. why one patient consumes opioids and another does not).

Methods

A cross-sectional study was conducted on 480 consecutive patients who presented with pain at the study clinics in Zahedan. There is no pain clinic in Zahedan, so patients with pain are referred to various clinics within the city. The 10 clinics selected were those where specialists agreed to participate in the study: 3 neurosurgery, 3 psychiatry, 1 preoperative anaesthesia, 1 physiotherapy, 1 emergency and 1 neurology clinic. Around one-third of consecutive patients attended the neurosurgery clinic, one-third the psychiatry clinic and one-third the other clinics. The study was conducted over 2 months in March and April 2001. The inclusion criteria were all patients aged over 16 years old with a chief complaint of pain.

A questionnaire was devised to collect data on sociodemographic variables, characteristics of pain and opioid use (types of opioids taken, amounts taken and routes of administration). In our study, chronic pain was defined as frequent or constant pain for a duration of 6 months or more. Acute pain was defined as pain frequently (always/often) for 1 month or less. Opioid use was defined as occasional or regular use of opium, opium residue (*shireh*), heroin, morphine or codeine in the previous year. The questions covered 18 factors that have been associated with opioid use: age, male sex, unemployment, illiteracy, urban residency, divorce, death of spouse, location of pain, duration of pain, frequency of pain, opioid use recommended by friends or physician, cigarette smoking, alcohol drinking, history of opioid use in family, history of opioid use in friends, decreased economic situation, death of friend or family member and poor psychological health. Our practical definition of poor psychological health was the patient's report of opioid use for relief of psychological stress, history of consultation for a psychological problem or history of psychological treatment. The questionnaire was prepared at the pain clinic of the Medical University of Iran following a literature review and was modified in Zahedan University of Medical Sciences. Four other psychiatrists reviewed the questionnaire for face and content validity.

The specialists at the clinics delivered the questionnaire to patients by interview to minimize bias between literate or illiterate patients. The specialist and assistant in each clinic were trained in how to deliver the questionnaire.

Comparisons of patients with and without opioid use and associated factors were made with chi-squared, Student *t*-test and logistic regression analysis. *SPSS*, version 6 was used for the statistical calculations.

Results

Of the 480 patients with pain, 57.5% were female. The mean age of pain patients was 36.0 ± SD 13.9 years. A total of 81.0% were married and 6.0% had experienced the death of a spouse. Only 7.0% of patients were unemployed; 77.0% of female pain patients were housekeepers. There were 46.7% illiterate patients (62.0% of the women and 25.1% of the men) and 32.1% had attended only guidance school.

The pain was said to be located in the head, lower back or the whole body by 75.6% of patients. The duration of pain was chronic (≥ 6 months) in 64.4% of patients. The frequency of pain was described as 'always' or 'often' by 71.5%.

The overall prevalence of opioid use was 28.5% (137/480) in patients presenting with pain. Opium and opium residue (*shireh*) was used by 65.9% and 15.9% of users respectively. Most users (92.7%) had consumed for more than 2 months duration. Consumption was 1 or more times per day for 70.1% of users. The most common method of consumption was inhalation, used in 59.1% of cases. There were 5 patients using cannabis (*hashish*).

Opioid users claimed pain as an origin of their opioid use in 79.6% of cases. Although opioid use was more prevalent in chronic pain than acute pain (26.3% versus 15.9%), the result was not statistically significant ($P > 0.05$). On the other hand, statistical analysis did not show that pain preceded opioid use ($P = 0.074$).

In the first stage of analysis, 11 of the 18 factors included were associated with opioid use: age, sex, occupation, education, death of spouse, consultation for a psychological problem, cigarette smoking, alcohol, opioid use in the family, opioid use in friends, and worsened economic situation. The number of alcohol drinkers was low.

In the second step, a logistic regression test was performed to eliminate confounding factors, leaving 5 factors that remained significant (Table 1): previous opioid use by friends, type of occupation, cigarette smoking, neuropsychiatric consultation and death of spouse. Among those whose friends were opioid users, 72.9% were users compared with 20.4% without friends using. People working in the private sector or self-employed were the highest opioid users (58.5%) and housewives the lowest (17.4%); unemployed people were 29.4%. Among cigarette smokers, 60.8% were opioid users compared with 21.8% among non-smokers. Among patients needing neuropsychiatric consultation, opioid use was 38.3% compared with 23.3% among those who did not. Opioid use in those who had experienced the death of a spouse was 60.0% compared with 26.1% for those who had not.

Table 1 **Factors associated with opioid use among 480 patients presenting with pain**

Variable	Total	Opioid users		Non-users		*P* value
	No.	No.	%	No.	%	
Opioid use in friends						< 0.001
Yes	70	51	72.9	19	27.1	
No	333	68	20.4	265	79.6	
Total	403	119	29.5	284	70.5	
Occupation						0.023
Manual/semiskilled worker/farmer	56	18	32.1	38	67.9	
Government employee	79	23	29.1	56	70.9	
Private sector employee/ self-employed	65	38	58.5	27	41.5	
Housewife	213	37	17.4	176	82.6	
Unemployed	34	10	29.4	24	70.6	
Total	447	126	28.2	321	71.8	
Cigarette smoking						0.005
Yes	102	62	60.8	40	39.2	
No	312	68	21.8	244	78.2	
Total	414	130	31.4	284	68.6	
Neuropsychiatric consultation						0.013
Yes	175	67	38.3	108	61.7	
No	292	68	23.3	224	76.7	
Total	467	135	28.9	332	71.1	
Death of spouse						0.034
Yes	30	18	60.0	12	40.0	
No	426	111	26.1	315	73.9	
Total	456	129	28.3	327	71.7	

Discussion

Opioid use was 28.5% among patients presenting with pain to clinics in this city in the Islamic Republic of Iran. Availability of drugs is a potent predisposing factor to opioid use [*21*]. The nearby countries of Afghanistan and Pakistan are 2 of the major production areas in the world, named the 'golden crescent'. When opioids are more readily available, the stigma in society is reduced and if they are cheap, the vicious cycle of dependency and crime is less [*2*].

Our study found no significant association between opioid use and chronic duration of pain. Millions of patients worldwide are regularly exposed to opioid analgesics for the treatment of pain. The documented incidence of iatrogenic addiction from the treatment of acute pain or cancer pain is extremely low [*22*]. A prospective study in a community family practice clinic comparing a group of patients with chronic severe low back pain with a control group attending for other reasons found no significant difference in the prevalence of substance use disorder between these 2 groups [*23*]. Patients with chronic pain are simply representative of the general population rather than having a higher prevalence rate of substance use disorder [*5*]. Current use of opioids in the Islamic Republic of Iran has been reported to be 5.85% in males and females ≥ 15 years [*24*]. The study of opioid addiction in Vietnam War veterans showed that the overall prevalence of opioid addiction in the study group had dropped to that of the general United States population after veterans had been back home for 3 years [*25*]. It seems that opioid use for the treatment of pain is no different from opioid misuse in the stressful environment of war.

In a previous study, 81% of codeine-dependent patients said that their codeine use started with a chronic pain problem [*14*]. In our study, a similar proportion of opioid users (79.7%) told us the same. However, we found no statistically significant relationship between the presence of chronic pain and opioid use in pain patients.

The identification of an addictive disorder in a patient with chronic pain does not necessarily preclude the use of opioids as a component of pain management, unless maladaptive patterns of behaviour develop which define addiction. These are adverse consequences such as persistent oversedation, loss of control over use and preoccupation with using opioids despite adequate analgesia [*26*]. Diagnosing addiction and drug-seeking behaviour is important in chronic pain patients [*27*].

It should be emphasized that pain is not the main culprit in opioid misuse; biopsychosocial risk factors are especially important for addiction disorder. The Screening Instrument for Substance Abuse Potential (SISAP) [*28*] helps the clinician categorize patients into lower or higher risk of abusing prescribed opioids. Patients who are at higher risk for substance abuse include those whose exceed 3–4 alcoholic drinks per day, those who admit to marijuana or cannabis use in the past year and patients under 40 years old who smoke cigarettes [*15*].

We found 5 risk factors associated with opioid use in pain patients: previous opioid use by friends, occupation, cigarette smoking, neuropsychiatric consultation and death of a spouse. A cross-sectional non-concurrent cohort study among young males in south-west China using multivariate analysis identified the following significant risk factors for drug use: being divorced/widowed/separated, having been encouraged by friends/others to try drugs, smoking cigarettes, and having a family

member who used drugs [*8*]. In our study, smoking cigarettes and/or being widowed were also significantly associated with opioid use, but being divorced/separated, having been encouraged by friends/others to try drugs, and having a family member who used drugs were not significantly associated with opioid use. In a European multicentre study of drug injecting in prison, friends injecting opioid substances were identified as a risk factor [*20*]. The role of friends was the most important associated factor in our study. It seems friends have more influence than families in this particular situation.

There was a higher level of consultation for a psychological problem among opioid users than non-users in our study. Another study has shown a 23% depression rate and 21% anxiety disorder rate among codeine-dependent patients [*14*].

Predisposing factors for illicit drug use have been shown to be unemployment and poor education [*12*]. In our study, however, people working in business were the most likely to use opioids. Greater spending power for luxury goods and increased leisure time over recent decades have been linked to increased drug abuse in society [*21*].

In an analysis comparing addicts and non-addicts in the Islamic Republic of Iran, cigarette smoking and alcohol were associated with opioid use [*11*]. Opium is the most commonly misused substance in our country [*7,11*]. These agree with our study showing an association between cigarette smoking and opioid use particularly opium.

In other studies [*7,11*], there were more men than women using opioids, but in our study sex was excluded by the logistic regression analysis. Historical anecdotes suggest that more addicts were women 200 years ago [*29*], but it seems that nowadays men have more opportunities to misuse opioids [*30*].

There is a high prevalence of opioid use in patients who complain of pain in Zahedan. Opioid use in friends was the most important associated factor for opioid use in pain and further research into this would help parents, teachers, trainers and leaders of society to know how to deal with this. Clinicians with pain patients should be aware of the other factors associated with opioid use, such as cigarette smoking and asking for psychiatric support from neuroconsultants. More support for widows and widowers, who are a small but vulnerable group, may be needed. Pain provides a guilt-free reason for opioid use and more research is needed into opioid use in society generally, not just small groups such as students, and the biopsychosocial factors involved.

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