

# USE AND ABUSE OF NARCOTICS IN CANCER PATIENTS: A SURVEY OF PATIENTS TREATED IN TEHRAN CANCER INSTITUTE

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**Abstract-** Considering the importance of adequate analgesia for the quality of life of the patient with advanced cancer, and considering the consequences of opioids abuse, we decided to evaluate the proper and improper usage of narcotics in our cancer patients. Prescription of narcotics by the responsible physician and procurement through the legal channels was defined as “use”; otherwise it was defined as “abuse”. From a total number of 300 patients who were interviewed, 21 (7%) used narcotics prescribed by the responsible physician (use) and 30 (10%) used narcotics without the prescription or approval of the responsible physician (abuse). The male-to-female ratio, though similar in the “use” and “no narcotics” patients, was very much higher in the “abuse” group. Also income was significantly lower in the “abuse” patients. Disease extent was significantly higher in the “use” but not in the “abuse” group. In addition, the level of pain was very much higher in the “use” and “abuse” groups than the “no narcotics” patients. Both the extent of disease and level of pain were significantly higher in the “use” than the “abuse” group. In multifactorial analysis, pain had a very significant effect for “use” of narcotics and extent of disease was close to statistical significance. For “abuse” of narcotics, sex and pain had significant effects. Pain was the most significant factor leading to both use and abuse of narcotics, and a striking male predominance was seen in narcotic abusers. Nearly half of cancer patients with significant pain were not receiving opioids for adequate analgesia.

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## INTRODUCTION

Pain is one of the most common problems of cancer, and opioids are the most efficient class of drugs used for analgesia. But sometimes fear of opioids, addiction, and other cultural factors leads to the less than proper use of narcotics, and in contrast some other times the diagnosis of cancer and ignorance of

its potentially curable nature by modern treatments might lead to abuse of opioids in the patient. Drug abuse problems present a complex set of physical and psychosocial issues that complicate cancer treatment and pain/symptom management.

Managing pain effectively is one of the biggest challenges in medicine. Physicians should use every weapon in the medical arsenal to relieve the suffering caused by chronic pain (1). But a survey of narcotics use for chronic pain suggests that physicians are concerned about drug abuse, addiction, adverse effects, tolerance, and medication interaction (2). In addition, even when managed according to guidelines, approximately 14% of cancer patients have unrelieved pain or unacceptable side effects (3).

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Considering the importance of adequate analgesia for the quality of life of the patient with advanced cancer, and considering the consequences of opioids abuse, we decided to evaluate the use and abuse of narcotics in our cancer patients to determine the proportion of users and abusers and the affecting factors.

## MATERIALS AND METHODS

For a duration of two months, all adult patients (aged 18 years or older) under treatment in the Radiotherapy and Chemotherapy Clinics of Cancer Institute, Tehran University of Medical Sciences, were interviewed by two experienced oncology nurses.

Only patients who were actually under treatment were chosen for this purpose. A short and simple questionnaire was used for the interviews. Information about tumor site, pathology and extension was found from the patients' files, and questions specially regarding the use or abuse of narcotics were checked with families or caregivers. No identification detail or file number was recorded, and patients and/or their families were assured in this regard in advance.

Education level was recorded as 1) illiterate, 2) semi-literate or elementary education, 3) middle school or unfinished high school education, 4) high school or professional college graduation, and 5) university education. Income level was recorded by dividing the amount of family income by the number of family members using that income, as per capita income 1) less than or equal to 250,000 Rials, 2) between 250,000 and 500,000 Rials, and 3) equal to or more than 500,000 Rials. Extent of disease was recorded as 1) local, 2) locally advanced and/or recurrent, and 3) metastatic. Pain level was determined according to the description of the pain by patients and/or their caregivers and also its effect on patients' daily life, work and sleep, as 1) no pain, 2) mild pain, 3) moderate pain, and 4) severe pain. Prescription of narcotics by the responsible physician and procurement through the legal channels and health authorities was defined as "use", and otherwise it was defined as "abuse".

Epi Info 2000 software version 1.1.1 and SPSS statistical software version 11.5 were used for data entry and statistical analysis. Chi square and independent samples *t* test were used for comparison between the different patient groups, and binary logistic regression was used for evaluation of various affecting factors. Statistical significance was considered as  $P < 0.05$ .

This study was approved by the Research Affairs office of Vice Chancellor for Research, Tehran University of Medical Sciences (study No. 2450).

## RESULTS

A total number of 300 consecutive patients were interviewed in the Radiotherapy and Chemotherapy Clinics of Cancer Institute (Table 1). These included 153 (51%) males and 146 (49%) females aged 18-82 years, with a mean age of 50 years. Most of the patients (68%) were illiterate or semi-literate (education level 1 and 2), 27% had high-school education (education level 3 and 4) and 5% had university degrees (education level 5). Also most of the patients (83%) had only a low level of income by the definition mentioned in materials and methods, 10% had a moderate income, and 7% had an income level higher than the previous 2 groups. The mean absolute amount of income was 770,000 Rials, with a range of 0-6,000,000 Rials.

The disease extent was localized (extent 1) in 40%, locally advanced or recurrent (extent 2) in 31%, and metastatic (extent 3) in 29% of the patients. Mean duration of disease was 14 months (range 1-228 months). Also most of the patients (54%) did not have any pain (level 1), 28% had mild pain (level 2), 13% had moderate pain (level 3), and 5% had severe pain (level 4).

From the 300 interviewed patients, 21 (7%) used narcotics prescribed by the responsible physician (use) and 30 (10%) used narcotics without the prescription or approval of the responsible physician (abuse).

The characteristics of these groups of patients and their comparison with the patients who did not use narcotics (no narcotics) are presented in Table 1.

**Table 1.** Patients' characteristics according to the use or abuse of narcotics. Please refer to materials and methods for description of levels and extent

Patient groups/ Characteristics	Mean age (year)	Male: female ratio	Mean education level (1-5)	Mean income level (1-3)	Mean disease extent (1-3)	Mean pain level (1-4)
No narcotics (n = 249)	49	0.9	2.2	1.3	1.8	1.5
Narcotics use (n = 21)	51	1.1	2.1	1.2	2.8*	3.3*
Narcotics abuse (n = 30)	53	9*	1.9	1*	2	2.4*
All patients (n = 300)	50	1	2.1	1.2	1.9	1.7

\*Statistically significant compared to the no narcotics group ( $P < 0.05$ ).

The age of the patients in “use” and “abuse” groups did not differ significantly compared to the others. But the male-to-female ratio, though similar in the “use” and “no narcotics” groups, was very much higher in the “abuse” group (Table 1). There were 27 males and only 3 females in this group, which shows a male-to-female ratio of 9; compared to the patients who did not use narcotics, this was statistically very significant ( $P < 0.00001$ ).

Mean level of education on the 1-5 scale was generally lower in the “abuse” group, though this was not statistically significant. In this group 80% were illiterate or semi-literate (education level 1 and 2), and there was no university education. But both the mean absolute amount of income (575,000 versus 793,000 Rials) and the income level on 1-3 scale were significantly lower in the “abuse” group compared to the patients who did not use narcotics ( $P < 0.05$ ). This was not true in the “use” group (Table 1). In the “abuse” group 96% of the patients (versus 82% in “no narcotics”) had a low level of income.

Disease extent was significantly higher in the “use” group ( $P < 0.001$ ), but not in the “abuse” group. Of the “use” patients 85% had metastatic disease, versus 22% in the “no narcotics” and 43% in the “abuse” groups. Also the level of pain was very much higher in the “use” and “abuse” groups than the “no narcotics” group ( $P < 0.001$ ). Of the “use” patients, 90% had moderate or severe pain (level 3 and 4), versus 48% in the “abuse” and 8% in “no narcotics” groups. Both the extent of disease ( $P < 0.01$ ) and level of pain ( $P < 0.001$ ) were significantly higher in the “use” than the “abuse” group (Table 1).

Of the 15 patients who had severe (level 4) pain, only 8 had been prescribed narcotics by the responsible physician, and 3 used narcotics by their

own decision. Four of these patients did not use narcotics at all.

The multifactorial effects of age, sex, levels of education, income and pain, and extent of disease on use or abuse of narcotics were evaluated by binary logistic regression. For “use” of narcotics, pain had a very significant effect ( $P = 0.0001$ ), and extent of disease was close to statistical significance ( $P = 0.06$ ). For “abuse” of narcotics, sex ( $P < 0.01$ ) and pain ( $P = 0.001$ ) had significant effects.

When asked about their reason for taking narcotics, 18 of the 21 patients (86%) in the “use” group mentioned pain or extreme pain; two patients (9%) cited previous addiction and 1 patient (5%) cited physician prescription. In the “abuse” group, 15 patients of 30 (50%) mentioned pain, 10 patients (33%) mentioned previous addiction, one patient (3%) gave both pain and addiction, and 4 patients (14%) cited pleasure as their reason.

Of the 15 patients who had severe (level 4) pain, only 8 had been prescribed narcotics by the responsible. The narcotic used was nearly all (94%) opium in the “abuse” group, but in the “use” group it was methadone in 33%, morphine in 43%, and opium in 24%.

## DISCUSSION

Pain is one of the most common problems for cancer patients, and its management is often hindered by barriers created by patients and physicians alike (4). It is estimated that 40% to 50% of patients with metastatic disease and 90% of patients with terminal cancer experience significant pain (5). Despite extensive progress in the scientific understanding of pain in humans, serious mismanagement and

undermedication in treating acute and chronic pain is a continuing problem. Overall, a significant number of physicians reveal opiophobia (prejudice against the use of opioid analgesics), display lack of knowledge about pain and its treatment, and have negative views about patients with chronic pain (6).

Cancer pain is often undertreated even in developed countries with abundant resources and easy access to oral, parenteral, and transdermal opioids. The problems in developing nations are more complex, and as a result, these medications are not available to the vast majority of patients in Latin and South America, Eastern Europe, Asia, and Africa (7). In some countries, the stigma attached when using narcotic medication seems to be a psychological burden for patients, and bureaucracy in the legal and administrative systems hampers the adequate supply of drugs (8). In some other countries, there is a strong awareness of the usefulness of opioids but hesitancy in opioid prescription (9). Still in others, the most important barriers to optimal cancer pain management identified by physicians themselves are physician-related problems, such as inadequate guidance from a pain specialist, inadequate knowledge of cancer pain management, and inadequate pain assessment (10). The importance of proper education for everyone in these areas cannot be overemphasized. The goal of allowing patients with advanced cancer to die with dignity and without pain should be identified as a worthy one and one that should be appreciated not only by patients themselves but by their relatives, caregivers, and governments (11).

On the other hand, abuse of narcotics could present as a serious problem in oncology too; drug abuse problems present a complex set of physical and psychosocial issues that complicate cancer treatment and pain/symptom management. Most oncologists are not well versed in either the conceptual or practical issues related to addiction. As a result, they often struggle in their attempts to effectively treat patients who are or have been substance abusers, and they find it difficult to understand issues of addiction in patients with pain who have no history of substance abuse (12).

The problem of cancer pain undertreatment can be seen as a problem in our study too; only half of

the patients who had severe pain were being treated by opioids. But generally the most common factor leading to use of narcotics was cancer pain, and this was statistically very significant in all analyses. Nearly all patients in the "use" group and half of the patients in the "abuse" group mentioned pain as their reason for using narcotics. This of course is obvious in the "use" group, as these patients were prescribed narcotics by their physicians and for their pain; but it shows that many patients in the "abuse" group were not receiving adequate analgesia from their physicians for moderate or severe pain, and thus had resorted to narcotics by their own decision. This could have resulted from lack of proper patient-physician communication, unwillingness of the patients or caregivers to openly discuss opioids, physicians' prejudice against use of opioids, difficult lawful access to opioids through the health authorities, or other reasons.

Patients in the "use" group had a significantly higher extent of disease, which was not as significant in the "abuse" group. Most (85%) of the former patients had metastatic disease. Again this seems obvious as these patients were often using opioids for the painful consequences of metastases.

Education and income levels were generally lower in the "abuse" group, though this was not statistically significant for education. This might show that abuse of narcotics is more prevalent in cancer patients with lower socioeconomic and cultural status, but of course it must be considered that the vast majority of patients referring for treatment to our Cancer Institute are not among the rich of the society.

The most striking difference between the patients in the "abuse" group and others was the outstanding sex difference: the male-to-female ratio was 9 times higher in the "abuse" group compared to the total patient population, and 10 times higher compared to "no narcotics" group. This means that women with cancer resort to abuse of narcotics much less than men, which relates to the cultural characteristics of our society. Of course it could be argued that women might be less open in disclosing their abuse of opioids and perhaps this has led to the striking sex difference; but as the interviewers were two experienced and empathic female nurses, this

possibility may be ignored. In conclusion, pain was the most significant factor leading to both use and abuse of narcotics, and a striking male predominance was seen in narcotics abusers. Nearly half of cancer patients with significant pain were not receiving opioids for adequate analgesia. Better education in regard to cancer pain analgesia for both the physicians and patients is emphasized to improve the quality of life in men and women afflicted with painful malignancies, and to decrease the possibility of improper use of opioids.

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### Conflict of interests

The authors declare that they have no competing interests.

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