

RESEARCH ARTICLE

Morphine: Patient Knowledge and Attitudes in the Central Anatolia Part of Turkey

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Abstract

Background: In Muslim majority countries (MMC) opioid use for pain management is extremely low. The underlying factors contributing to this are not well defined. **Aim:** The aim of this study was to survey the attitudes of cancer patients towards morphine use for pain management in a MMC and identify the factors that influence patient decisions to accept or refuse morphine as treatment for cancer pain. **Settings/participants:** Patients were questioned whether they had pain or not, the severity and the medications for pain management. Questions included what type of medication they thought morphine was, whether or not they would be willing to take morphine if recommended for pain management and the basis for their decision if they were against morphine use. **Results:** Four hundred and eighty-eight patients participated in the study. Some 50% of the patients who refused morphine use and 36.8% of the patients who would prefer another drug, if possible, identified fear of addiction as the basis for their decision. Reservation of morphine for later in their disease was the case for 22.4% of the patients who refused morphine use. Only 13.7% of the patients refusing morphine and 9.7% of the patients who preferred another drug, if possible, cited religious reasons as the basis for this decision. **Conclusions:** Identifying the underlying factors contributing to low opioid use for pain management in MMC is important. Once the underlying factors were identified, all efforts should be taken to overcome them as they are barriers to improving patient pain management.

Keywords: Cancer - morphine - pain- Muslim countries

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Introduction

Pain is a highly prevalent symptom and often a cause for severe distress in patients with cancer (Silberman, 2010). In a systematic review of the literature, the incidence of pain in cancer patients is reported as around 59% in patients under cancer treatment; around 64% in patients with advanced cancer; and around 33% in patients who completed curative treatment (Van den Beuken-van Everdingen et al., 2007).

Pain management is a fundamental part of comprehensive cancer care. The basic therapeutic strategy for managing cancer pain is the three-step Analgesic Ladder which was designed by the World Health Organization (WHO, 1990; Meuser et al., 2001). Opioids have an important role in pain management, especially for moderate and severe pain as recommended by the second and third steps of the analgesic ladder.

Although correct use of the WHO Analgesic Ladder results in successful pain management in 90% of patients, pain control in cancer patients is still inadequate

(Ripamonti et al., 2012; Liang et al., 2013).

There are a series of barriers preventing effective pain control. These barriers can be classified into three categories: system, professional and patient barriers (Ward et al., 1993; Maltoni, 2008; Chen et al., 2012; Budkaew and Chumworathayi, 2013). Some of these barriers can be seen in Table 1.

Patients' perceived barriers to opioid use may be influenced by culture. In a meta-analysis, Chen et al. (2012) reported differences between patient in their perceived barriers to cancer pain management in Western and Asian cultures. In Asian cancer patients, the main barriers were concerns about "disease progression", "drug tolerance" and "drug addiction", whereas in Western patients the most common barriers to opioid use were "drug addiction", "side effects" and "disease progression".

In Muslim majority countries opioid use for pain management is extremely low. Opioid consumption as morphine equivalents is 11.56 mg/capita in Turkey (painpolicy-Turkey: http://www.painpolicy.wisc.edu/sites/www.painpolicy.wisc.edu/files/country_files/

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morphine_equivalence/turkeyME.pdf) as compared to 58.11 mg/capita globally (pain policy Global: <http://www.painpolicy.wisc.edu/sites/www.painpolicy.wisc.edu/files/GlobalME.pdf>) and 135.11 mg/capita in EURO regional (pain policy Euro: <http://www.painpolicy.wisc.edu/sites/www.painpolicy.wisc.edu/files/euroME.pdf>). Evaluation of the consumption of opioids relative to the need for pain relief might be a more meaningful measure of the adequacy of pain management than mere opioid consumption. In a recent study, Seya et al. (2011) calculated the needs for opioid use for pain management and compared it with opioid consumption. This defined an “adequacy of consumption measure” (ACM). Based on ACM, the authors described four groups of opioid analgesic use relative to need; “adequate” (ACM of 1.00 or more), “moderate” (ACM between 0.30 and 1.00), “low” (an ACM between 0.1 and 0.3), “very low” (ACM of between 0.03 and 0.1) and “virtually nonexistent” (ACM of under 0.03). Based on this measure, Turkey and Saudi Arabia were rated as having very low access to opioids relative to need and the other largest Muslim-majority countries had virtually nonexistent opioid consumption (Seya et al., 2011; Harford and Aljawi, 2013).

The barriers preventing opioid use for pain management, and as a consequence preventing effective pain management in Muslim majority countries are not well defined.

The aim of this study was to survey the attitudes of cancer patients towards morphine use for pain management in a Muslim majority country and identify the factors that influence patient decisions to accept or refuse morphine as treatment for cancer pain.

Materials and Methods

The study was conducted in three different Education and Training Hospitals (ETH) located in three cities of Central Anatolia: Ankara, Konya and Kayseri; namely Diskapi Yildirim Beyazit ETH, Kayseri ETH and Konya ETH. All patients with a diagnosis of cancer, who presented to the oncology clinics, were invited to participate in the study. At each site, a single oncologist presented the study to potential participants, obtained informed consent, surveyed the patients once enrolled and collected the data. Informed consent was obtained in accordance with international guidelines for research. Only a few patients refused participation in the study. The type and stage of cancer as well as epidemiological data about the patients were recorded as sourced from patient files.

Patients were questioned as to whether they had pain or not, the severity of the pain and the medications they were taking for pain management, whether they had given information about their pain to their doctor, and if not, the reason for this. Because of the patient population’s known low education level the Faces Pain Rating Scale (Von Roenn et al., 1993) was used to rate the severity of the pain (Figure 1).

Patients were also asked what type of medication they thought morphine was, whether or not they would be willing to take morphine if it was recommended for pain

management and the basis for their decision if they were against morphine use.

After answering these questions, the definition of morphine as written in the drug manual was read to the patient. “Morphine and the other opioids are narcotic analgesics. They are used in long term management of severe pain.” The purpose of reading the definition was to emphasize the narcotic nature of morphine, in case the patient was unaware of this. The above questions were asked once more.

Statistical analysis

Data analysis was performed using SPSS for Windows, version 11.5 (SPSS Inc., Chicago, IL, United States). Data were shown as median (min-max) or number of cases and (%), where applicable. While, the differences in age among groups were compared by One-Way ANOVA following post hoc Tukey HSD test, otherwise, Kruskal Wallis test was applied for comparisons of the median values. When the p value from the Kruskal Wallis test is statistically significant, Conover’s non-parametric multiple comparison test was used to know which group differ from each other. Categorical data were analyzed by Pearson’s Chi-square or Fisher’s exact test, where appropriate. A p value less than 0.05 was considered statistically significant.

Results

Four hundred and eighty-eight patients agreed to participate in the study. Of these, 130 were from Ankara, 183 from Kayseri and 175 from Konya. Three hundred and one of the patients were female, 187 were male with a median age of 54 years (range: 18-87). The most common primary tumor sites were breast (217 patients), colorectal (97 patients), gastric (63 patients) and lung (37 patients). The breakdown of disease by stage was as follows: 180 patients had early stage, 130 patients locally advanced and 171 patients had metastatic disease. Overall, the level of formal education achieved by patients was low. Only 33 patients completed high school and only 11 patients attended university. Of 488 patients 485 reported their pain severity. Of the patients who replied to this question, 227(46.8%) had no pain. Ninety-five (19.6%) of them scored their pain as 1, 71 patients (14.6%) as 2, 51 patients (10.5%) as 3, 22 patients (4.5%) as 4 and 19 patients (3.9%) as 5.

Response rates to the questions regarding “whether they were using medication for pain management or not”, “drugs they were using”, “whether they had given information about their pain to their doctors or not” were low.

Four hundred and fifty-five of the patients responded to the question about whether they were taking medication for pain management. One hundred and eighty-five patients reported taking medication for pain management, while 267 patients did not.

Of 187 patients replied the question about “drugs they were using” 144 could name painkiller they were using. There were some responses like, “I am using painkiller named... a brand name of an aromatase inhibitor” or “No,

I am not using painkiller...I am using tramadol" ...

Only 129 of the patients answered the question about whether they had given information about their pain to their doctors: 92 patients had given information and 37 patients did not report their pain to their physician. Of this latter group, 18 patients did not provide a reason for withholding information about their pain from their doctors. The most common explanation patients gave for not telling their doctors about their pain was that the pain was not disturbing them too much.

Nearly half of the patients described morphine as a narcotic or narcotic +pain killer (37.5% and 9.4% respectively).

Another 12.3% of the patients didn't emphasize the narcotic nature of morphine and described it as only pain killer,.

Four hundred and eighty-five of the 488 patients responded to the question regarding their preference for morphine use should it be recommended for pain management. Both before and after the description, nearly half of the patients (before 45.6% and after 47.6%) indicated they would use morphine if it was recommended. Both before and after the description only 12% of the patients reported they wouldn't use morphine even if recommended.

No statistically significant relationship was found between patient reported preferences for morphine use and the primary disease site ($p=0.247$), the stage of the disease ($p=0.552$), education status ($p=0.112$) or their city of residence ($p=0.218$). Similarly, the presence or severity of pain had no effect on patient reported preferences about morphine use ($p=0.660$).

The patient's age (0.010) and gender (0.038) had a statistically significant effect on the patient's decision as to whether or not they would use morphine if recommended by their physician. Those patients responding "If possible, another drug" were younger and the majority of them were female as compared to the others.

Patient perceptions about the nature of morphine had a statistically significant effect on the preference of patients regarding the use of morphine ($p=0.000$). Patients who defined morphine as a narcotic were less likely to use morphine (31.2% vs 68.8%; $p=0.015$) if recommended. Morphine use preferences did not differ based on whether the patients defined morphine as a "narcotic+pain killer" or as a "pain killer" ($p = 0.93$ and 0.51 , respectively).

The patients who defined morphine as a pain killer were more likely to use morphine. Patients willingness to take morphine, defined by those who stated, "I will use" and "If possible, another drug," were statistically different based on whether the patient described morphine as a narcotic ($p=0.031$), narcotic+pain-killer ($p=0.001$) or as a pain-killer ($p=0.010$).

After the definition of morphine was read to the patients, factors affecting the patients' willingness to use morphine were re-evaluated. Patient gender ($p=0.067$), primary tumor site ($p=0.195$) and education level ($p=0.467$) had no effect on patient preferences. However, the stage of the disease ($p=0.012$) had a significant effect on preferences. As the stage of disease increased, a positive attitude toward morphine use increased also (Table 2).

After reading the definition of morphine to patients, the description of morphine still had a significant effect

Table 1. Barriers Preventing Effective Pain Control in Cancer Patients

System barriers	Professional barriers
Availability of drugs, especially opioids	Lack of knowledge and training about pain management
Affordability of the drugs	Unwillingness to prescribe morphine because of strict regulations
Strict regulations to avoid drug abuse	Misperception about health /doctor should deal with morbidity and mortality
Misperception about health /health policies focusing on morbidity and mortality rather than quality of life.	
Patient barriers	
Reluctance to report pain	
✓ Fear of distracting health professionals from treating the cancer	
✓ Fear of being considered a 'bad patient'	
✓ misperception about cancer pain; "pain is a natural symptom in cancer and cannot be eliminated"	
✓ Pain is a sign of progressive disease and imminent death	
Unwillingness to use opioids due to 'myths about opioids'	
✓ Detrimental side effects	
✓ Risk of addiction	
✓ Risk of sedation and cognitive impairment	
✓ Tolerance to their effects	
✓ Fear that opioids will not continue to be effective later	
✓ Opioid use as a sign of imminent death	

Table 2. After the Definition of Morphine was Read to the Patients, Relationship between Disease Stage and Patient Preferences

	Use Number (%)	Don't use Number (%)	If possible another drug Number (%)
Early stage	70 (30.6%)	28 (48.3%)	82 (42.5%)
Locally advanced stage	71 (31.0%)	17 (29.3%)	42 (21.8%)
Metastatic stage	88 (38.4%)	13 (22.4%)	69 (35.8%)
Total	229 (100%)	58 (100%)	191 (100%)

Table 3. Basis for Patient Choices of “Don’t use” and “If Possible another Drug”, Rather than Using Morphine

	Before explanation		After explanation	
	Don't use (%)	If possible another drug (%)	Don't use (%)	If possible another drug (%)
Addiction	24 (41.3%)	64 (31.0%)	31 (53.4%)	60 (30.6%)
Religion	5 (8.6%)	12 (5.8%)	3 (5.1%)	7 (3.5%)
Reservation for later	11 (18.9%)	97 (47.0%)	8 (13.7%)	96 (48.9%)
Addiction+religion	3 (5.1%)	8 (3.8%)	8 (13.7%)	4 (2.0%)
Addiction+reservation	2 (3.4%)	4 (1.9%)	1 (1.7%)	9 (4.5%)
Other	9 (10.2%)	2 (0.9%)	7 (12.0%)	20 (10.2%)
	58 (100.0%)	206 (100.0%)	58 (100.0%)	196 (100.0%)



Figure 1. The Faces Pain Rating Scale

on the patients’ preferences for its use (p=0.004). This time, no significant difference in preferences were found between patients who defined morphine as a narcotic or not (p=0.626). But there was a significant difference in the preference of patients who defined morphine as a “narcotic+painkiller” or not and “painkiller” or not (p 0.012 and 0.011, respectively). The patients who defined morphine as a “narcotic +painkiller” reported that they would prefer another drug if possible.

The patients who defined morphine as a “painkiller” would accept a recommendation to use morphine. The reasons given by patients who said, “don’t use” and “if possible another drug” are shown in Table 3.

Patient preferences about morphine use before and after the explanation of morphine was read did not change (P=0.218). Only ten of the patients who said, “don’t use”, changed their opinion and said, “do use”, after hearing the description of morphine. Another ten patients who said, “use”, before the explanation said, “don’t use”, after hearing the explanation. These 10 patients had refused morphine use because of fear of addiction (6 patients), a desire to reserve the drug for later in the disease course (1 patient), and religious concern (1 patient).

Discussion

Although pain is a highly prevalent symptom which causes severe distress in cancer patients, pain control remains inadequate in around half of the patients. In our study, 46.5% of the patients had no pain, 19.5% had mild pain, 25% had moderate pain and 8.4% had severe pain. These findings are consistent with the literature describing inadequate pain control in 40-70% of patients (Von Roenn et al., 1993; Maltoni, 2008). Since the response rate to the questions regarding “whether they were using medication for pain management or not”, “drugs they were using”, “whether they had given information about their pain to their doctors or not” were low and the responses were unreliable, to make a conclusion was impossible. It was thought that patients were not aware about the purpose of different medications they were using and what they were.

In a literature review by Hojsted et al (2007), the prevalence of addiction to opioids was shown to vary From

0% up to 50% in chronic non-cancer pain patients, and 0% to 7.7% in cancer patients. Although the safety of opioids in long-term use has been well documented, still the risk of addiction to opioids remains a concern (Portenoy, 1995; Manchikanti et al., 2010; Starr et al., 2010). Patients may delay taking their medication, take less than the effective dose, or not take it at all because they fear “addiction” (WHO cancer pain; Ward et al., 1993). Family members may also contribute to inadequate pain relief because they have fears of addiction, respiratory depression and tolerance (Vallerand et al., 2007).

Our patients also share the concern about opioid addiction. Concern about addiction was the explanation provided by 50.0% of our patients who refused morphine use and by 36.8% of the patients who said, “prefer another drug, if possible”.

The WHO has recognized that the medical use of opioids is rarely associated with the development of psychological dependence (WHO, 1990). The American Pain Society also acknowledges that “although most patients who take opioids several times daily for more than one month develop some degree of tolerance and physical dependence, the available data suggests that the risk of iatrogenic addiction is very small” (American Pain Society, 1992). To overcome the fear of addiction, patients and families should be informed about opioid safety, the true nature of addiction and opioids’ indispensable role in cancer pain management.

In Muslim majority countries opioid usage is low. The reasons for this are not clear (Harford and Aljawi, 2013). One of the reasons is assumed to be patient preference, and the perception that Muslims may view suffering as a means of atonement for one’s sins (Al-Shahri and Al-Khenaizan, 2005). But in our study, nearly half of the patients indicated they would use morphine if their physician indicated it was needed. Only 12% of the patients said they wouldn’t use morphine even if recommended by their doctor.

The interpretation of Islam varies according to geographic area and dominant local traditions and culture. “Modern Turkey is a secular country. The widespread perception of Islam in Turkey is not radical, fundamentalist or exclusive. The majority of the Muslim population belongs to the loosely defined Sunni interpretation of Islam. But the current perception and practice of Islam varies from mystical and folk Islam to conservative and a more moderate understanding of Islam” (Bardakoğlu, 2004).

In this sense, our results may not reflect the conditions in other Muslim majority countries, or even through out

Turkey. Studies in other Muslim majority countries are needed. But our results, though not conclusive, are still meaningful.

The illicit use of any substance that affects sensorium is strictly prohibited in Islam. However, medically prescribed opioids are generally considered permissible because of necessity. Although it has been stated that “usually, Muslim patients and families accept the use of opioids for symptom control if the rationale is clearly explained to them” (Al-Shahri and Al-Khenaizan, 2005), we are unaware of any prior reports investigating Muslim patients’ attitudes toward opioid use for pain management. In our study, refusal of morphine use for religious reasons was infrequent; 13.7% of the patients refusing morphine use and 9.7% of those who preferred another drug if possible. “From the Islamic perspective, medication related sedation could be looked at from two different angles. On the one hand, alleviation of the suffering of a human being is considered very righteous. On the other hand, maintaining a level of consciousness as close to normal as possible is of great importance to allow for observance of worship rites for the longest period possible before death” (Al-Shahri and Al-Khenaizan, 2005). It is important to explain to the patient and family the true nature of opioids and their possible side effects.

Opioids commonly are accepted as interventions used only as a “last resort”. The presence of uncontrolled pain reminds the patients of cancer and anticipated death. Reid et al in their qualitative study, reported that “Patients with cancer who were offered morphine for pain relief interpreted this as a signal that their health professional thought they were dying. Because participants themselves were not ready to die, they rejected morphine and other opioids” (Reid, 2008). In our study, 22.4% of the patients who refused morphine use and 49.0 % of the ones whose expressed preference was, “if possible another drug”, indicated that they wanted to reserve (reservation for later and addiction+reservation groups) morphine use. While we don’t have a clear explanation for this, the “last resort” perception may play a role in the patients’ refusal of morphine. Every living being wants to continue their life.

Death may not be desirable, but is still inevitable. Pain in cancer is a total pain, as described by Cicely Saunders. It contains physical, psychological, social and spiritual components (Richmond, 2005).

Psychosocial and spiritual supports, especially at the end of life, are very important. This may also help cancer patients to accept opioids for pain control.

In conclusion, opioids are very important in pain management. Yet, the many myths about opioids are a barrier to effective pain management. The most common of these is fear of addiction. Our patients share this concern. Fifty percent of the patients who refused morphine use and 36.8% of the patients who said they would prefer another drug, if possible, identified fear of addiction as the basis for their decision.

Reservation of morphine for later in their disease course was another important reason why patients delayed the use of morphine. This was the case for 22.4% of the patients who refused morphine use and 49.0 % of those whose preference was for another drug,

if possible. Refusal of morphine use for religious reasons was uncommon in our study. Only 13.7 % of the patients refusing morphine and 9.7% of the patients who preferred another drug, if possible, cited religious reasons as the basis for this decision.

Since the interpretation of Islam varies from country to country, even within the same country our results may not reflect the situation in other Muslim majority countries, or even throughout Turkey. In Muslim majority countries opioid use for pain management is extremely low. Identifying the underlying factors contributing to this is important. Once the underlying factors were identified, all the efforts should be taken to overcome them as they are barriers to improving patient pain management.

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