

# A Survey of Control of Cancer Pain in Two Hospices in Kathmandu, Nepal

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## ABSTRACT

**INTRODUCTION:** Opioids especially morphine are very useful and effective medicines to relieve cancer pain. Since the production of oral morphine in Nepal from 2009, more and more cancer patients have access to morphine for their pain. The data of 100 cancer patients in two hospices were analyzed to find out the incidence of pain and result of morphine use to relieve the pain.

**METHODS:** A cross-sectional observational study of 100 advanced cancer patients from May to August 2012 was carried out with follow-up after a week in Thankot Hospice and Hospice Nepal. A structured questionnaire was used to obtain necessary information. Numerical Pain Rating scale was used to find out severity of pain. Oral Morphine was started with 5mg four hourly if patients is weak and has not previously taken any opioids. Those who are already taking opioids like codeine and tramadol oral Morphine 10 mg four hourly was started. Other analgesics were given as needed.

**RESULT:** At the time of admission all patients were suffering from pain out of which 39% had severe pain and 52% had moderate pain. Pain assessment followed by one week treatment revealed 6% (n=6) patients were free from pain and another 6% (n=6) patients felt severe pain, 55% (n=55) felt mild pain, 33% (n=33) felt moderate pain. There was an overall reduction of severe pain by 33% and moderate pain by 19%. The mean pain score on the ten point scale reduced from 6.1 to 3.4.

**CONCLUSION:** Pain is very common in advanced stage cancer and optimal use of oral morphine is useful to control moderate to severe cancer pain.

**KEY WORDS:** orphine, cancer, pain

## INTRODUCTION

Pain is a common symptom in advanced cancer patients<sup>1</sup>. Over 80% of cancer patients with advanced metastatic disease suffer from pain<sup>2</sup>. Pain in advanced cancer, as in other clinical situations, can be classified as mild, moderate or severe, an important distinction to make when deciding the appropriate use of analgesics.

The WHO published guidelines for the use of analgesics to control cancer pain in 1986 and these are still considered the gold standard of cancer pain

control<sup>3</sup>. Patients with mild pain can frequently be treated effectively with paracetamol, given regularly four times a day. Patients with more severe pain and for whom paracetamol is insufficient, are given an opioid for moderate pain (e.g. codeine or tramadol) as well as paracetamol and patients with severe pain, not controlled by opioid for moderate pain and paracetamol, should be given a 'strong' opioid – the most commonly used of which is morphine. Morphine at a lower dose can also be used for moderate pain also<sup>4</sup>.

Studies have shown that balanced use of opioids especially morphine is effective in relieving pain<sup>3</sup>. Much fear surrounds the use of morphine in both patients and physicians, so that it is often denied to patients who need it.

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The available evidence shows that morphine availability is very low for cancer pain in many developing countries<sup>5</sup>. In Nepal, morphine has recently been made available in a formulation appropriate for use in cancer pain<sup>6</sup>.

In order to allay fears and promote its appropriate use, it is important to demonstrate morphine's effectiveness and safety in new settings in which it being used. A survey of 100 patients admitted to two hospices in Kathmandu was undertaken to explore the problem of pain in advanced cancer patients and the effectiveness of morphine to relieve moderate to severe pain in those patients.

## METHODS

This was cross-sectional observational study with follow-up after one week. Thankot Hospice Center in Thankot and Hospice Nepal in Lalitpur were selected for this study. All of the patients admitted to these hospices between May and August 2012 who fitted the inclusion criteria were included. Inclusion criteria were: patients aged 18 years and above admitted to the hospices for palliative care irrespective of the type and stage of cancer, patients who were able to understand the questions and who agreed to take part in the study. Exclusion Criteria were Patients under 18 years and those with co-morbidities including HIV/AIDS, diabetes, renal failure, liver cirrhosis; patients who were cognitively impaired so that they could not answer the question, patients too ill to take part and those who declined to take part.

Patients who fitted the inclusion criteria were invited to take part in the study on admission to the hospice. They were asked to rate pain their current pain on a numerical rating scale (NRS) where 0 meant no pain, 1-3 mild pain, 4-6 moderate pain and 7-10 is severe pain (Fig 1). For each patient we also recorded age, gender, type of cancer and the medication which they were prescribed whilst they were in the study.

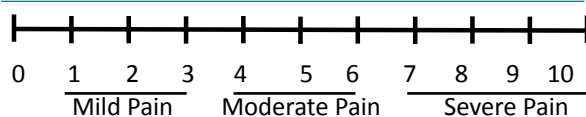


Figure 1: Numerical Pain Scale

Following admission the attending health professional treated the patient's pain according to WHO pain

ladder and local palliative care guidelines, adjusting the type and dose of medication according to the patient's need. Oral morphine was started at 5mg four hourly if patients was weak and had not taken any opioids. Those who were already taking opioids such as codeine and tramadol oral morphine 10 mg four hourly was started. Other analgesics were given as needed. After seven days treatment the patient's pain score was again recorded.

Ethical permission to undertake the study was granted by Kathmandu University.

## RESULTS

One hundred patients met the inclusion criteria and agreed to take part in the study. The age distribution of the sample is seen in figure 2

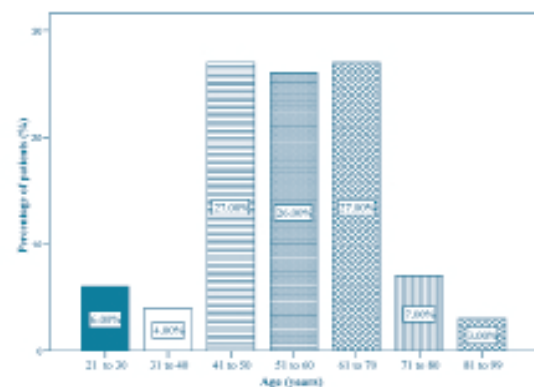


Figure 2: AGE DISTRIBUTION

80% of the sample were aged between 21 and 70 years of age. 65% of the patients in the sample were female and 35% male.

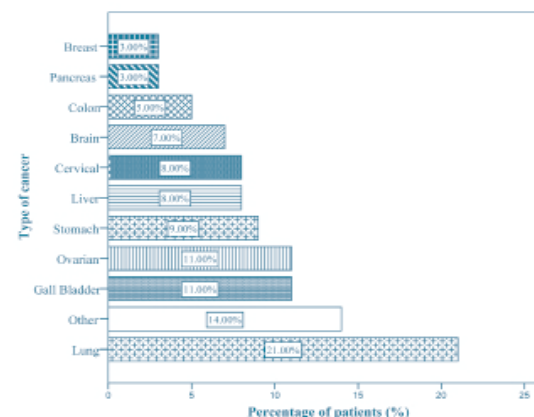
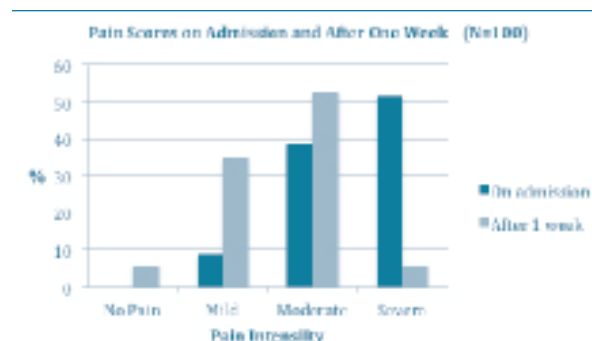


Figure 3: Different types of cancer and their percentage

The commonest cancer was lung cancer (21%) followed by gall bladder (11%) and ovarian cancer (11%). Only 3% of patients suffered from breast cancer (Fig 3).

All patients (100%) were suffering from some degree of pain at the time of admission. 91% patients were suffering from moderate to severe pain (52% moderate pain – score 4-6; 39% severe pain – score 7-10) and 9% (n=9) patients suffer from mild pain – score 1-3 (Fig 4).



**Figure 4: Pain Scores on Admission and After one week**

Pain assessment after a week revealed that 39% patients were now suffering from moderate to severe pain (33% moderate and 6% severe pain), 55% (n=55) reported mild pain and 6% (n=6) patients reported no pain. There was an overall reduction in severe pain by 33%, moderate pain by 19% (Fig 4).

The majority (93%) of patients with moderate and severe pain were prescribed opioids as per internationally accepted guidelines, indicated in table 1.

**Table 1 : Use of opioids in moderate and severe pain**

Severity of pain at the admission	Opioid User	Total
Moderate	49	52
Severe	36	39
Total	85	91

Table 2 shows the change in the pain scores for patients with mild, moderate and severe pain after one week of treatment in the hospice. Of the nine patients with mild pain at admission, 5 had no pain after one week of treatment, and four still had mild pain. In no patients did pain increased to moderate or severe. Of the 52 patients with moderate pain at admission, seven still had moderate pain, but the majority had improved – 43 now had mild pain and one was pain free. Only one patient had a significant increase of pain from moderate to severe. Of the 39 with severe pain on admission, only 5 still had severe pain, 26 had

reduced to moderate and eight to mild.

**Table 2 - Severity of pain before medication vs. severity of pain after a week**

		Severity of pain after a week				Total
		No pain	Mild pain	Moderate pain	Severe pain	
Severity of pain before medication	Mild	5	4	0	0	9
	Moderate	1	43	7	1	52
	Severe	0	8	26	5	39
Total		6	55	33	6	100

Overall there was a reduction in pain score. The mean pain score on the day of admission is 6.11 and the mean pain score after a week is 3.48, a change of 2.63 (Table 3).

**Table 3. Mean and standard deviation for pain scores at admission and after one week**

		Mean	N	Std. deviation
Pair 1	Pain score before medication	6.1100	100	1.83069
	Pain score after a week	3.4800	100	1.86667

No patients died or were too drowsy or unwell to complete the pain assessment after one week.

The mean pain reduction score was 2.63 at 95% CI (2.33 to 2.92), with t-value 17.751 which is highly statistically significant  $p < 0.0001$  (Table 4).

**Table 4 - Analysis of change in pain score – using Student's t-test.**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Change in score	2.630	1.481	.148	2.338	2.923	17.75	99	p<0.0001

## DISCUSSION

This analysis of data from 100 patients admitted to two hospices shows that all cancer patients in advanced stage were suffering from some degree of pain. A systemic review by M. H. J. van den Beuken-van Everdingen et al showed that sixty-four percent of advanced cancer patients were suffering from pain. The fact that all patients in this study had pain, suggests

that they were a sub-group of cancer patients, who all suffered from pain. These patients particularly can benefit from hospital care.

89% of the patients received opioid analgesics for managing pain and 93% of those with moderate to severe pain, suggesting that proper assessment of pain and use of opioids especially morphine helped to reduce the severity of pain at these hospice centers in Kathmandu.

The most commonly prescribed opioid to manage moderate to severe pain was Morphine. 38 out of 52 patients suffering from moderate pain were prescribed morphine. According to revised and updated recommendations of the European Association for Palliative Care, the opioid of first choice for moderate to severe cancer pain is morphine<sup>7</sup>.

A systemic review by P Klepstad et al showed that oral morphine is very useful for advanced cancer patients suffering from pain<sup>8</sup>. The European Association for Palliative Care recommendation for starting morphine for cancer pain is dose titration with immediate release (IR) oral morphine given every 4 hourly with additional doses for breakthrough pain<sup>7</sup>. WHO has also reported that satisfactory pain relief can be achieved in more than 90% patients with cancer pain with use of morphine and other analgesics.<sup>9</sup>

The limitation of this study is that only two institutions with 100 patients are taken and so the results cannot be generalized. Also further studies should explore the incidence of side effects of analgesic medication in patients with advanced cancer.

## CONCLUSION

The analysis of data from two hospices from Kathmandu shows that pain is very common in advanced stage cancer patient and oral morphine is very effective to control moderate to severe pain. Knowledge and skill

of pain assessment and management with optimal use of morphine by health professionals will minimize the suffering of cancer patients.

## REFERENCES

1. Everdingen MHJ, Rijke1 JM, Kessels AG, Schouten HC. Prevalence of pain in patients with cancer: a systematic review of the past 40 years. 2007, *Annals of Oncology*, 18: 1437–1449.
2. Daut RL, Cleeland CS. The prevalence and severity of pain in cancer. *Cancer* 1982; 50:1913–1918.
3. Mercadante S, Fulfaro F. World Health Organization guidelines for cancer pain: a reappraisal. 2005, *Annals of Oncology* 16 (Supplement 4): iv132–iv135
4. Paudel BD, Current Use of Analgesics for Cancer Pain, *Post-Graduate Medical Journal of NAMS*, 2008, Vol.8, No 02, 102-108
5. Cherny NI, Baselga J, de Conno F, Radbruch L. Formulary Availability and Regulatory Barriers to Accessibility of Opioids for Cancer Pain in Europe: a Report from the ESMO/EAPC Opioid Policy Initiative. *Ann Oncol*, 2010, Vol. 21, No. 3. 615-626.
6. Cherny NI, Cleary J, Scholten W. The Global Opioid Policy Initiative (GOPI) project to evaluate the availability and accessibility of opioids for management of cancer pain in Africa, Asia, Latin America and the Caribbean, and the Middle East. *Annals of Oncology*, 2013, 24(supplement11), xi7-xi13.
7. Hank GW, Conno F de, Cherny NI et al. Morphine and alternative opioids in cancer pain: the EAPC recommendations. *British Journal of Cancer*, 2001, 84(5), 587–593
8. Klepstad P, Stein K, Petter C B. Starting Step III opioids for moderate to severe pain in cancer patient Dose titration: A systematic review. *PALLIATIVE MEDICINE*, 2010, 25(5) 424–430
9. Mercadante S, Fulfaro F. World Health Organization guidelines for cancer pain: a reappraisal. *Annals of Oncology* 2005, 16 (Supplement 4): iv132–iv135