

**Original article:**

## **Patterns of analgesic use and extent of pain relief in home-based palliative care cancer patients under the primary care centers**

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### **Abstract**

**Background:** Different groups of analgesics are available in market and a large number of patients is using these agents for the relief of pain, which is one of the most common symptom of disease manifestations, especially in cancer patients. Among these cohort of patients, the use of analgesics is long term. In this context, this study aimed to determine the pattern of analgesics use and the extent of pain relief in cancer patients under home based palliative care.

**Methodology:** A cross-sectional survey was carried out in adult cancer patients who registered with home care service, Ernakulam GH, Kerala, India, during the month of July to August 2015, after obtaining IEC permission, St. Gregorious Dental College & Research centre, under KUHAS. Each patient responded to a structured questionnaire requesting information about type of analgesic used and extent of pain relief. The obtained data was analysed using Statistical Package for Social Sciences(SPSS) version20.

**Results:** Ninety-five patients (75.8% females) participated in this study. Age range was 30 to 84 years old; mean (SD)= 57.9(10.8)y. The analgesics used were opioids (21.1%), NSAIDs (36.8%), and both opioids and NSAIDs (42.1%). Pain relief was adequate in 15% of the opioid group, 29% in the NSAIDs group, and 18% in those using both types of drugs (p= 0.390). Regular compliance was associated with the highest proportion of adequate pain relief (p= 0.026). The percentage of analgesic-induced side effects was 50% in the opioid group, 54% in the NSAID group, and 33% in the third group (p= 0.324).

**Conclusion:** The extent of pain relief depends on regular compliance. It is independent of the type of analgesic used.

Key words: Analgesic, Opioid, NSAIDs, Pain

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### **Introduction**

Chronic pain is a common symptom and causes major health care management challenges in primary patient care(1)and it is exceedingly costlier to the patient, his or her significant other(partners, relatives, employers, co-workers and friends) and society(2). Despite the soaring treating cost for the patients with chronic pain, the relief for many remains elusive and complete elimination of pain is rare (2). The chronic pain degrades the quality of life, and psycho-social functioning of the patients affected(3). A number of different analgesic groups are available in market and most of chronic pain patients areprescribed with these agents for the relief of pain, which is one of the most common symptom of disease manifestations. A long term use of analgesic therapy is needed in these patientsfor relief of pain and many of these patients

use non-pharmacological measures and other complementary therapies in addition to pharmacological agents(4,5). Regular and continuously taken analgesics may be more effective in chronic pain patients and reduces the risk for break-through pain(6). Among the analgesic drugs, opioid agents occupy a main role, especially for the alleviation of severe pain. The chronic pain patients using these narcotic drugs are at considerable risk for the development of analgesic use disorders (7). The methods of compliance assessment include the recording of medication taken, self-reported adherence, and recording non-adherent behaviour such as missing doses in addition to drug assay (8). The chronic pain typically associated with longer and multiple medication exposure and thus increasing likelihood of adverse events. This can also be associated with inadequate patient education and contribute to lack of continuity of medication (9). In this context, this cross-sectional questionnaire survey aimed to determine the pattern of analgesics use and the extent of pain relief in cancer patients under home-based palliative care.

### **Methods**

Across-sectional survey was carried out among cancer patients who registered with home care services, with Vettoor Public Health Centre (PHC), KilmanoorPHC and AdayamonPHC in Thiruvananthapuram District of Kerala State, India. The selected patients were receiving home-based palliative care and follow up after being treated for malignancy in hospital. All the patients were adults of both gender. Unconscious patients, those with psychiatric disorders, and mentally retarded patients were excluded from the study. The recruited health care professionals selected for collecting data were trained to gather data based on questionnaire in half a day session. The trained professionals collected the information during the scheduled home-visit of palliative care team. Each patient responded to questions about presence of chronic pain sensation, types of analgesics used, and degree of pain relief produced by the analgesic. All the patients gave their consent before participation in the study. The obtained data was analyzed using the Statistical Package for Social Sciences(SPSS Inc., Chicago, IL), version 20. Statistical significance was accepted for  $P < 0.05$ .

### **Results**

Table 1 shows general characteristics of the participants. Ninety-five patients (75.8% females), receiving home-based care for malignancy, participated in this study. Age range was 30 to 84 years old; mean (SD)= 57.9(10.8)y. The analgesics used regularly for symptomatic treatment of their pain episodes were opioids (21.1%), NSAIDs (36.8%), and both opioids and NSAIDs (42.1%). Table 2 shows the relation between the types of analgesics used by the participants and the degree of pain relief. Pain reduction was adequate in 15% of the opioid group, 29% in the NSAIDs group, and 18% in those using both types of drugs. The degree of pain relief has no relation to the type of analgesic used by the patient ( $p= 0.390$ ). Table 3 shows that regular compliance was associated with the highest proportion of adequate pain relief ( $p= 0.026$ ). In table 4, the percentage of those who reported analgesic-induced side effects was 50% in the opioid group, 54% in the NSAID group, and 33% in the third group ( $p= 0.324$ ).

**Table 1: General characteristics of participants**

General characteristic		No.	%
Gender	Male	23	24.2%
	Female	72	75.8%
Age	< 60 years old	47	49.5%
	≥ 60 years old	48	50.5%
Analgesics used	Opioids	20	21.1%
	NSAIDs	35	36.8%
	Both	40	42.1%
Anti-ulcer treatment	Yes	56	58.9%
	No	39	41.1%
Laxative treatment	Yes	34	35.8%
	No	61	64.2%

**Table 2: The types of analgesics used by the participants in relation to the degree of pain relief**

Analgesic type	Degree of pain relief			Total	P-value
	Mild relief n= 33	Moderate relief n= 42	Adequate relief n= 20		
Opioid	6 (30%)	11 (55%)	3 (15%)	20 (100%)	0.390
NSAID	14 (40%)	11 (31%)	10 (29%)	35 (100%)	
Both	13 (32%)	20 (50%)	7 (18%)	40 (100%)	

**Table 3: The relation between compliance and the to the degree of pain relief**

	Compliance	Degree of pain relief			P-value
		Mild	Moderate	Adequate	
	Regular	20 (61%)	33 (79%)	18 (90%)	0.026
	Occasionally	11 (33%)	4 (9%)	2 (10%)	
	Only with pain	2 (6%)	5 (12%)	0 (0%)	
Total		33 (100%)	42 (100%)	20 (%)	

**Table 4: Analgesics induced side effects in relation to the types of analgesics**

		Analgesic-type			P-value
		Opioid	NSAID	Both	
Adverse effect	Yes	10 (50%)	19 (54%)	15 (33%)	0.324
	No	10 (50%)	16 (46%)	25 (57%)	
Total		20 (100%)	35 (100%)	40 (100%)	

### Discussion

With appropriate management, the life expectancy of patients with malignant disorders is increased. The prevalence of pain associated malignancy is very high and it occurs in 64% of patients with advanced disease, 59% of patients on anticancer treatment and 33% of patients after curative treatment (10). So pain is a common symptom of cancer, which affects the quality of life of patients and treatment with analgesics is an important supportive management. In this study, the percentage of those who felt adequate pain relief is highest among the NSAIDs group compared to those who were using opioids, alone or with additional NSAIDs. The NSAIDs are invaluable in the treatment of chronic pain (11) and are employed in the primary management for analgesia. However, the opioids are generally spared for the relief of severe pain of high intensity, since their propensity for psychological addiction and abuse potential and other drug related complications (12).

The attainment of adequate analgesia in this type of pain depends on many factors, including the dose and type of the drug, patient compliance and also on demographic as well as psychosocial factors involved with patients (13). In those patients who are using both opioids & NSAIDs, the pain intensity is most probably very high. It is worth noting that the total percentage of our patients who reported adequate pain relief was very low. The recommended analgesic dose for each patient should be revised. A recent study showed that, in spite of the importance of analgesia for the home resident cancer patients, undertreated or even untreated pain is very common (14). The use of opioids as analgesic drugs has dramatically increased during the past decades (15). Guidelines were introduced to control their prescription. However, non-compliance reduces their efficacy in pain relief (16). In this study, regular compliance was associated with the highest proportion of adequate pain relief.

Analgesics induced side effects are common in cancer patients (17). Side effects reduce the quality of patients' life, interfere with drug compliance, and cause inadequate management. About half of our patients reported different types of allergy or gastro-intestinal side effects. The use of other or new versions of analgesics and the trial of non-pharmacological approaches of analgesia are highly recommended for these patients.

In conclusion, patients' compliance to analgesic use plays an important role in adequacy of pain relief. The type of analgesic used has no relation to the extent of pain relief. The adequacy of the therapeutic dose of the analgesic drug for each patient should be revised.

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