

Physicians' Knowledge, Goals, Beliefs, Attitudes, and Prescribing Practices for Chronic Pain

Sukanta Sen¹, Sayandev Dasgupta², Arunava Biswas³, Agnik Pal⁴, Subrata Goswami⁵, Santanu Kumar Tripathi⁶

¹Professor & Head, Department of Pharmacology, ICARE Institute of Medical Sciences and Research, Banbishnupur, Purba Medinipur, Haldia 721645, West Bengal, ²Associate Professor, Department of General Surgery, ICARE Institute of Medical Sciences and Research, Banbishnupur, Purba Medinipur, Haldia 721645, West Bengal, ³Associate Professor, Department of Pharmacology, Coochbehar Government Medical College & Hospital & MJN Hospital, Vivekananda Road, Khagrabari, PO & Dist – Coochbehar 736101, West Bengal, ⁴Assistant Professor, Department of Pharmacology, College of Medicine & JNM Hospital, Kalyani, West Bengal University of Health Sciences, West Bengal 741235, ⁵FIPP - Course Director, ESI Institute of Pain, 301/3 A.P.C. Road, Kolkata 700009, West Bengal, ⁶Professor & Head, Department of Experimental & Clinical Pharmacology, Calcutta School of Tropical Medicine, 108, Chittaranjan Avenue, Kolkata 700073, West Bengal, India

Corresponding author: Dr. Agnik Pal, Assistant Professor, Department of Pharmacology, College of Medicine & JNM Hospital, Kalyani, West Bengal University of Health Sciences, West Bengal 741235, India

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A B S T R A C T

Introduction: Pain can adversely impact every domain of a patient's daily activity, and consequently, it has a great influence on the quality of life. Despite extensive progress in the scientific understanding of pain in humans, serious mismanagement and under-medication in treating acute and chronic pain is a continuing problem. A cross-sectional survey was conducted in various teaching medical centres and pain clinics in Kolkata targeting the physicians' knowledge, goals, beliefs, attitudes, and prescribing practices for chronic pain. The study was done to evaluate assessment of physicians' knowledge, goals, beliefs, attitudes, and prescribing practices for chronic pain, to assess physicians' practice related to pain management, and to identify physician-related barriers to effective pain control.

Material and Methods: The questionnaire was written in English. It comprised 5 pages for physicians practising chronic pain management in Eastern India, including a cover page and an instruction page. It was divided into four sections (total of 21 items) addressing knowledge, attitude, belief and practising regarding pain and its treatment, socio-demographic information and previous training, and needs and preferences of treatment modalities while managing chronic pain patients.

Results: Majority of physicians treat painful conditions very often (60%). Majority of respondents treat non-malignant chronic pain (60%). Most of the respondents (86.67%) are aware of opioid prescribing laws practices in India. Most common preferred medicine is NSAIDs for managing initial pain among physicians (100%). Majority of the respondents (66.67%) find it inappropriate to reserve strong analgesic till pain get worse. A total of 93.33% of the respondents felt there should be multidisciplinary approach for managing chronic pain conditions. Conclusion: Majority of the respondents felt moderate pain relief should be goal for chronic pain management. Insufficient knowledge and education of physicians in chronic pain management is the main barriers among physician for treating chronic pain conditions. A total of 60% of the pain physicians' felt that medical fraternity is reluctance to prescribe opioids for chronic pain conditions.

Keywords: Chronic Pain, Physicians', Knowledge, Attitude, Belief, Practices, Opioid Analgesics, Pain Management, Questionnaire

INTRODUCTION

Chronic Pain is a universal and ubiquitous human experience that often increases morbidity to the extent that would make one incapacitated for performing his or her day-to-day activities. It is the third most common reason why people visit their General Practitioner. Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.¹ Pain may result from several reasons such as an underlying disease, a chronic health condition, or sometimes

due to unknown reasons. Chronic pain, often described as a long standing pain that persists past the normal time of healing or occurs along with a chronic health condition, has multidimensional implications in etiology, assessment, and treatment.²

A survey conducted by the World Health Organization (WHO) in 15 centers across Asia, Africa, Europe, and United States of America demonstrated the prevalence of chronic pain in 5% to 33% of the population.³ Age and gender variations in chronic pain prevalence are remarkably consistent across countries and populations (i.e. women

consistently report higher prevalence of chronic pain than men, and pain that interferes with life increases with age).⁴ Apart from differences in gender, presence of degenerative diseases, few psychological factors, and genetic factors may influence the prevalence of chronic pain among patients.⁵

Chronic pain is as major a problem in our country as anywhere else but the lack of a formal treatment strategy has been major lacuna in health care. Statistics from advanced countries show that 15-20% of population has acute pain (medical & surgical emergencies, postoperative pain, after accidents and injuries) and 25-30% of all population have chronic pain (as in chronic backache, cancer pain, migraines, arthritis, neuropathic pain etc).⁶

Nearly, a third (34%) of the general population in low- and middle-income countries suffers from chronic pain.⁷ India has a high prevalence of chronic cancer pain (0.4%) and chronic non-cancer pain (19.3%), yet most patients are deprived of essential opioids.^{8,9} This under utilization disproportionately affects low- and middle-income countries.^{10,11}

Despite promising initiatives to improve the practice of pain management in India, the pain care lags quite behind developed countries. Palliation is often a much neglected concept in our country. Often, it might be found that chronic pain issues are not tackled in the same serious way like that of other chronic diseases. That result in increased morbidity, mortality with decreased disability adjusted life years and socio-economic deterioration. Thus, the objectives of our study are to evaluate assessment of physicians' knowledge, goals, beliefs, attitudes, and prescribing practices for chronic pain, to assess physicians' practice related to pain management, and to identify physician-related barriers to effective pain control.

MATERIAL AND METHODS

The questionnaire was English in language. It comprised 5 pages for filling up by the physicians practising chronic pain management in Eastern India, including a cover page and an instruction page. It was divided into four sections (total of 21 items) addressing knowledge, attitude, belief and practising regarding pain and its treatment, socio-demographic information and previous training, and needs and preferences of treatment modalities while managing chronic pain patients. A cross-sectional survey was conducted in various teaching medical centres and pain clinics in Kolkata targeting the physicians' knowledge, goals, beliefs, attitudes, and prescribing practices for chronic pain. Survey data (21 items) were collected either by mail or interview. A total of 23 pain physicians were surveyed and 15 had completed the questionnaire. The response rate was assessed for physicians. Their characteristics were described using proportions and means \pm SD by means of statistical softwares.

RESULTS

The questionnaire survey was done among physician attending chronic pain patients in dedicated pain clinics and routine health care facilities regarding physicians' knowledge, goals, beliefs, attitudes, and prescribing practices for chronic pain. Majority of the participants were having post graduate medical degree (73.33%) and more than 4-6 years

of experiences in treating chronic pain patients (53.33%). Majority of the physicians who participated in the survey were having training in pain management in their training curriculum (66.67%) (Table 1).

Majority of physicians treat painful conditions very often (60%). Majority of respondents treat non-malignant chronic pain (60%). Most of the respondents (86.67%) are aware of opioid prescribing laws practices in India. Most common preferred medicine is NSAIDs for managing initial pain among physicians (100%). Majority of the respondents (66.67%) find it inappropriate to reserve strong analgesic till pain get worse. A total of 93.33% of the respondents felt there should be multidisciplinary approach for managing chronic pain conditions [Table 2].

A total of 80% of the respondents felt that majority of the chronic pain are undertreated in India. A total of 100% of the respondents felt that there should be regular training

| Variables | N [15] |
|----------------------------------|-----------------|
| Age (years), mean \pm SD | 43.8 \pm 7.69 |
| Sex, n (%) | |
| Male | 13 (86.67) |
| Female | 2 (13.33) |
| Educational Qualification, n (%) | |
| Undergraduate | 1 (6.67) |
| Post Graduate Diploma | 3 (20) |
| Post Graduate Degree | 11 (73.33) |
| Others | 0 (0) |
| Years of Practice, n (%) | |
| 1-3 | 1 (6.67) |
| 4-6 | 8 (53.33) |
| 7-10 | 2 (13.33) |
| \geq 11 | 4 (26.67) |
| Educational Training on Pain | |
| Yes | 10 (66.67) |
| No | 4 (26.67) |
| Not applicable | 1 (6.67) |

Table-1: Demographic and training information of pain physicians

| Variables | N [15] |
|---|-----------|
| Physicians' Self-Assessment of Knowledge in the Management of Chronic Pain, n (%) | |
| Extremely Confident | 1 (6.67) |
| Very Confident | 5 (33.33) |
| Confident | 7 (46.67) |
| Not too Confident | 2 (13.33) |
| Not Confident | 0 (0) |
| Treat Patients with Chronic Pain, n (%) | |
| Yes, Only Noncancer Pain | 2 (13.33) |
| Yes, Either Cancer or Noncancer Pain | 7 (46.67) |
| Yes, Both Cancer and Noncancer Pain | 6 (40) |
| No Response | 0 (0) |
| No | 0 (0) |
| Pain Commonly Managed, n (%) | |
| Acute Pain | 6 (40) |
| Chronic Pain (Non-Malignant) | 9 (60) |
| Cancer Pain | 0 (0) |

Table-2: Continue

| | |
|---|------------|
| Frequency of Treating Painful Conditions, n (%) | |
| No Response | 0 (0) |
| Never | 0 (0) |
| Sometimes | 0 (0) |
| Often | 9 (60) |
| Very Often | 6 (40) |
| Training in Pain Management, n (%) | |
| Medical School Training Only | 1 (6.67) |
| Residency Training Only | 2 (13.33) |
| Post-Graduate Training Only | 3 (20) |
| Combination of Medical School, Residency, and Post-Graduate Training | 9 (60) |
| Fellowship | 2 (13.33) |
| No Formal Training | 0 (0) |
| Missing | 0 (0) |
| Adequacy of Pain Management Knowledge, n (%) | |
| Don't Know | 0 (0) |
| Poor | 0 (0) |
| Fair | 5 (33.33) |
| Good | 6 (40) |
| Excellent | 4 (26.67) |
| Knowledge of Opioid Prescribing Laws, n (%) | |
| Yes | 13 (86.67) |
| No | 2 (13.33) |
| Attitudes towards chronic pain | |
| Appropriate for patient to request for additional pain medication, n (%) | |
| Yes | 4 (26.67) |
| No | 11 (73.33) |
| It is inappropriate to reserve strong analgesic till pain get worse, n (%) | |
| Yes | 10 (66.67) |
| No | 5 (33.33) |
| Physicians should readily prescribe strong opioids, n (%) | |
| Yes | 6 (40) |
| No | 9 (60) |
| Appropriate to refer chronic pain to the specialist, n (%) | |
| Yes | 12 (80) |
| No | 3 (20) |
| Multidisciplinary approach best for chronic pain, n (%) | |
| Yes | 14 (93.33) |
| No | 1 (6.67) |
| Majority of chronic pain are undertreated in India, n (%) | |
| Yes | 12 (80) |
| No | 3 (20) |
| Goals for chronic pain management, n (%) | |
| Complete pain relief | 4 (26.67) |
| Moderate pain relief | 10 (66.67) |
| Adequate pain relief | 1 (6.67) |
| No pain relief | 0 (0) |
| No response | 0 (0) |
| Table-2: Physicians' knowledge, goals, beliefs, and attitudes for chronic pain | |

| Variables | N (15) |
|---|------------|
| Insufficient knowledge and education of physicians in CP management, n (%) | |
| Yes | 15 (100) |
| No | 0 (0) |
| Inability to access the professionals who practice specialized methods in this field, n (%) | |
| Yes | 14 (93.33) |
| No | 1 (6.67) |
| Inadequate staff knowledge of pain management, n (%) | |
| Yes | 9 (60) |
| No | 6 (40) |
| Lack of access to a wide range of analgesics, n (%) | |
| Yes | 3 (20) |
| No | 12 (80) |
| Inadequate assessment of pain and pain relief lack of equipments or skills, n (%) | |
| Yes | 14 (93.33) |
| No | 1 (6.67) |
| Excessive state regulations about opioids prescription, n (%) | |
| Yes | 9 (60) |
| No | 6 (40) |
| Medical staff reluctance to prescribe opioids, n(%) | |
| Yes | 9 (60) |
| No | 6 (40) |
| Need for training courses, n (%) | |
| Yes | 15 (100) |
| No | 0 (0) |
| Frequently prescribed drugs for chronic pain, n (%) | |
| NSAIDs | 15 (100) |
| Opioid | 1 (6.67) |
| Antiepileptic | 8 (53.33) |
| Centrally acting analgesics (Tramadol) | 8 (53.33) |
| Anti-depressants | 9 (60) |
| Others | 14 (93.33) |
| Antidepressants or anti-epileptic drugs in pain management, n (%) | |
| Should not be applied | 0 (0) |
| Should be applied by specialists only | 3 (20) |
| May be incorporated on every level of the analgesic ladder | 12 (80) |
| May be applied only when other therapeutic methods fail | 0 (0) |
| Opioid analgesics during treatment of chronic pain, n (%) | |
| Should be administered on request | 0 (0) |
| Should be administered only under supervision of medical staff | 7 (46.67) |
| Should be administered in proper time intervals | 5 (33.33) |
| Should be administered as late as possible | 3 (20) |

Table-3: Continue

| | |
|---|-----------|
| Prescription of ≥ 2 drugs for pain, n (%) | |
| Never | 0 (0) |
| Rarely | 0 (0) |
| Seldom | 2 (13.33) |
| Often | 8 (53.33) |
| Very often | 5 (33.33) |
| Knowledgeable on the use of transcutaneous electrical nervous stimulation (TENS), n (%) | |
| Not Confident | 7 (46.67) |
| Not Too Confident | 3 (20) |
| Confident | 4 (26.67) |
| Very Confident | 1 (6.67) |
| Extremely Confident | 0 (0) |
| Table-3: Prescribing practices and physicians' barriers in chronic pain management | |

programme for treating chronic pain conditions. A total of 80% of the respondents preferred to incorporate antiepileptic and antidepressants on every level of the analgesic ladder. Prescription of ≥ 2 drugs for pain was often in the management of chronic pain (53.33%). Only 26.675 of the respondents were confident on the use of transcutaneous electrical nervous stimulation (TENS) [Table 3].

A total of 66.67% respondents felt moderate pain relief should be goal for chronic pain management [Table 2]. Insufficient knowledge and education of physicians in chronic pain management is the main barriers among physician for treating chronic pain conditions. A total of 60% of the respondents felt that excessive state regulations about opioids prescription was the main concern of decrease opioid use among chronic pain conditions. A total of 60% of the pain physicians' felt that medical fraternity was reluctance to prescribe opioids for chronic pain conditions [Table 3].

DISCUSSION

In the present study most of the respondents (86.67%) are aware of opioid prescribing laws practices in India. Most common preferred medicine is NSAIDs for managing initial pain among physicians (100%). Majority of the respondents (66.67%) find it inappropriate to reserve strong analgesic till pain get worse. A total of 93.33% of the respondents felt there should be multidisciplinary approach for managing chronic pain conditions. Again, a total of 80% of the respondents felt that majority of the chronic pain are undertreated in India. A total of 100% of the respondents felt that there should be regular training programme for treating chronic pain conditions. A total of 80% of the respondents preferred to incorporate antiepileptic and antidepressants on every level of the analgesic ladder. Prescription of ≥ 2 drugs for pain was often in the management of chronic pain (53.33%). Only 26.675 of the respondents were confident on the use of transcutaneous electrical nervous stimulation (TENS). A total of 66.67% respondents felt moderate pain relief should be goal for chronic pain management. Insufficient knowledge and education of physicians in chronic pain management is the main barriers among physician for treating chronic pain conditions. A total of 60% of the respondents felt that excessive state regulations about opioids prescription was the main concern of decrease opioid use among chronic pain

conditions. A total of 60% of the pain physicians' felt that medical fraternity was reluctance to prescribe opioids for chronic pain conditions.

Wolfert MZ et al study revealed Wisconsin physicians who responded to 32-item survey to assess Wisconsin physicians' knowledge, beliefs, and attitudes toward opioid analgesic use, held many misconceptions about the prescribing of opioids. Most physicians felt it lawful and acceptable medical practice to prescribe opioids for chronic cancer pain, but only half held this view if the pain was not related to cancer. Such views, coupled with a lack of knowledge about laws and regulations governing the prescribing of controlled substances, may result in inadequate prescribing of opioids with resultant inadequate management of pain.¹²

Nwokeji ED et al study [study examined physicians' willingness and attitudes toward prescribing long-acting opioids to patients with moderate to severe CNMP] revealed that of the 267 usable responses (10% response rate), two thirds of physicians indicated that they were "somewhat willing" to "extremely willing" to prescribe long-acting opioids to their patients with CNMP Physicians indicated an overall slightly favorable attitude (mean [SD], +2.96 [17.75] [possible range, -90 to +90]) toward prescribing long-acting opioids for CNMP Physicians who were unwilling to prescribe had an overall unfavorable attitude (mean [SD], -7.87 [17.43]) compared with willing physicians (mean [SD], +9.56 [14.81]). Approximately 80% of physicians believed that long-acting opioids would be effective in controlling pain and would improve overall quality of life in patients with CNMP. About two thirds of physician respondents were willing to prescribe long-acting opioids for patients with CNMP, and physician attitudes were marginally favorable.¹³ In Lalonde L et al survey, both physicians and pharmacists exhibited deficient knowledge regarding legislative rules governing opioid prescription. In this survey, more CEP training was positively associated with higher levels of pain KAB.¹⁴

Soumana C. Nasser et al surveyed physicians reported inadequate pain control to be related to the following issues: (1) fear of adverse effects of analgesics, especially narcotics (45%), with no statistically significant difference between different career stages ($p = 0.485$), (2) poor knowledge of pain management reported by 42% of physicians, with a statistically significant difference among various career stages, with the highest rate reported by mid-career physicians (100%) compared to others ($p < 0.001$), (3) lack of response to conventional analgesics identified as a barrier by 30% of surveyed physicians, as was terminal illness (25%) with no statistically significant differences reported across years in practice ($p = 0.564$ and $p = 0.122$, resp.), (4) forty-two percent of physicians reporting the barriers to appropriate management to be multifactorial.¹⁵

Clinical practice guidelines (CPGs) have been developed by several countries, including the USA¹⁶ and Canada¹⁷, to support evidence-based prescription of opioid medication for the management of chronic non-cancer pain. A systematic review of opioid prescribing CPGs identified 13 guidelines reporting on recommendations for the prescription of opioids for chronic pain between 2007 and 2013.¹⁸ Despite

their widespread availability and strong evidence supporting the benefits of their use^{19,20}, there is a long history of poor uptake of CPGs for chronic disease management by HCPs, with many studies reporting rates of non-adherence at or exceeding 50%.^{21,22} HCP non-adherence to CPGs is increasingly referred to as "clinical inertia".²³ Practically speaking, clinical inertia refers to a HCP's decision not to initiate, intensify, titrate, or stop treatment despite an indication and recognition of the need to do so.²⁴

Lin TC et al study revealed that prescribing opioids for chronic non-cancer pain (CNCP) has been strictly regulated in Taiwan. Non-pain physicians had a significantly lower knowledge level, more negative attitudes, and greater hesitation about prescribing opioids compared to the pain-related physicians ($P < 0.001$). CNCP physicians who had received CNCP-related training courses had a higher knowledge score than did those not receiving training ($P = 0.002$). Overall, the leading barriers for prescribing opioids were inadequate knowledge of pain management (76%), physician reluctance (73%), and family reluctance (78%). There are substantial knowledge gaps, negative attitudes, and hesitation toward prescribing long-term opioids for CNCP patients by physicians in Taiwan, suggesting that efforts are needed to improve postgraduate education regarding adequate opioid.²⁵

Ger LP et al study revealed that when prescribing opioids, most physicians (73%) agreed that they were very careful in the control of dosage and frequency for the prevention of drug tolerance and addiction. Some physicians (26%) did not object (agree or have no opinion) that the opioid dosage patients received must be much lower than the required dosage for the prevention of drug tolerance. Additionally, a significant number of physicians (34%) did not object to insinuating to patients or relatives that opioids were not good drugs and they had better bear the pain as much as possible. Many physicians (28%) had no objection to encouraging patients to bear severe pain and refuse the morphine injection. When patients experienced severe opioid side effects, the following percentages of physicians would prescribe opioids infrequently or with lower dosage, 63% for abdomen distention, 60% for nausea or vomiting, and 44% for severe constipation. Only 10% physicians would not prescribe opioids due to their belief of respiratory depression being a severe side effect.²⁶

Weinstein SM et al study had shown that a significant number of physicians in this survey revealed opiophobia (prejudice against the use of opioid analgesics), displayed lack of knowledge about pain and its treatment, and had negative views about patients with chronic pain. There were significant differences among groups of physicians based on size of geographic practice area and medical discipline.²⁷

Ger LP et al study also revealed that majority of physicians displayed significantly inadequate knowledge and negative attitudes toward the optimal use of analgesics and opioid prescribing. Multivariate analyses showed that the following six categories of physicians would be inclined to have inadequate knowledge of opioid prescribing: 1) those with perception of good medical school training in CPM, 2) those with perception of poor residency or fellowship training in

CPM, 3) those with a medical specialty in surgery, medicine, or oncology (vs. anesthesiology), 4) those with limited clinical experience in cancer patient care (number of patients less than 30), 5) those with a limited aim of pain relief, and 6) those with an underestimation of analgesic effect. Additionally, physicians with inadequate knowledge of opioid prescribing and with hesitation to intervene earlier with maximal dose of analgesia would be inclined to have reluctant attitudes toward opioid prescribing. The most important barriers to optimal CPM identified by physicians themselves were physician-related problems, such as inadequate guidance from a pain specialist, inadequate knowledge of CPM, and inadequate pain assessment. The results of this study suggest that active analgesic education programs are urgently needed in Taiwan.²⁶ Jeon YS et al study mentioned that the greatest concerns regarding opioid use were safety, side effects, and fear of addiction. Inadequate pain assessment and lack of staff knowledge and time were identified as barriers to pain management.²⁸

A 23-item questionnaire was designed and distributed to 550 physicians in 11 medical facilities in China. More than half of physicians indicated that opioid dose titration in patients with poor pain control and assessment of the cause and severity of pain were urgently needed knowledge for cancer pain management. Inadequate assessment of pain and pain management (63.0%), patients' reluctance to take opioids (62.2%), and inadequate staff knowledge of pain management (61.4%) were the three most frequently cited barriers to physicians' pain management.²⁹

Kheshti R et al study shown that 53.3% did not prescribe narcotics to patients with a history of substance abuse.³⁰ However, this behavior is incorrect, because patients with a history of substance abuse can develop medical conditions that cause severe pain, and there is some evidence that such patients may not be at high risk for developing repeated psychological dependency on narcotic drugs.³¹

Singh S et al study revealed the correlation between years of practice and number of barriers perceived was moderate ($r = 0.43$, $P = 0.12$) but statistically insignificant. Those who saw more patients with chronic noncancer pain perceived more barriers ($r = 0.12$, $P = 0.04$).³² In this survey too, the addiction potential of opioids was a commonly perceived barrier to prescribing them. A recent nationwide survey shows that about 1.08% of the Indians aged 10–75 have reported nonmedical use of prescription drugs.³³ This is low when compared to rates of use in Europe and the United States.³⁴ One of the factors could be low prescribing rates due to high-perceived risk of addiction and other adverse effects. Negative connotations regarding analgesic therapy (especially morphine) for chronic pain have been seen previously in Indian patients ($n = 59$) as well as palliative care specialists ($n = 28$).³⁵

Billa G et al study showed that patient's age, duration of therapy, comorbid conditions, and frequency of dosing were the main attributes for use of opioid according to 72.8%, 70.8%, 62.1%, and 52.4% of GPs, respectively. According to 92.8% of CPs, comorbid condition was the most important factor for selecting an opioid for analgesia. Patients age, duration of therapy, and frequency of dosing were considered

as important parameters by 87.5%, 69.6%, and 64.2% of CPs, respectively. Patient's age (84.2%), severity of pain (78.9%), duration of therapy (73.6%), and frequency of dosing (78.9%) were the major attributes shared by general surgeons during selection of NSAIDs.³⁶

There are some limitations present in this study. The study holds limitations of an observational and cross-sectional design. The sample of participants' was less as because this was single city based study. It is probably improper to generalize the findings to the whole Pain Physicians of Indian health care providers. Our sample was much more sophisticated and only physicians/surgeons involved in chronic pain management was interviewed.

CONCLUSION

Despite extensive progress in the scientific understanding of pain in humans, serious mismanagement and under-medication in treating acute and chronic pain is a continuing problem. In spite of different medications, people around the globe suffer from chronic pain of different etiologies. The treatment of moderate to severe chronic non-malignant pain (CNMP) was a challenge for both the patient and health care provider. Inadequate pain assessment and lack of staff knowledge and time were identified as barriers to pain management. Unrealistic expectations and denial from both patient and family were the most troublesome issues for delivery of care to dying patients. Physicians' positive attitudes toward cancer and non-cancer chronic pain management need to be encouraged and active professional analgesic education programs are needed to improve pain management in India. Many primary care physicians who are actively involved in treating myriad of chronic pain patients should be given regular training and clinical updates about the latest pain medications, their judicious use and adverse effects and basic procedures so that patients would be benefitted. Further well-controlled studies should be undertaken to investigate how physicians' attitudes and willingness translate into actual prescribing behaviour.

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