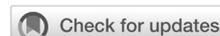


Factors related to pain management adequacy in patients receiving palliative care: data from a tertiary hospital in Indonesia

Hamzah Shatri, Ratih Arianita Agung, Vera Abdullah, Dina Elita, Rudi Putranto, Mizanul Adli, Cosphiadi Irawan



pISSN: 0853-1773 • eISSN: 2252-8083
<https://doi.org/10.13181/mji.oa.204088>
Med J Indones. 2020;29:399–402

Received: August 06, 2019

Accepted: August 21, 2020

Authors' affiliations:

Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia, Cipto Mangunkusumo Hospital, Jakarta, Indonesia

Corresponding author:

Hamzah Shatri
 Division of Psychosomatic and Palliative Care, Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia, Cipto Mangunkusumo Hospital, Jalan Diponegoro No. 71, Kenari, Senen, Central Jakarta 10430, DKI Jakarta, Indonesia
 Tel/Fax: +62-21-3196052
E-mail: psikosomatik@yahoo.com/ hshatri@yahoo.com

ABSTRACT

BACKGROUND The adequate pain management must be applied to improve the quality of life, particularly in patients receiving palliative care. Thus, this study aimed to determine the factors related to a pain management adequacy in patients receiving palliative care.

METHODS This cross-sectional study included all patients sent for consultation to the palliative care team complaining of pain in Cipto Mangunkusumo Hospital, Jakarta, Indonesia from 2016 to 2018. All data such as gender, age, employment status, disease type, primary cancer location, pain intensity, analgesic drug treatment duration, and the presence of anxiety and depression were retrieved from medical records. Pain management adequacy was evaluated using the pain management index. Logistic regression included all variables with $p < 0.25$ related to pain management adequacy in bivariate analysis.

RESULTS Out of 175 patients with pain, 85.7% had an adequate pain management. Pain was more adequately treated in patients with employment ($p = 0.001$), a milder pain intensity ($p < 0.001$), those using opioids ($p < 0.001$), and those who did not experience anxiety ($p = 0.05$). Factors related to pain management adequacy were opioid use (OR = 3.23, 95% CI = 1.71–6.13) and a milder pain (OR = 11.15, 95% CI = 3.89–31.99).

CONCLUSIONS Most of the patients received adequate pain management which related to opioid use and milder pain.

KEYWORDS adequacy factors, pain management, palliative care

Pain is a common symptom in palliative patients and a complaint of more than 50% of patients with advanced cancer, as well as non-cancer diseases.^{1,2} Pain is an uncomfortable sensation that may occur because of the disease itself or as a side effect of the treatment.³ Pain should be managed adequately because otherwise, it will reduce the quality of life.⁴ Until now, pain management used the World Health Organization (WHO) analgesic ladder, which is based on pain intensity.^{5,6}

Pain intensity may vary among patients with a similar disease entity or severity since pain is a subjective feeling. This feeling is affected by previous

experiences of pain, family support, and self-resistance. Therefore, pain medication must be administered in a unique way for every patient.^{4,7} Sometimes patients with mild-to-moderate pain may need opioids,⁸ but the physician should be cautious about side effects such as gastrointestinal and neurological problems.^{9,10}

There have been numerous studies evaluating the adequacy of pain management in cancer cases; meanwhile, there are limited studies assessing in both cancer and non-cancer patients. Moreover, enhancing quality of life is the main purpose for patients receiving palliative care by eliminating their pain as soon as possible. Thus, it is important to explore

the proportion of patients receiving adequate pain management, especially in a tertiary referral hospital in which chronic diseases with complex problems are treated, and assess the factors related to the adequacy of pain management.

METHODS

This cross-sectional study used secondary data from medical records. The subjects were adult patients (>18 years old) experiencing pain and receiving

palliative care from the Psychosomatic Palliative Team, Cipto Mangunkusumo Hospital, Jakarta, Indonesia, a tertiary referral hospital, from 2016 to 2018. There were 285 patients referred for consultation to the Psychosomatic Palliative Team, and 175 of them experienced pain. All patients with pain was included in this study as a sample. This study was approved by the Ethics Committee of the Faculty of Medicine Universitas Indonesia (No: 0406/UN2.F1/ETIK/2018).

In Cipto Mangunkusumo Hospital, we used the visual analogue scale to assess a pain intensity. All data

Table 1. Factors related to pain management adequacy in patients receiving palliative care

Variable	Adequacy of pain management		Bivariate analysis	Multivariate analysis	
	Adequate, n (%) (N = 150)	Inadequate, n (%) (N = 25)	<i>p</i>	OR (95% CI)	<i>p</i>
Male sex	73 (48.6)	12 (48.0)	0.951 [‡]		
Age (years)			0.589 [‡]		
19–60	119 (79.3)	21 (84.0)			
>60	31 (20.7)	4 (16.0)			
Unemployment	36 (24.0)	14 (56.0)	0.001[‡]	2.60 (0.80–8.43)	0.111
Disease type			0.502 [‡]		
Cancer	108 (72.0)	16 (64.0)			
Non-cancer	42 (28.0)	9 (36.0)			
Type of cancer					
Digestive system	40 (37.0)	4 (25.0)			
Gynecology	20 (18.5)	4 (25.0)			
Head and neck	12 (11.1)	4 (25.0)			
Cardiothoracic	9 (8.3)	1 (6.25)			
Breast	6 (5.6)	2 (12.5)			
Hematology	3 (2.8)	1 (6.25)			
Genitourinary system	3 (2.8)	0 (0)			
Renal	3 (2.8)	0 (0)			
Others*	12 (11.1)	0 (0)			
Pain intensity [†]			<0.001[‡]		
Mild	102 (71.8)	8 (32.0)		11.15 (3.89–31.99)	<0.001
Moderate	36 (25.4)	11 (44.0)		-	
Severe	4 (2.8)	6 (24.0)		1.00	
Analgesic			<0.001[§]		
NSAID	38 (25.3)	10 (40.0)		-	
Weak opioid	31 (20.7)	3 (12.0)		3.23 (1.71–6.13)	<0.001
Strong opioid	35 (23.3)	0 (0)		-	
Combination	44 (29.3)	2 (8.0)		-	
Without analgesic	2 (1.3)	10 (40.0)		1.00	
Anxiety	1 (0.7)	2 (8.0)	0.050 [‡]	-	0.998
Depression	14 (9.3)	0 (0)	0.105[§]	-	0.998

OR=odds ratio; CI=confidence interval; NSAID=non-steroidal anti-inflammatory drugs

*Primitive neuroectodermal tumor (PNET), cavernoma, malignant melanoma, myxoma femur, and oxyphilic carcinomatosis; [†]eight data not completed visual analog scale (VAS) to assess intensity

including gender, age, employment status, disease type (cancer or non-cancer), primary cancer location, pain intensity, analgesic type, and the presence of anxiety and depression were retrieved from medical records. The pain management index (PMI) was used to evaluate a pain management adequacy in the range -3 to $+3$ by evaluating the pain intensity and drugs used based on the WHO analgesic ladder. PMI ≥ 0 indicates an adequate pain management, while a negative value indicates an inadequate pain management.¹⁰

Factors related to a pain management adequacy in patients with pain in palliative care were observed using logistic regression. All variables that met $p < 0.25$ in bivariate analysis of pain management adequacy using either chi-square analysis or Fisher's exact test were included in the multivariate analysis. SPSS software version 25 (IBM Corp., USA) was used in all statistical analyses.

RESULTS

There were 285 patients consult to Psychosomatic and Palliative Team. Out of 175 patients experiencing pain. All patients with pain was included in this study, with 85.7% had adequate pain management. The demographic and clinical characteristics of palliative patients with pain can be seen in Table 1. Most of the subjects had cancer, of which the digestive system was the most frequent location. Among both cancer and non-cancer patients, most of them had an adequate pain management. Employment, mild pain intensity, opioid use, and the absence of anxiety were associated with adequate pain management, but only mild pain intensity and opioid use were factors related to adequacy (Table 1).

DISCUSSION

In this study, 85.7% of palliative care patients had adequate pain management. This may be because most of them had mild and moderate pain intensity (65.9%). Hence, non-steroidal anti-inflammatory drugs (NSAIDs) were common drugs of choice for pain in this study, as recommended by the WHO.^{9,11,12} The patient's medical condition and pain intensity should be the primary concerns in pain management. However, the combination of opioids and NSAID are often needed for palliative patients in a mild and moderate pain. A meta-analysis showed that monotherapy

with paracetamol or NSAIDs could not reduce pain symptoms, but a combination of paracetamol and weak opioids produced a better outcome.¹³ Opioid use also produced a better pain relief than NSAID, but long-term opioid use may result in several side effects.^{14,15} Hence, patients must be educated on the possible side effects and should seek for help if needed, and physicians should weigh the risks and benefits of using these drugs. This also makes it challenging for patients and physicians to decide whether to take and prescribe opioids, respectively.¹⁶ Opioid may be administered directly for severe pain according to the WHO pain ladder.¹⁷⁻¹⁹ A combination of opioid and NSAIDs may be the best alternative treatment to improve a pain management and lower dose-related side effects. These findings support our results showing that a milder pain intensity and opioid use were factors related to pain management adequacy. Patients with mild pain would be treated adequately with NSAIDs without any hesitancy, and when opioids were used, patients would surely obtain adequate treatment, since opioids are the top analgesics for pain management.

In this study, an inadequate pain management was similarly found in adults and the elderly,²⁰ without any difference based on primary cancer location. Singh et al²¹ reported that an inadequate treatment was mostly found in patients aged 40–50 years and with genitourinary cancer. Eighty-eight percent of patients with mild and moderate pain received an adequate treatment; meanwhile, only 40% of patients with severe pain had adequate pain management. Appropriate pain management could improve patients' quality of life.²² Moreover, an unresolved pain may affect psychological aspects such as anxiety and depression. When they occurred, psychological treatment is needed to improve pain perception.²³

The limitation of this study was that we used medical records in retrieving the data. We did not assess dosage, treatment duration, and changes in pain before and after treatment. Moreover, we did not provide any data about patients conditions. Some of the patients may have been treated in an intensive care unit or high care unit. This may also contribute to fewer patients having anxiety and depression. Further prospective studies should consider the dosage and side effect of pain treatment related to pain improvement. In conclusion, most palliative care patients had an adequate pain management. The

milder pain intensity and opioid use were the factors related to pain management adequacy.

Conflict of Interest

The authors affirm no conflict of interest in this study.

Acknowledgment

The authors would like to thank Division of Psychosomatic and Palliative Care, Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia, Cipto Mangunkusumo Hospital and Medical Research Unit, Faculty of Medicine, Universitas Indonesia.

Funding Source

This study was funded by Medical Research Unit, Faculty of Medicine, Universitas Indonesia and Division of Psychosomatic and Palliative Care, Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia, Cipto Mangunkusumo Hospital.

REFERENCES

1. Wilkie DJ, Ezenwa MO. Pain and symptom management in palliative care and at end of life. *Nurs Outlook*. 2012;60(6):357–64.
2. ElMokhallati Y, Woodhouse N, Farragher T, Bennett MI. Specialist palliative care support is associated with improved pain relief at home during the last 3 months of life in patients with advanced disease: analysis of 5-year data from the national survey of bereaved people (VOICES). *BMC Med*. 2019;17(1):50.
3. Chan HK, Ismail S. Side effects of chemotherapy among cancer patients in a Malaysian General Hospital: experiences, perceptions and informational needs from clinical pharmacists. *Asian Pac J Cancer Prev*. 2014;15(13):5305–9.
4. Sholjakova M, Durnev V, Kartalov A, Kuzmanovska B. Pain relief as an integral part of the palliative care. *Open Access Maced J Med Sci*. 2018;6(4):739–41.
5. Vargas-Schaffer G. Is the WHO analgesic ladder still valid? Twenty-four years of experience. *Can Fam Physician*. 2010;56(6):514–7.
6. Bhatnagar S, Gupta M. Integrated pain and palliative medicine model. *Ann Palliat Med*. 2016;5(3):196–208.
7. Kittelson SM, Elie MC, Pennypacker L. Palliative care symptom management. *Crit Care Nurs Clin N Am*. 2015;27:315–39.
8. Rasor J, Harris G. Opioid use for moderate to severe pain. *J Am Osteopath Assoc*. 2005;105(6):S2–7.
9. Krashin D, Murinova N, Jumelle P, Ballantyne J. Opioid risk assessment in palliative medicine. *Expert Opin Drug Saf*. 2015;14(7):1023–33.
10. Leppert W, Zajaczkowska R, Wordliczek J. The role of oxycodone/naloxone in the management of patients with pain and opioid-induced constipation. *Expert Opin Pharmacother*. 2019;20(5):5111–22.
11. Ho KY, Gwee KA, Cheng YK, Yoon KH, Hee HT, Omar AR. Nonsteroidal anti-inflammatory drugs in chronic pain: implications of new data for clinical practice. *J Pain Res*. 2018;11:1937–48.
12. Derry S, Wiffen PJ, Moore RA, McNicol ED, Bell RF, Carr DB, et al. Oral nonsteroidal anti-inflammatory drugs (NSAIDs) for cancer pain in adults. *Cochrane Database Syst Rev*. 2017;7(7):CD012638.
13. Schüchen RH, Mücke M, Marinova M, Kravchenko D, Häuser W, Radbruch L, et al. Systematic review and meta-analysis on non-opioid analgesics in palliative medicine. *J Cachexia Sarcopenia Muscle*. 2018;9(7):1235–54.
14. Klepstad P, Kaasa S, Borchgrevink PC. Starting step III opioids for moderate to severe pain in cancer patients: dose titration: a systematic review. *Palliat Med*. 2010;25(5):424–30.
15. Cohen B, Ruth LJ, Preuss CV. Opioid analgesics. Treasure Island: StatPearls Publishing; 2020. p. 1–13.
16. Ortiz MI, Molina MA, Arai YC, Romanò CL. Analgesic drugs combinations in the treatment of different types of pain. *Pain Res Treat*. 2012;2012:612519.
17. Paterson C, Ledgerwood K, Arnold C, Hogg M, Xue C, Zheng Z. Resisting prescribed opioids: a qualitative study of decision making in patients taking opioids for chronic noncancer pain. *Pain Med*. 2016;17(4):717–27.
18. Leppert W. Pain management in patients with cancer: focus on opioid analgesics. *Curr Pain Headache Rep*. 2011;15(4):271–9.
19. Prommer EE. Pharmacological management of cancer-related pain. *Cancer Control*. 2015;22(4):412–25.
20. Wandner LD, Scipio CD, Hirsh AT, Torres CA, Robinson ME. The perception of pain in others: how gender, race, and age influence pain expectations. *J Pain*. 2012;13(3):220–7.
21. Singh H, Banipal RPS, Singh B. Assessment of adequacy of pain management and analgesic use in patients with advanced cancer using the brief pain inventory and pain management index calculation. *J Glob Oncol*. 2016;3(3):235–41.
22. Katz N. The impact of pain management on quality of life. *J Pain Symptom Manage*. 2002;24(1 Suppl):S38–47.
23. Woo AK. Depression and anxiety in pain. *Rev Pain*. 2010;4(1):8–12.