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ARTICLE

**Knowledge, attitudes and perceived barriers to postoperative pain management:
Institution based cross sectional study**

1

Yosef Tibebu Setegn, Eyayalem Melese Goshu and Bedilu Girma Weji

Full Length Research Paper

Knowledge, attitudes and perceived barriers to post-operative pain management: Institution based cross sectional study

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Post-operative pain is a common problem after surgical procedure. Undertreated and uncontrolled post-operative pain reduce physical and social performance, impaired quality of life and patient dissatisfaction, delayed discharge, increased use of health care resources and high cost on their hospital stay. Even if the problem is vast, researches on the area lack adequate data. This study aimed to assess knowledge, attitude and perceived barriers to post-operative pain management among anesthetists in Addis Ababa Governmental Hospitals, Ethiopia 2015. An institution based cross-sectional study was conducted. A survey method was undertaken to include a total of 150 anesthetists working in 11 government hospitals found in Addis Ababa, Ethiopia. Pretested structured self-administered questionnaire was used to collect the data. Data were entered and analyzed through SPSS version 20. Tables, graphs and frequencies were used to report the descriptive result. In total, 102 (68%) participants participated in the research. The mean score of correctly answered questions by the participants was 4.9 SD \pm 2.3, out of 12 items ranging from a minimum of 1 to a maximum of 11. Inadequate post-operative pain assessment, absence of pain management guideline and least priority for post-operative pain control are the major mentioned barriers by the participants. Anesthetist's pain management knowledge and attitude level was found to be low. Strengthening educational strategy for surgical pain management and working on standard guidelines plays major role in alleviating the problem.

Key words: Attitude, Ethiopia, knowledge, perceived barriers, post-operative pain.

INTRODUCTION

International Association for the Study of Pain (IASP) define pain as an unpleasant sensory and emotional experience associated with actual or potential tissue

damage or described in terms of such damage (Brennan et al., 2007).

The importance of post-operative pain management has

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been repeatedly demonstrated in the past two decades Adequate post-operative pain management (POPM) can reduce the patients' length of hospitalization and reduce post-operative complications (Suwanraj, 2010). Pain causes an increase in the sympathetic response of the body with subsequent rise in heart rate, cardiac work, difficulty in breathing and oxygen consumption. Prolonged pain can reduce physical activity and lead to venous stasis and an increased risk of deep vein thrombosis and consequent pulmonary embolism (American Society of Anesthesiologists Task Force on Acute Pain, 2012; Gallagher et al., 2004). However, many researchers reported that unsatisfactory pain management were practiced in different countries (Taylor et al., 2008; Rejeh et al., 2008; Windsor et al., 1996).

Survey study from Malaysia and Ghana reported that the reason for poor management of acute pain in developing countries is absence of institutional training and national policy for pain management (Jawaid et al., 2009). In a study in Helsinki university hospital, proper management of post-operative pain was challenging to establish due to poor communication, insufficient assessment and the individual differences in the experience of pain (Kumar, 2007; Madenski, 2014).

In a study in Ethiopia, even though delivery of adequate pain control during the post-operative period is the responsibility and duty of health care providers, mainly anesthetists, they were not assigned in post-operative pain management recovery room and wards (Woldehaimanot et al., 2014).

Post-operative pain is not merely unpleasant for the patients and his/her relatives, but increases post-operative morbidity and possibly mortality and the number of unanticipated readmissions. In addition, it may cause chronic pain conditions which may be very difficult to treat. Therefore, in terms of patient safety and satisfaction, good post-operative pain control is important and is part of good clinical practice (Windsor et al., 1996; McDonnell et al., 2007; Aziato and Adejumo, 2013). Though the problem is broad, literatures on this area lack adequate data. Therefore, this study assesses knowledge, attitudes and perceived barriers to post-operative pain management among anesthetists working in Addis Ababa Governmental Hospitals, Ethiopia.

MATERIALS AND METHODS

Institution based cross sectional study was conducted from May to June 2015 in 11 hospitals in Addis Ababa which is the capital city of Ethiopia. These hospitals are Tikur Ambessa Specialized Hospital, St Paul Specialized Hospital, Gandi Specialized Hospital, Army Specialized Hospital, Alert Specialized Hospital, Zewditu Specialized Hospital, Rasdesta Specialized Hospital, Tirunesh Beijing Specialized Hospital, Minilik Specialized Hospital, Yekatit Specialized Hospital and Police Specialized Hospital. All anesthetists working in the 11 government hospitals were included in the study through preliminary survey and those who were in any kind of leave were excluded. Data were collected through self-administer structured and pretested English language prepared

questionnaire, which is adopted from British journals, the known Pain 50 tool and WHO pain management guidelines, 2008 and 2007 respectively (Brennan et al., 2007). Data were checked, cleaned manually, coded and entered into Epi Info version 5 and exported to SPSS version 20 for analysis. Percentage and frequencies calculated tables and graphs were used to report the descriptive result.

Participants were considered as knowledgeable if their answer to the knowledge related questions is greater or equal to 80% and those with good attitude were participants whose answer to the attitude questions was greater or equal to 80%.

Ethical consideration

Ethical clearance was obtained from Institution Review Board of Addis Ababa University and permission letter from Addis Ababa Health Office and from each government hospital, and finally after information provision, consent was obtained from each participant.

RESULTS AND DISCUSSION

A total of 102 anesthetists with response rate of 68% participated in the study.

Socio demographic characteristics

Majority of the participants were male (65; 63.7%) and in the age group of 20 to 30, 61 (59.8%) with mean age of 32.2 and 73 (71.6%) were degree holders with regards to educational level. Forty-four (43.1%) of the participants had 1 to 5 years' experience (Table 1).

Knowledge of participants on pain management

In this survey, majority (82; 80.4%) of the respondents had knowledge on paracetamol as NSAID (Table 2).

Knowledge score of participants

The mean score of correctly answered questions by the participants were 4.9 with standard deviation of ± 2.3 out of 12 items ranging from a minimum of 1 to a maximum of 11 (Figure 1).

Attitude of participants

Majority (97; 95.1%) of the participants responded positively to the question, performing nerve blocks for surgical patients is effective in reducing complication and in early return to activities (Table 3).

Perceived barriers to pain management

In this study, major barriers to post-operative pain management are inadequate post-operative pain

Table 1. Socio demographic characteristics of the respondents.

Variables	Frequency (N)	Percentage (%)
Gender		
Female	37	36.3
Male	65	63.7
Age		
20-30	61	59.8
31-40	17	16.7
>41	24	23.5
Level of education		
Diploma	16	15.7
Degree	73	71.6
Master's degree	13	12.7
Anesthetists' experience		
<1 year	11	10.8
1-5 years	44	43.1
5-10 years	23	22.5
>10 years	24	23.5

n=102.

Table 2. Knowledge of respondents on pain management.

S/N	Questions on knowledge	Correct N (%)	Incorrect N (%)
1	Any surgical patient who is given opioids has a 25% or more risk of addiction	22(21.6)	80(78.4)
2	NSAIDs are contraindicated to dehydration or hypovolemia	52(51)	50(49)
3	Elderly patients cannot tolerate medication such as opioid for pain	45(44.1)	57(55.9)
4	There is a limit or 'ceiling' effect in the dose of pure opioid agonist (e.g. morphine) to control pain	44(43.1)	58(56.9)
5	Patient cultural and ethnic variation has effect on pain severity	69(67.6)	33(32.4)
6	Changes in vital signs are reliable indicators of pain severity	17(16.7)	85(83.3)
7	Opioid induced respiratory suppression is common	27(26.5)	75(73.5)
8	Ilio-hypogastric and ilio-inguinal nerves are purely sensory	24(23.5)	78(76.5)
9	Paracetamol is as effective as NSAIDs at reducing opioid requirement	82(80.4)	20(19.6)
10	A consistence high score on pain rating scale for minimal to moderate surgery, which means patient is exaggerating the pain	50(49)	52(51)
11	Patient may sleep in spite of severe pain	53(52)	49(48)
12	By far there is a common adverse side effect of opioid therapy	37(36.3)	65(63.7)

n=102.

assessment (90; 88.2%), absence of pain management guideline (89; 87.3%) and post-operative pain control is not given priority (86; 84.3%) (Table 4).

DISCUSSION

Knowledge score of anesthetists' in this study was found to be low as compared to other studies conducted in

Ireland and UK (Vickers, 2011; Powell et al., 2009). This may be due to socio demographic, life style and educational background difference. The study also showed knowledge difference among anesthetists regarding their educational status. Masters level participants had better knowledge than Bsc. and diploma level anesthetists. This finding is consistent with study conducted in Ireland (McCAFFERY and Robinson, 2002) and different systematic review results (Powell et al.,

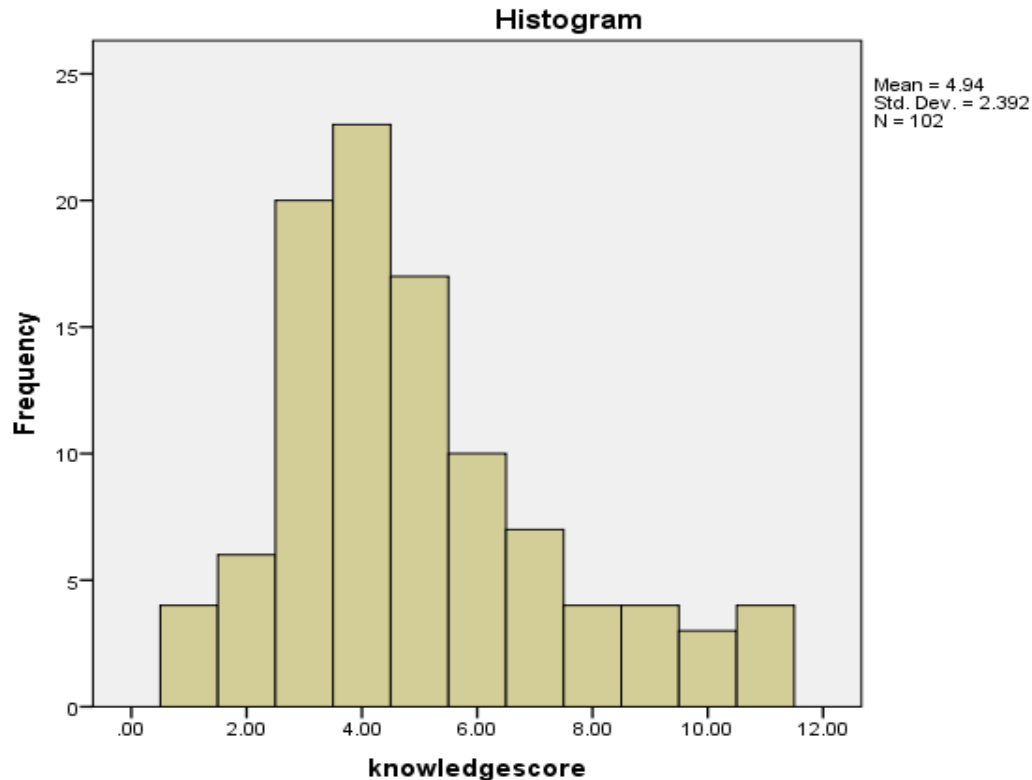


Figure 1. Average knowledge score of participants.

2009). On the other hand, most incorrectly answered question by anesthetists was changes in vital signs are reliable indicators of pain severity (83.3%). This result is comparable to other similar literatures (Aziato and Adejumo, 2013; Vickers, 2011; McCaffery and Robinson, 2002). In addition, half the sample of respondents (49% of respondents) in this sample wrongly believed that patients' cannot sleep in spite of severe pain. This result possibly shows anesthetists' inadequate pain assessment skills (McDonnell et al., 2007).

Attitudes of anesthetists in this survey were found to be low. Significant attitude difference was seen among anesthetists in their educational status and work experience. Thirty-six (35.3%) of the respondents believed that working in collaboration with other professionals do not bring effective post-operative pain control. It was found that those who had diploma and longer working experience had a positive attitude towards collaboration and communication with other professionals than those who have Bsc, Msc and shorter working experience in effective pain control. This finding is in line with other studies (Kumar, 2007; Woldehaimanot et al., 2014). About 72% of anesthetists wrongly agreed that analgesic tolerance and addiction to opioids usually occurs following post-operative treatment, even though opioids have <1% risk of tolerance and addiction (Ariyanuchitkul and Petchdee, 2011). The result is

relatively high as compared to other studies (American Society of Anesthesiologists Task Force on Acute Pain, 2012; Madenski, 2014; Woldehaimanot et al., 2014; Vickers, 2011; McCaffery and Robinson, 2002). This variance might be due to educational difference among participants.

Inadequate post-operative pain assessment and post-operative pain control are not given priority, and absence of pain management guideline was most frequently cited barriers by anesthetists. Most of the anesthetists who had low score on the knowledge section quoted lack of knowledge as most frequent barrier in the perceived barriers section of this survey.

Previous studies have shown that improving pain assessment procedures requires the caregiver to acknowledge and have faith in the patient's report (Jho et al., 2014).

Conclusion and recommendation

Knowledge and attitude level of respondents in this study was low. Inadequate post-operative pain assessment, absence of pain management guideline and giving least priority to post-operative pain control are major reasons mentioned as barrier. Working on the listed barriers with improved education and on job training plays major role

Table 3. Attitude of respondents to pain management.

S/N	Attitudes related questions	Agree N (%)	Disagree N (%)
1	Good communication with surgeon, nurses and patient has positive outcome for effective pain management.	66(64.7)	36(35.3)
2	Post-operative pain management is the responsibility of anesthetists.	80(78.4)	22(21.6)
3	I believe I have taken proper education and training on POPM in my graduating school?	59(57.8)	43(42.2)
4	Service training on POPM can change knowledge, attitude and belief of health professional.	96(94.1)	6(5.9)
5	Performing nerve blocks for surgical patients is effective in reducing complication and in early return to activities.	97(95.1)	5(4.9)
6	There is a need for continuous education and training program on post-operative pain for anesthetists.	95(93.1)	7(6.9)
7	Early return to activity is one of my primary goals when treating a patient with surgical pain.	96(94.1)	6(5.9)
8	The scope of practice, developed by anesthesia association, is important for pain management in prescribing narcotics.	76(74.5)	26(25.5)
9	Continuous professional development (CPD) improves the quality of pain management	94(92.2)	8(7.8)
10	There is active involvement in post-operative pain management in our hospital.	42(41.2)	60(58.8)
11	I think post-operative pain is adequately managed in our hospital.	9(8.8)	93(91.2)
12	I believe that analgesic tolerance and addiction to opioid usually occurs following post-operative treatment	74(72.5)	28(27.5)

n=102.

Table 4. Perceived barriers of pain management (n=102).

S/N	Questions	Agree N (%)	Disagree N (%)
Anaesthetist related			
1	Inadequate post-operative pain assessment	90(88.2)	11(10.8)
2	Insufficient knowledge of Post-operative pain control	61(59.8)	41(40.2)
3	Time constraints	62(60.8)	40(39.2)
4	Reluctant to prescribe opioids	70(68.6)	32(31.4)
5	Insufficient communication with patient and other health professionals	58(56.9)	44(43.1)
6	Fear of side effect caused by opioids	62(60.8)	40(39.2)
Health care and institution related			
7	Strict regulation of opioids	68(66.7)	34(33.3)
8	Inadequate staff	67(65.7)	35(34.3)
9	Limited stocking of different type of opioid	71(69.6)	31(30.4)
10	Post-operative pain control is not given priority	86(84.3)	16(15.7)
11	Need for opioid prescription	65(63.7)	37(36.3)
12	Absence of pain management guideline	89(87.3)	13(12.7)
13	Inadequate analgesic drugs	44(43.1)	58(56.9)

n=102.

in improving the utilization.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interests.

Abbreviations

IASP, International Association for the Study of Pain; **NSAID**, non-steroid anti-inflammatory drugs; **POPM**, post-operative pain management.

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