ASSESSMENT OF THE PAIN MANAGEMENT PRACTICE IN TASH ADULT EMERGENCY DEPARTMENT

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Abstract

Background: Up to 70% of patients who present to the emergency department (ED) have underlying pain as a reason to seek help. Knowledge on pain management practice in the ED is lacking.

Objective of the Study: The general objective of this study is to assess the practice of pain management in TASH adult ED. Specific objectives;

1) Determine the socio-demographics of patients in pain
2) Determine the initial and subsequent severity of pain
3) Identify factors affecting analgesics(s) administration

Methodologies: A cross-sectional observational study was conducted on 123 patients with moderate to severe pain presenting to TASH adult ED. A numerical pain rating scale was used to determine pain severity at two phases: initially at triage and after arrival into ED.

Result: Out of 123 patients enrolled in the study were male (67.5%) with the median age of 32(min 14, max 90). Majority of patients were trauma accounting (59.3%) of all patients. Initial mean pain score was 7.7 and 79.7% of patients remained in moderate to severe pain despite initial physician evaluation and initiation of orders. Moreover for 39% of patients the pain either did not change (30.8%) or increased in intensity (8%) despite initial treatment. For 56.9% of patients analgesics were given, of which Tramadol was the commonest drug used (47.8%). Although 81.5% said they needed additional potent analgesics to be given, there was a record of higher satisfaction rate on overall pain management.

Conclusion: Initial high intensity of pain was documented and these are poorly recognized and majorities were left inadequately treated.

Limitation: The study was conducted in a single tertiary hospital ED, which makes it less representative of the common encounter in community hospital in the country.

Key words: Emergency department, pain, pain management, TASH.

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Operational definitions

Analgesic(an-àl-jé-zik)-A compound capable of producing analgesia, i,e., one that relieves pain by altering perception of nociceptive stimuli without producing anesthesia or loss of consciousness.

Asking for Analgesics- when patients seek and ask for analgesics by direct communication to the treating team, including the nurse. This will be documented after the patient presented to the ED.

Analgesics Unavailable- when analgesics are withheld to be given to patients because of a lack of the drug in hospital pharmacy and patient cannot afford outside pharmacies.

Analgesics not prescribed-when analgesics were not documented and/or given.

Mild Pain-level of pain on numerical pain scale between 1and 3.

Moderate pain-level of pain on the numerical pain scale between 4 and 6.

No pain-level of 0 on the numerical pain scale.

Pain- unpleasant sensory and emotional experience arising from actual or potential tissue damage (IASP)(3).

Prior analgesics- analgesics given to patients within 12 hours of ED arrival. This time is set based on the duration of drug action for commonly used analgesics in the country.

Severe Pain- level of pain on the numerical pain scale ranging from 7 to 10.

Table of content

Introduction

4.1. Background

Pain is often considered to be a reason triggering patients to seek help in emergency department. Pain affects all age groups without discriminating individuals based on gender or ethnicity. According to the international association for the study of pain (IASP), pain is an unpleasant sensory and emotional experience arising from actual or potential tissue damage (3). Pain is classified in to acute or chronic based on the duration of suffering. Acute pain usually lasts few hours or days and it is mostly related with tissue damage or inflammation which can occur in patients who had sustained accidental trauma or surgery and in patients with non trauma conditions. Acute pain is physiologically used as a warning sign of tissue damage and it is almost always present in the setting of acute tissue injury, irrespective of whether or not the patient is able to communicate it. Chronic pain, in contrast, persists over months and years with intermittent worsening of symptoms. Most importantly inadequately treated acute pain gives its way to chronicity.(?)

Pain is not purely a perceptual phenomena rather it is a complex physiologic body reaction that has a capacity to disrupts the bodies homeostatic regulatory mechanisms, thereby, producing stress and initiating complex mechanisms required to reverse the body back to normal. This change in body homeostasis is effected by numerous cytokine chemical mediators which are released from the site of tissue injury, which includes gamma interferon, interleukin 1 and 6 and tissue necrosis factor that then crosses the blood brain barrier to stimulate the neuro-endocrine and sympathetic system (5). This stress response has a delicate balance between protecting our body from the incited tissue injury and the negative physiologic consequences.

The understanding of the multi-faceted nature of pain and its physiologic consequences resulted in the recommendation of international bodies to consider pain as a “fifth vital sign”. This signifies the important implication it has on physiologic functioning. Above all, the essence of our profession is alleviating a patients suffering, which is a terrible feeling, as it is nicely described by *Albert Schweitzer*, *”Pain is a more terrible lord of mankind than even the death itself*”. Given the previous, you can understand our interest in investigating the current practice of pain management in TASH adult ED with the goal of identifying the commonly encountered patient’s problems associated with pain and to see what the current practice pattern appear to be to allow us to better treat our patient’s pain in the future.

4.2 Statement of the problem

Pain is a common presentation in the ED accounting for an estimated 70% of patients presenting to the emergency department (6). It is a global issue with millions of people suffering from it each day. When acute pain or an exacerbation of chronic pain occurs, most of the patients seek help at the ED. With increasing recognition of the poor pain management in the ED, the international association of the study of pain (IASP) recommends a guideline-based approach to pain management for acutely ill with painful conditions. The international association further identifies core actions to be taken, such as, assessment of patient's pain status during initial presentation using standardized pain assessment tool and it justifies the use of specific tool for assessment of pain in patients with extremes of age and patients with cognitive impairment (IASP). As a reflection of the IASP recommendation, the national health and medical research council (NHMRC) of Australia published in its guideline that ED pain management requires the assessment of pain on presentation of patients to the ED and reassessment of pain as the pre-requirement for effective analgesia and that clinical assessment of pain should include the self-assessment by the patient (8). Similar efforts are becoming a primary focus in many different parts of the world to better optimize pain management and appropriately treating and controlling oligoanalgesia.

The status of pain management practice in our patients is lacking and no one knows how many of our patients suffering are left untreated. According to the WHO African palliative care report, it is estimated that at least 50% of HIV patients and 80% of cancer patients are suffering from severe pain which is being given little attention (9, 10). TASH ED is seeing these patients daily. Moreover, these patients are coming to our hospital from all over Ethiopia seeking treatment for their pain. In addition, many patients with traumatic injuries with likely significant pain are presenting to our adult ED. According to the study by A. Wolde et al (Trauma Audit in Addis Ababa) from 2005 to 2006 shows unintentional injuries account 27% of ED visits in public health centers (11). In the care of these patients, we need to have a systematic approach to alleviate patient suffering. Unfortunately, there is no pain management guideline for our patients in the TASH ED.

The proper diagnosis and management of pain has a positive impact on our patients by relieving suffering. A growing body of evidence supports the importance of effective pain management as a primary focus in the treatment of disease. Acutely, unrelieved pain is associated with a variety of potential negative physiologic outcomes, including: increases in sympathetic outflow, peripheral vascular resistance, myocardial oxygen consumption, and the production of carbon dioxide, hypercoagulability, and decreases in gastric motitility and immune function. Interestingly, poorly treated acute pain can contribute to the development of chronic pain syndromes and vegetative symptoms, as well as, increasing the need for higher analgesic dosing during the recovery period (12-17).

This study is designed in such a way to help us to analyze the baseline pain status of the patients presenting to the ED and it will help to identify at risk group for poor pain treatment. The results of the study will help us to better evaluate our current pain management and control at the TASH ED. This will allow us to make important recommendations to alleviate daily patient suffering.

4.3 Literature review

Pain is ubiquitous in the ED, as up to 70% of patients presenting to the emergency department have complaints related to pain (6). 40% of those patients may have chronic pain underlying their presenting complaint while close to 45% of patients presenting to the ED and acute care setting are suffering from acute pain (18). The Sub-Saharan Africa region, which is known to have a high prevalence of infectious diseases, such as, HIV/AIDS, tuberculosis and malaria are having an increasing problem with unintentional injuries affecting a young and productive population in these countries. According to the data from WHO, road traffic accidents, violence and self- inflicted injuries are among the top 10 leading causes of death and ongoing morbidity in low to middle income countries. In developing countries, the above injuries account for one-third of the disease burden in male adults between 15 and 44years of age (19). Data concerning pain management practice in the ED is lacking in Ethiopia, but studies in other African countries show the high prevalence of poor pain control. A study done in Ibadan accident and Emergency department in Nigeria by Aisouodioneoe,et al in 2006 found that of 106 patients with acute surgical conditions, no analgesia was given for 45.2% of the 69 patients with severe pain(20). Furthermore, 81% of patients who were given some kind of analgesia were still having severe residual pain. There are multiple causes of inadequate pain treatment in the ED, including: failure to acknowledge pain, failure to assess initial pain, failure to have pain management guidelines in ED, failure to document pain and to assess treatment adequacy, and failure to meet patient's expectations regarding pain management. In addition, there are multiple barriers that preclude an ED physician form proper pain management, which include, ethnic bias, gender bias, age bias, inadequate knowledge and formal training in acute pain management, opiophobia or lack of supply potent opiate, local ED environment and culture.

Acknowledging the presence of pain is the first crucial step in the treatment of pain in the ED. A retrospectivestudy by Lewis and colleagues in 1994 on 401 patients treated for acute bone fractures in eight emergency departments demonstrated that only 121(30%) patients received analgesia and indicated that the ED physicians failed to acknowledge and manage patient's pain(21). In another study by Rawlins and colleagues, 208 children with burns presented to the ED, whose average age was five years old where evaluated for pain treatment given in the ED in the study showed 87% of patients received no analgesia at all (22). In another ED study that evaluated 172 children presenting with an acute limb fracture, and only 84 of these patients received any analgesic medication while in the ED (23). A study done recently in 2007 suggests persistent poor analgesic management practice, asTodd et al evaluated the current state of ED pain management practice by enrolling 842 patients in 20 U.S. and Canadian hospitals(18). The results showed that only 60% of patients received analgesic after lengthy delays with a median waiting time for analgesics of 90minutes with a range of 0 to 962 minutes. Even more interesting,74% of patients were discharged in this study with moderate to severe pain.

The joint commission for the accreditation of health organization(JCAHO) and American college of emergency physician(ACEP) policies on pain management, require the assessment of pain for all patients presenting to the ED and mandate that the pain assessment be recorded in the medical record by using a pain scale(24).Nelson et al in 2004 studied 479 patient encounters after the implementation of a pain scale, and they showed that implementation of pain scale resulted in an

increase in analgesic use from 25% to 36%; in addition, analgesics were administered more rapidly after the pain scale was introduced (25). Pain is a subjective experience and a clinician must depend on the patient to supply key information on the localization, quality and severity of the pain that for proper evaluation and treatment requires adequate documentation. Interestingly, implementation of a pain scale built into the medical record has been shown to increase the documentation of pain assessment (26), which is something that TASH ED is currently working to improve.

In 1996, Goodacre and Roden showed that introduction of pain protocols in the ED reduced the percentage of patients with unsatisfactory analgesia from 91% to 69% and increased the use of intravenous analgesia from 9% to 37%(27). A study by Curtis et al explored the effect of protocol driven pain management on time to initiation of analgesia among trauma patients. The results showed that introduction of the protocol resulted in a decrease in the mean time to initiation of analgesia from 53.61 minutes to 27.94 minutes (P=0.001). The percentage of patients that received analgesia within the first 30minutes of arrival increased from 44.4% to 74.6%($p<0.001$) (28).

Failure to document pain is common in poor ED management of pain. In 2003, Eder et al retrospectively reviewed 261 chartsevaluating the charts for the documentation of pain in the ED by physicians and nurses. An initial pain assessmentwas present in 94% of the charts, but a pain scale was only documented in 23% of the patient's charts. Moreover, prior to administration of analgesics only 39% of the charts had pain documentation (29). An issue of improper documentation of pain among pediatric patients is particularly evident in infants and toddlers. This was evidenced by the study surveying 24,707 visits to the ED with painful conditions in a period of three years showed that only 44.5% of visits had documented pain scores with subsequent analysis showing the younger age to be the most vulnerable group (30).

One of the crucial factors in managing pain in ED is to meeting the patient's needs while trying to satisfy their expectations. ED patients have very high expectations for pain relief. Fosnochtet al found that most ED patients expect a mean pain relief of 72%. Interestingly, about 18% of patients expected 100% pain relief. Moreover, ED patients expect pain relief as soon as possible after ED arrival, as the mean expectation for time to analgesic administration for ED patients was found to be 23 minutes compared with actual mean time to analgesic administration of 78minutes (31). In a pain survey of 68 fast track patients, Blank et al showed that 60% of the patients went home with more pain then they were willing to accept. Moreover, 51% of the patients were offered something for pain; however, only half of the patientsreported thattheirpain relief was adequate (32).

Barriers have been identified that preclude ED physicians from proper pain management, some of which, include: ethnic, racial, gender, and age bias, inadequate knowledge and formal training in acute pain management, opiophobia, and inadequate supply of potent opioids. In 2000, Todd et al compared African American patients with an extremity fracture to similarly injured white patients with respect to provision of pain management in the ED and the findings showed that analgesia was provided in 57% and 74% of patients respectively (33). In the ED female, patients report more pain and are perceived by the provider to have more pain than their male counterparts (34). Elderly patients are at risk of inadequate pain management in the ED, as well

(35). Many ED physicians have significant opiophobia and have negative views about patients requiring it. Possible reasoning behind the previous include: suspicion of drug seeking behavior, concerns of addiction or dependence, lack of follow-up or continuity of care, and fear of masking symptoms of an acute illness despite evidence of the contrary(36,37,38,39,40,41).

5. Objective of the study

General objective

Was to assess the practice of pain management and identify factors affecting pain management in TASH ED.

Specific objective of the study

1. Determine the socio-demographic characteristic of patients in pain
2. Determine the initial and subsequent severity of pain
3. Identify factors affecting analgesics administration

6. Methodologies

6.1 Study Setting

The study was conducted in the TASH adult emergency department, which sees patients who are ≥13 years of age involving both medical and surgical patients. The ED had 40 beds for patients who stay in the ED for approximately 48hous or less while awaiting admission or discharge after emergency care.

6.2 Study population: 123 patients who presented to the TASH adult emergency department with the complaint of moderate to severe pain**.**

6.3 Source population: All patients who presented to the TASH adult emergency department during the study period.

6.4 Reference population: All patients who present to the ED for medical evaluation and treatment.

6.5 Sampling unit: Individual patient encounters.

6.6 Study unit: Individual patient sampled.

6.7 Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Age ≥13	GCS <15
Moderate (pain scale: 4-6) to severe pain (pain scale 7-10)	Hemodynamically unstable patients requiring resuscitation
	No or mild (pain score 1-3)pain upon presentation

6.8 VARIABLES

Independent variables	Dependant variables
Age	Timing of initial analgesics
Sex	Analgesics used
Educational level	Patient satisfaction to staff response
Initial level of pain	ED pain level

6.9 Study Design and Selection of Subjects

Single centered cross-sectional observational study of patients greater than 13 years old who presented to the TASH ED with a complaint of moderate to severe pain. All working hours of the day will be equally included in the study enrollment of patients. The investigator had tried to limit information to the physicians about the patient's study enrollment to avoid treatment bias secondary to physician knowledge about the involvement of patients in this research study. Patients who are enrolled in the research will be given a specific code, which will only be known to the investigator. The nurses and the physician will not be given any information on the patient's enrollment.

6.10 SAMPLE SIZE

Sample size is determined by the following formula:

$N0 = Z_{\alpha/2} P (1-P)/d^2$

Assumption;
Desired precision (d) =5%
Assumed prevalence = (75%)
Power of the study= 80%.

Using Epi info 7 Stat Calc the desired sample size is:

No= 123 patients

6.11 Measurements

Patients were asked to rate pain intensity at the time of arrival and approximately 3 hours after admission to the ED unit. Satisfaction was assessed by asking patients to select 1 of 5 satisfaction scale, responses ranging from "dissatisfied" to "satisfied" in response to the question of how satisfied or dissatisfied they were with the overall pain management. To assess the patient's perceptions of their need for analgesics, patients were asked if they had actually asked for analgesics. For assessing the patients response to pain treatment and the type of analgesic used, the list of commonly used analgesics (Paracetanol,Non-Steroidal Anti-Inflammatory Drugs, Tramadol, Pethidine) and nerve block was considered as analgesic option of therapy. In addition, a direct patient interview and the patient's chart were reviewed to get the socio-demographic data and to ascertain the diagnostic category of patients respectively.

6.12 Data Collection

Data was collected using a structured questionnaire, which has three parts. The first part was the demographic data of the patients. The second part was designed for the initial assessment of the patient's pain level and baseline analgesics treatment upon presentation to the emergency department. The third part was used to assess the ED pain level after some time of observation.

6.13 Data Quality Assurance

Each day the questionnaire was evaluated for completeness before recording and feeding to the computer system.

6.14 Data Analysis and Interpretation

For data analysis, I used an Epi Info version 7 software package and SPSS version20 was used For descriptive purpose, categorical data was summarized in frequency (%) and charts. whereas, continuous variable data was summarized by using median or as mean ±standard deviation (SD). Chi-square test used for association for categorical data and Pearson correlation test was done for numerical data.

6.15 Staffing, Supplies and Equipment

Data collection was done by trained and experienced data collectors who were not part of the team involved directly in the medical management of the patient who was enrolled in the study**.**

6.16 Ethical Consideration

This project has passed through the departmental research ethical clearance committee based on the power given by the IRB of AAU which had given the mandate for this study to proceed. During the data collection, individual patients consent was taken with the format shown on Index I.

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7.1 Result.

Between Feb 15/2014 and Feb 29/2014 a total of 123 non consecutive patients were approached for inclusion in the study for a response rate of 100%.

Demographic characteristics of 123 enrolled patients are depicted in Table1. The majority of patients were male accounting 67.5 %(N: 83). Age distribution of the patients represented in the study were wide ranging from minimum of 14 to a maximum age of patients represented in the study was 90 with the median age being 32. Majority of patients were urban dwellers representing 68% (N: 84) of the total enrollment. Out of the total patients studied 15% (N: 19) of them were found they had to use a translator and out of non Amharic speaker majority of them were found to be speaker of primarily Oromiffa, representing 88.9% of the subgroup. Educational level of patients represented in the study group shows 39% had finished only primary school, while the rest 23% and 17% has been found to have finished high school and higher institution respectively; not least 23% of the individuals have been found to have never attended formal school. Although majority of patients included in the study has been found to have been referred from other hospitals and clinic representing 65% of the total, 35% of the patients were found to have come directly to our hospital without prior evaluation and treatment in other health institution. The majority of the patients had to cover the cost of medical care, while the rest 14% of the individual's medical bill is covered by the state.

Table 1. Patient's demographic and clinical characteristics at TASH, Addis Ababa, 2014.

Patient characteristics(N=123)	N (%)
Male gender	83(67.48)
Age, years(min, Max)	32(14, 90)
Place of residency	
Town	84(68.29)
rural	37(31.71)
language	
Can speak Amharic	104(84.55)
Used translator	19 (15.45)
Educational level	
Never attended formal school	29(23.58)
Primary school	48(39.02)
High school	29(23.58)
Higher institution	17(13.82)
Mode of referral	
Hospital	64(52.02)
Clinic	16(13.02)
Self	43(34.96)
Medication coverage	
Buying	105(85.56)
Free	18 (14.44)

Patients are categorized into a different diagnostic group based on the prime pathology and pain complaints, the majority of patients are patients who sustained trauma accounting for the 59.3% of the total patients. The other common categories are non cardiac and cardiac chest pain, back pain, soft tissue infection and malignancy, while the other cases are only a single encounter including the unusual case of rabies seen. (Table 2)

Evaluation of prior pain treatment of patients before ED arrival has shown that 69.9% of patients history and referral note review was negative for analgesics treatment during the prior 12 hours before ED arrival. From those patients who has confirmed the prior treatment of pain, the study showed that the mean time of medication last administered was 4.91hrs before ED arrival and of note only 21.6% of the subgroup have arrived to the emergency department with in 2 hrs of prior medication. Subgroup analysis for prior medication based on the mode of referral have shown that, out of individuals who were referred from hospital 60.9% of them were referred to our hospital without prior treatment of individuals pain. From patients who were either referred from private clinic or self referred individuals the prevalence was 81.2% and 79.0% respectively. (figure 1).

Table 2 Categories of patient diagnosis in ED at TASH, Addis Ababa, 2014

Diagnostic category	N (%)
Abdominal pain	6(4.8)
Back pain(medical cause)	12(9.7)
Cardiac chest pain	5(4.0)
Chest injury	3(2.4)
Fracture and dislocation	36(29.2)
Hematologic malignancy	3(2.4)
Limb ischemia	3(2.4)
Respiratory infection	3(2.4)
Soft tissue and joint infection	3(2.4)
Soft tissue injury	5(4.0)
Solid tumor	5(4.0)
Surgical abdomen	2(1.6)
TBI and spine injury	24(19)
Others	13(10.5)
Total	123(100)

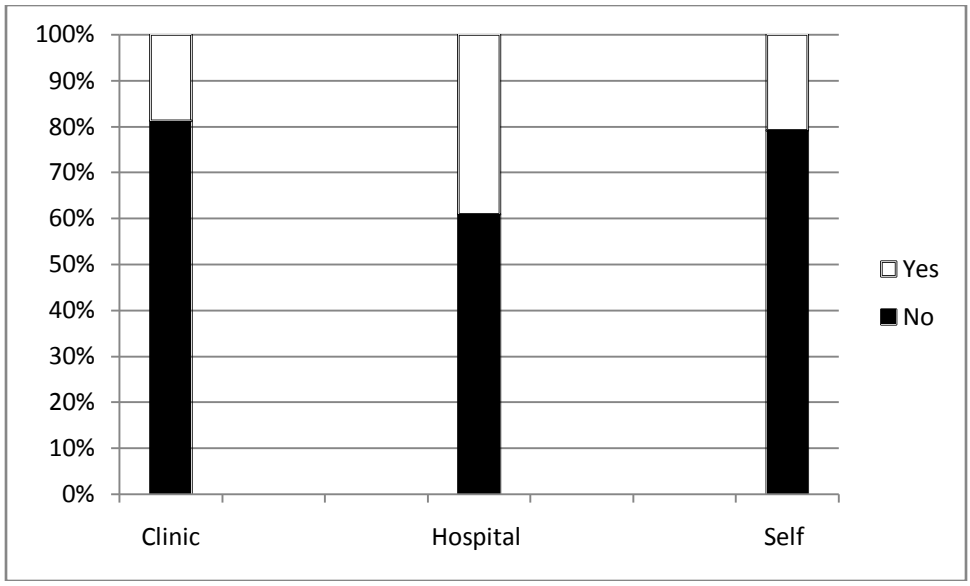

Fig.1. Mode of referral versus prior analgesics therapy at TASH, Addis Ababa, 2014.

In assessing the initial pain level of the individuals, the study showed out of the total 123 individuals, 66% (N: 81) of them were in severe pain with the score of (NRS ranging 7-10). A quarter of all were in the state of worst ever pain. The mean score of pain in the initial assessment was 7.7(SD=2.0) and the median score of 8. See Figure 2. Pain intensity during ED stay after a median time of (median=180minute) showed that 79.7% of patients was still in moderate to severe pain, majority being in moderate pain (median=5). For patients who were in moderate to severe pain, 36.7% of patients have shown reduction in intensity of pain to the lower score; while for 39% of the patients the pain either did not change (30.8%) or increased in intensity for (8%). See figure 3.

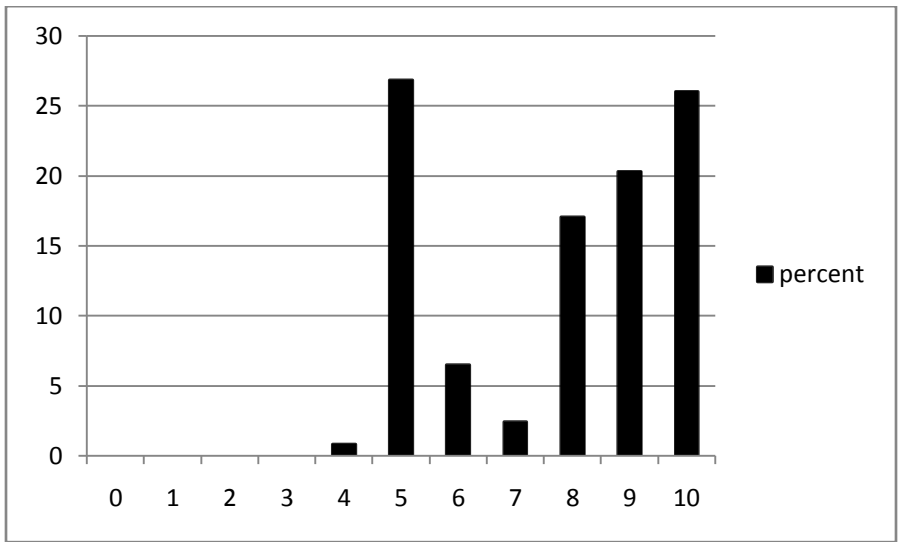

Fig.2. Pain intensity on ED arrival at TASH, Addis Ababa, 2014.

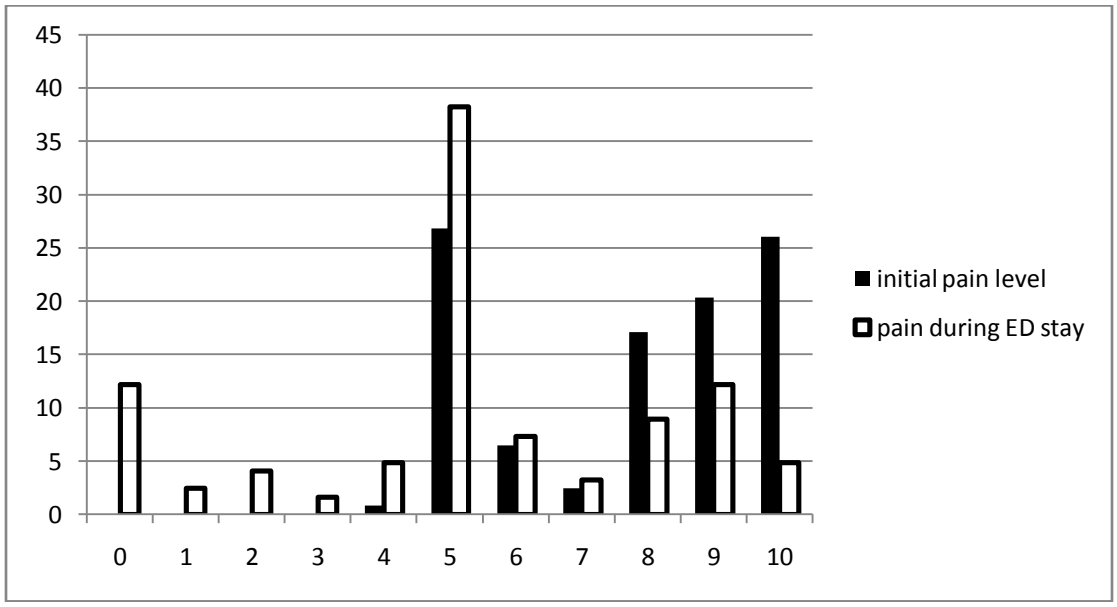

Fig.3. Pain intensity at ED arrival and during ED stay at TASH, Addis Ababa, 2014.

During the ED stay 56.9% of the individuals were given at least a single dose of analgesics. With the median waited time from triage to medication calculated to be 120minute. The different kind of analgesics used for the treatment of pain in this patient group was, Tramadol accounts for 47.8% (N: 33) of analgesics used, the next common drug was found to be Pethidine 21.7% (N: 15) and NSAID (Diclofenac) 20.3% (N: 14) of the time. See Table 3. The preferred route of medication administration was found to be parenteral accounting 88.7% of the method used. Association between patients asking for analgesics versus ED medication prescription was statistically significant (P< 0.01). While association with; Age, sex, Educational level of the patient, Place of residency, initial level of pain intensity, language factor and economical factors related with medication bill was not substantiated in this study. See Table 4.

Table 3. Analgesics used in ED at TASH, Addis Ababa, 2014.

Analgesics.	Count.	Percentage
Tramadol	33	47.83%
Pethidine	15	21.74%
Diclofenac	14	20.29%
Paracetamol	3	4.35%
Others	4	5.8%
Total	69	100%

Table 4. Chi-square test for predictor variables determining ED analgesics administration at TASH, Addis Ababa, 2014.

		ED analgesics	
Independent variables	Chi-square	df	P-value
Age	43.4227	43	0.45
Sex	0.4702	1	0.49
Educational level	2.6340	3	0.45
Place of residency	1.2046	1	0.27
Initial level of pain	10.3977	6	0.11
Pt asked for analgesics	43.8732	2	<0.01
Can speak Amharic yes/No	0.3576	1	0.55
Medication Free Yes/No	0.6422	2	<0.01

This study has shown 43.1% of patients were denied any form of analgesics and the reason identified based on this study was predominantly failure of the treating physician giving order for analgesics treatment, accounting for the 79.63% of the case while the least common one is unavailability of drug which was encountered only in one case (1.85%).see figure 4.

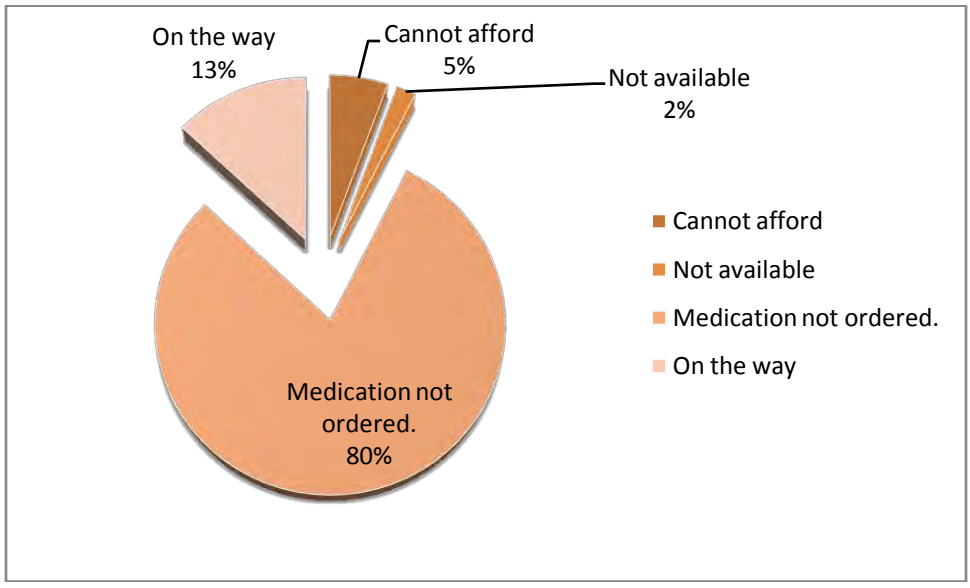

Fig.4. Reasons identified as a cause of analgesics denial at TASH, Addis Ababa, 2014.

When patients are asked if they needed analgesics yet to be given irrespective of the ED treatment at the time, 81.5% of the patients have responded affirmatively, with calculated acceptable level of pain found to be mean of 0.63(median=0). When subgroup analysis was done; 80.4% patients who haven't been given analgesics in the ED said they still want to be given, while equivalent percentage (82.5%) of the patient who was already given analgesics in

the ED wanted additional analgesics to be given during the second time of evaluation (median time 180minute), the difference was not statistically significant (P=0.78). see figure 5. Inquiry into whether they have voiced for any analgesics during their stay in the ED 54.2% of the patient did not ask for it, furthermore the reason for not asking analgesics while they are in pain was found to be, the patients belief on clinician that "doctors do what is right to me" accounting for 57.4% (N:35) of the case, the other common reasons include hope the pain get better soon 21.3% (N: 13), Fear clinician 18.0% (N: 11), and feel unethical 3.4%. See Table 5. This study has shown some association between the severity of pain and the patients tendency of asking for analgesics (p=0.02).

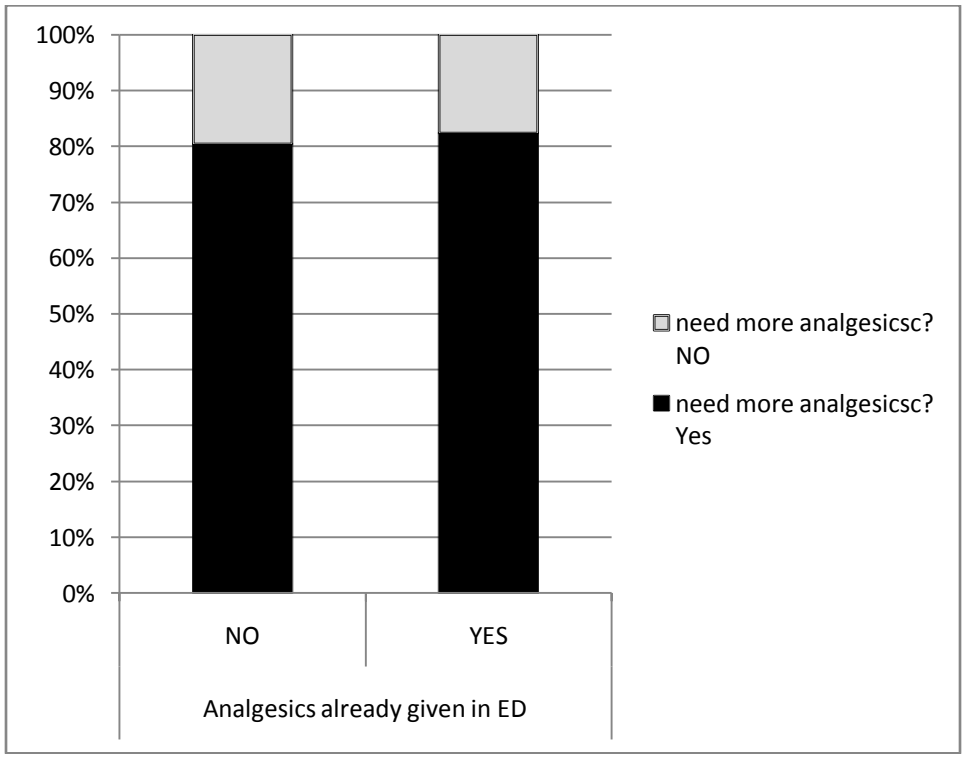

Fig.5. Need for additional analgesics versus prior treatment in the ED at TASH, Addis Ababa, March/2014.

Table 5. Reason for not asking analgesics at TASH, Addis Ababa, 2014.

Why analgesics not asked?	Frequency	Percentage
Clinician know what is right to me	35	57.4%
Feel unethical	2	3.3%
Fear clinician	11	18.0%
Hope get better	13	21.3%
Total	61	100.0%

This study also has tried to assess the patients overall satisfaction concerning their pain management and according to the study 72% of the patients has been satisfied with overall care, while 14% of the individuals has responded that they were clearly unsatisfied with the care while the rest 14% were indeterminate. The study has shown positive association between the patient's level of satisfaction and the observed reduction in pain intensity ($p<0.01$).

7.2 Discussion

This study was designed in such a way to assess the pain management practice in adult TASH ED irrespective of the patient's prime diagnosis. Accordingly patients who have sustained trauma were over represented in this study accounting for 59% of the total of 123 individual cases seen. Although it can be concluded as a proof of the common belief that trauma patients are the one mostly affected by pain, this might be because of selection bias as majority of non surgical medical cases could have been excluded from the study because of their critical condition. The result of the pain and emergency medicine initiative (PEMI) multicenter study in US and Canada a prospective study in 2007, done on 842 individuals has shown only 32% of the patients are actually patients who did sustain trauma and injury, which is in contrary to this research finding.(18).

Although patients who are being seen in TASH ED are mostly patients who are already seen in other hospitals and clinic with some form of prior evaluation and treatment, this patients cannot be presumed to have their pain taken care off already because of the high prevalence of untreated pain in this patients which was found to be 65% in patients who are referred from health institution, while it is 80% in self referred patients. In addition patients coming with referral to our hospital arrive after an average delayed hours of 4.91(3minute to 12 hrs) which even allow for medication wear off.

Patients presenting in moderate to severe pain are being poorly recognized and are left inadequately treated in the ED. The study has shown there is a profound delay in acknowledging and treatment of patients with pain (median delay=120minute). Unlike others, patients presenting to emergency care has high expectation, seeking immediate pain relief which was shown in the study by Lim GH and et al in 2006 Hong Kong showed that the majority of patients(66..9%) were

shown to expect analgesia to be given within 15minute of their presentation.(42). In addition irrespective of the ED administration of any analgesics, approximately 80% of patients were found to still demanding for some form of potent analgesics during the second time of evaluation which was (median time=180 minute) after ED triage. The high prevalence of patients who were found inadequately treated despite ED analgesics administration might be explained by our use of less potent opiate (Tramadol) which was used most frequently in this individual group (48%).

This study has shown statistically significant correlation between the patients actually asking for analgesics and the ED administration of analgesics drugs (Pearson correlation coefficient 0.61 and P value of <0.01). But the high prevalence of patient's tendency to leave it to clinician's indiscretion for them to have their pain treated which was found to be 54% , signifies the importance of clinician to be more proactive and ask patients about their need for analgesics. In addition teaching them their right to ask for their need will help narrow this gap.

Satisfaction measuring tools are complex and highly skewed toward positive responses and this was shown in recent study by woldehaimanot TE and et al among 252 postoperative patients treated for pain in Jimma university hospital which showed relatively high satisfaction level (117(50%) satisfaction rate) despite measurable sign of suboptimal level of pain management (43). In this study 72% of patients were somewhat satisfied with the pain management given in the adult TASH ED. The high satisfaction rate despite poor pain management practice might be explained by lack of patients' knowledge about their right to access quality care plus low patients expectation of the health system could explain the finding.

7.3 Study Limitations.

This study is the first in its kind in the country assessing the pain management practice in emergency setup which was long been a forgotten subject. In addition the study had tried to represent fair number of non trauma patients. The study is not free of important limitation which might affect its generalizability. Which includes first the study has excluded large number of patients who needed immediate resuscitation missing important group of patients who might be suffering from severe pain shadowed by their critical medical condition. Secondly, although the researcher had tried to limit information about the studies purpose during the time of data collection, it is no doubt that the ED personnel's knowledge about the study would affect their usual practice in the management. Thirdly, the study was limited in a single tertiary hospital center which makes it less representative of the usual clinical practice in the community hospital and health institutions'. Finally different factors affecting patient's satisfaction for pain management including patients knowledge about their right to access for quality care, patients expectation, non pharmacologic means of pain management which would have affected the patients level of satisfaction was not considered in the study.

7.4 Conclusion

High intensity of pain was documented on initial presentation of the study group and it has been shown that these patients are being poorly recognized in the ED and they were left inadequately treated.

7.5 RECOMMENDATION

- Introduction of guideline based pain management practice in our ED.
- Ongoing training and Education for option of pain management for clinicians working in the emergency department.
- Introduction of pain measuring tools in patient's folder in order to encourage clinicians to consider its assessment and appropriate intervention.
- Posting different posters and awareness creating tools in the ED room in order to encourage patients to ask for their needs including pain medication.
- Encouraging the working clinician to be more proactive in identifying those patients who are in need of pain medication and developing a culture of assessment and reassessment of patients in pain rather than making it a once off measure.
- Establishing systems commitment for Evaluation and ongoing improvement in practice of pain management in emergency department.

Annex 1-Informed consent form

This informed consent form is for men and women who attend Blacklion Hospital (BLH) adult emergency department, who I am inviting to participate in research on quality of pain management practice in our emergency department. I am **DR GELAW H/MARIAM Studying EMERGENCY MEDICINE in AAU POST GRADUATE SCHOOL;** I am doing research on assessment of quality of pain management, which I believe is a common problem in our country. I am going to give you information and invite you to be part of this research.

Purpose of the study; the issue of pain management for patients coming to our emergency department is common. In fact,of one hundred patients coming to our department, 70% of them are believed to have pain as their main reason they are presenting to the BLH emergency department. The reason we are doing this research is to find out how well we are taking care of our patient's pain and what problems are being encountered, so that we can improve on treating our patient's painful conditions.

Participation; we are inviting all adults with some level of pain who present to our emergency department. Your **participation in this research is entirely voluntary**. It is your choice whether to participate or not. Whether you choose to participate or not, **all the services you receive at this department will continue and nothing will changeyour emergency department management.** You may change your mind even after study enrollment and stop participating at any time.

The process and duration; the research will be based on a two-phase interview, which will take about 15minute apiece. The first will occur at the time of presentation to our emergency department and the second one will be approximately 3 hours after the initial interview.

Confidentiality; Information that we collect from this research project will be kept entirely confidential. Information about you that will be collected during the research will be secured in a safe place where no one but the researcher team will be able to see or read the information you give the research team. Any information connected to you will have a patient specific number on it, thus your name will not be directly attached to any data.

Right to refuse or withdrawal; you do not have to take part in this research if you do not wish to do so and refusing to participate will not affect your treatment at this department in any way. You will still have all the benefits that you would otherwise have in the BLH emergency department. You may stop participating in the research at any time that you wish without losing any of your rights as a patient here.

Certificate of consent; I have read the foregoing information, or it has been read to me. I have had the opportunity to ask any question(s) about it and any question(s) that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Signature of participant t/thumb print——————————————

Date_____

Annex 2-Questionnaire

Card number- _____Triage Category_____Center of referral _____

Part I: Demographic characteristics

1 Sex A Male ☐ B Female ☐
2 Age _____
3 Is the patient able to communicate in Amharic? A Yes ☐ B No ☐
4 If no for No 3, what do they speak?
A Oromiffa B TigregnaC Wolayitegna D Guragegna E specify _____
5. Place of residency, ☐ Rural Town☐
6. Educational level
A Never attended formal school B Primary school
C Finished high school D Finished higher institution.
E other specify_____

Part II: Initial assessment of pain

1. Time of initial pain assessment after arrival to the ED_____(AM/PM)
2. Do you have pain A Yes ☐ B No ☐
3. If yes for no 2, what is the type of pain?
A Headache B Chest pain C abdominal pain
D Renal colic E Extremity pain F specify _____
4. If yes for number 2, specify the severity of pain based on the numerical pain scale:

No pain Worst pain

5. Have you been given or taken any analgesics before you came to the emergency department?
A Yes ☐ B No ☐

6. If yes for question no 5, what was the analgesic(s) you took?
A NSAIDS B Paracetamol C Tramadol
D PethidineE specify _____
7. If yes for question No 5, how was the medication given?
A IM B IV C PO D specify _____

8. If yes for question no 5, what is the duration of time since the medication was administered____hour(s)____minute(s)

Part III: Second phase of pain assessment

1. Working diagnosis _____

2. Time of evaluation (ie approximately 3 hours since ED arrival) _____ (AM/PM)

3. Level of pain on the second evaluation on the numerical pain scale?

No pain worst pain

4. Was any analgesic given since you have been evaluated in this emergency department?
If no jump to 10. A yes ☐ B no ☐

5. If yes for the question no 4, specify the medication category
A Paracetamol B NSAID C Tramadol
D. Pethidine E nerve block F other specify _____

6. If yes for the question no 4, what was the duration of time since the medication was last administered____hour(s)____minute(s)

7. If yes for the question no 4, how was the medication given?
A PO B IM C IV D other specify _____

8. If yes for the question no 4, what was the dose of the analgesic(s) given?_____

9. If yes for the question no 4, how did the patient get the medication?
A. The patient had to buy the medication B. Free

10. If no for question number 4, what was the reason?
A Medication not prescribed B Medication was not available
C Patient cannot afford the medication D Waiting medication from outside pharmacy
E other specify_____

11. Have you asked for analgesic(s) during your stay in the ED? A. Yes ☐ B. No ☐
12. If Nno for no 11, what was the reason for not asking?
A. Fear of risk of drug complication B. Hope that pain will get better
C. Fear of embarrassing the physician D. I feel unethical culturally
E. feels clinician do what is right to me
F. other specify _____

13. Do you still need analgesics to be given? A. Yes ☐ B. No ☐

14. If possible, what level of pain you would prefer the treatment to bring?

No pain worst pain

15. How satisfied are you with the staff(s) response to your pain?
    A. Satisfied B. somewhat satisfied C neutral
    D. Somewhat unsatisfied E unsatisfied

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