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OBJECTIVE CLINICAL PAIN ASSESSMENT BY INDEPENDENT SERVICE IDENTIFIES SIGNIFICANT GAPS IN PAIN ASSESSMENT AND CONTROL.

Surgery

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ABSTRACT

Pain is highly subjective. Standardized measurements are necessary to ensure adequate analgesia. Our objective was to examine whether an independent objective clinical assessment differs from existing provider documented assessment of pain levels.

We performed a retrospective analysis of randomly selected patients admitted to the trauma service at our Urban level I Trauma Ctr. (448 bed), over the course of 2 months. During this time period an independent team headed by the trauma medical director (AC) performed pain assessments on these patients using an objective numeric scale, (with 0 being no pain and 10 being the worst possible pain) within 1 hour of scheduled assessment by the primary care givers be they ED, Nursing or Physician. Medical records were reviewed for type of injury, objective pain level as documented on nursing, physician, and emergency department (ED) notes, objective pain level as documented by the independent team, and analgesic treatment.

A total of 101 patients were included. Types of injury included fall (n= 38), fall with fracture (n=21), motor vehicle collision (n=19), fracture (n=12), assault (n=8), and miscellaneous (n=3). The mean overall pain level as documented by the independent team was 4.35 ± 0.76; 36 patients reported no pain, 7 patients reported mild pain (level 1-3), 17 patients reported moderate pain (level 4-6), 30 patients reported severe pain (level 7-9), and 11 patients reported experiencing the worst possible pain (level 10). Pain assessment documentation was missing in 36.6 % of emergency department notes (n=37), 31.1 % of nursing notes (n=32) and 64.4% of physician notes (n=65). Mean pain level varied by ED (5.37 0.85), nursing (1.98 ± 0.67) and physician (2.94 ± 0.96) notes. Analgesic treatment was composed of morphine (n=23), Oxycodone/acetaminophen (n=10), Ibuprofen (n=10), acetaminophen (n=9), acetaminophen/codeine (n=2), ketorolac (n=3), or any combination thereof (n=41). Three patients did not receive analgesic medication.

The assessment of pain level was absent in over 30 % of all clinical documentation, with physicians being the worst offenders. Despite receiving pain medication 57.4% of patients reported experiencing moderate to excruciating pain on an objective assessment. Further prospective research is necessary to examine the utility of these findings on a large scale basis. The utilization of independent objective clinical assessment is valuable to ensure appropriate pain management in trauma patients.

KEYWORDS

Emergency Department (ED), Pain ,Management

INTRODUCTION:

Pain is a highly subjective issue. Numerous studies have demonstrated an inadequacy of both dose and frequency of analgesics administered to patients with painful conditions in the emergency department (ED)[1-3]. Pain in the setting of traumatic injury has been especially problematic because analgesics have been discouraged in this setting for fear of masking, delaying, or obscuring diagnosis, although the evidence for this is poor[4]. Our objective was to use an independent clinical service made up of medical students under the supervision of the Trauma Medical Director (AC) to assess pain level in trauma patients that had been assessed by the primary care services (ED physicians, Nurses, and primary trauma physicians or residents). The assessment done by the independent clinical service was done within 1 hour of an assessment done by the primary services as a performance improvement project at our urban level 1 trauma center.

MATERIALS AND METHODS: We performed a retrospective study of randomly selected patients admitted to the trauma service at our 448 bed urban level 1 trauma center (ACS verified) over the course of 2 months. The independent clinical service performed pain assessments using an objective numeric scale with zero being no pain and ten being the worst possible pain. Medical records were reviewed on each patient for type of injury, objective pain score documented on nursing, physician and emergency department notes, objective pain level as described by the independent team and analgesic treatment. As this was a retrospective data analysis using de-identified data, we sought and obtained exemption from our institutional review board for the study of human subjects. Statistical analysis was performed using one-way analysis of variance[ANOVA] using commercially available software.

RESULTS: a total of 101 patients were included. Types of injuries included falls (n=38), falls with fracture (n=21), motor vehicle collision (n=19), fracture (n=12), assault (n=8) and miscellaneous (n=3). The overall pain level documented by the independent team was 4.35 + 0.76; 36 patients reported no pain, 7 patients reported mild pain (level 1-3), 17 patients reported moderate pain (level 4-6), 30 patients reported severe pain (level 7-9), and 11 patients reported experiencing the worst possible pain (level 10). Pain assessment documentation was missing in 36.6 % of emergency department notes (n=37), 31.1 % of nursing notes (n=32) and 64.4% of physician notes (n=65). Mean pain level varied by ED (5.37 0.85), nursing (1.98 ± 0.67) and physician (2.94 ± 0.96) notes. Analgesic treatment was composed of morphine (n=23), Oxycodone/acetaminophen (n=10), Ibuprofen (n=10), acetaminophen (n=9), acetaminophen/codeine (n=2), ketorolac (n=3), or any combination thereof (n=41). Three patients did not receive analgesic medication.

The assessment of pain level was absent in over 30 % of all clinical documentation, with physicians being the worst offenders. Despite receiving pain medication 57.4% of patients reported experiencing moderate to excruciating pain on an objective assessment.

DISCUSSION:

Pain assessment and treatment are highly subjective but attempts are being made to objectify these assessments. With the development of objective scales, more consistent assessment and treatment of pain is being accomplished [3-4]. However, there are still gaps in the consistent assessment and treatment of pain especially in trauma patients. The consistent documentation of pain by nursing and medical staff as well treatment of such pain was the target of our study. We identified significant gaps in documentation of pain by nursing and medical staff. The pain assessment service which we put together was designed not only to assess pain but help in the treatment of pain in our trauma patients by reminding our nursing and physician staff of the pain level being encountered by the patients. Our medical students used the same objective scoring system being used by nursing and physician staff. This documentation gap that we found in the retrospective analysis may be related to an overall reduction of staffing which has been noted in many hospitals in response to budget limitations. Nursing documentation was the most consistent regarding the documentation of pain assessment followed by ER physician documentation with staff physician documentation lagging at a little more than 1/3 of notes addressing pain issues. The electronic medical record at our institution does have a section in the progress note which does address the assessment of pain, however the use of this section by the physician staff does seem to be limited. Our dedicated pain assessment service was able to capture patients having pain which was undertreated by the primary team. We were able to subsequently address this issue and resolve the issue by discussions between the trauma medical director and the physicians and nurses involved with the care of these patients.

For victims of major trauma, pain management traditionally has not been a priority during assessment and resuscitation of these patients. In fact, analgesics have been discouraged in this setting for fear of masking, delaying, or obscuring diagnosis, although the evidence for this is poor [1-3].

We also found that patients in the ER after admission who were being held to transfer to a floor encountered significant issues with pain control. The pain assessment service was especially effective in this setting in identifying and directing pain control resources to the appropriate patients. Our data is also consistent with other studies which found this pattern of oligo-analgesia to be present for trauma patients treated in the ED, with only 38% of patients evaluated for major trauma receiving analgesics [3,5]. Several authors have demonstrated improvement in pain management in acute settings with educational intervention. These authors validate that assessment of patients' pain is a key element to improved pain management [3-4]. Our medical students would meet with the trauma medical director on a daily basis to review their findings and discuss interventions. Where the reminders by the medical students were not effective, the trauma medical director would intervene. Our approach of using medical students under guidance of the trauma medical director [a.c] is a very useful and manageable technique that can be applied into practice by any teaching hospital without the allocation of additional resources. This approach not only provides educational intervention, but also direct line patient care which other approaches lack.

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