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RESEARCH PAPER

The Emergency Triage Education Kit: Improving paediatric triage

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Summary
Objectives: The Emergency Triage Education Kit (ETEK) was published in 2007. To date, the impact of ETEK has not been measured. The purpose of this study was to measure the effectiveness of ETEK on paediatric triage.
Method: A retrospective chart audit was undertaken in a tertiary paediatric hospital. Its' aim was to review the completeness of documentation recorded at the point of triage after a standardised documentation framework was introduced and to measure inter-rater agreement. Primary assessment and physiological discriminators documented at the point of triage were compared with those from the paediatric physiological discriminator table (PPDT) within ETEK. Using an audit tool developed by the researchers, a parallel decision-making pathway was used to ascertain whether the original ATS score could be substantiated by the PPDT. Improvement in documentation of the primary assessment and inter-rater agreement was measured over time.

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Results: 600 triage records were selected; 200 each from 2007, 2008 and 2010. Triage documentation that did not support parallel decision-making decreased significantly according to the year of presentation (2007; 112 (56%), 2008; 106 (53%), 2010; 13 (7%), $P < 0.001$). When parallel decision-making was facilitated by an improvement in triage documentation, there was improvement in matched triage scores (2007; 54%, 2008; 69%, 2010; 72%, $P = 0.01$).
Conclusion: The introduction of ETEK has had a significant impact in this ED, particularly when combined with education sessions. The use of the PPDT as a framework to guide documentation and triage language facilitated parallel decision-making and auditing, and led to an improvement in inter-rater agreement when applied to children.

What is already known?

The ATS is used to assess urgency and prioritise care, however when applied to children, its reliability has been shown to be only fair. The ETEK provides a standardised education plan for triage nurses in an aim to improve consistency in the application of the ATS. Specifically, ETEK contains paediatric tools to assist the triage nurse's decision-making when applying the ATS to children.

What this paper adds?

To date, the effectiveness of ETEK to meet its' aim has not been measured. This paper describes the impact of the ETEK on paediatric nursing triage.

Introduction

The Australasian Triage Scale (ATS) is used to assess urgency and prioritise access to time-critical intervention within Australian Emergency Departments (ED).[1–5] The accuracy with which a triage scale is applied is fundamentally important to positive patient outcomes.[6–8] The ATS aims to ensure that a patient will receive the same triage category in any ED to which they present.[9,10] However several studies have demonstrated that the ATS has only poor to fair inter-rater reliability when applied to children and adolescents.[11–13] This may be due to the complexity of paediatric assessment, in particular the developmental considerations that mean there is often a reliance on the carer to provide the history.[14] Alternatively, when children present to a mixed ED, the triage nurse may have variable knowledge, experience and self-confidence in assessing children.[12,15] The lack of consistency in applying triage scores to children may also be attributed to the lack of a paediatric framework on which to base decision-making.[8]

Endorsed by the Australian Department of Health and Ageing and the College of Emergency Nursing Australasia, the Emergency Triage Education Kit (ETEK) was introduced into Australian EDs in 2007.[5,14] Within ETEK, the paediatric physiological discriminator table (PPDT) provides evidence-based markers for serious illness and injury. These reflect the triage nurses primary nursing assessment (airway, breathing, circulation and disability: neurological, neurovascular and pain) and arranges them into ATS triage categories.

The PPDT was primarily designed to support the decision-making of nurses.[14] It also provides the potential to positively influence documentation standards, audit triage episodes and improve the consistency by which the ATS is applied to children. Australia does not have a robust triage auditing system that is utilised nationally. Instead the accuracy of triage scores has been based on expert opinion or the use of paper-based scenarios which lack rigour and have limited generalisability.[2]

The aim of this study was to assess the effectiveness of ETEK to meet its' aims by:

1. examining the effectiveness of the PPDT to standardise and improve documentation at the point of triage
2. investigating whether standardised documentation assisted in auditing triage practice and
3. analysing whether the ATS was more consistently applied after introduction of ETEK.

Methods

Method and setting

The study hospital is a paediatric tertiary referral centre, caring for children and young people from birth to 15 years. The ED provides initial assessment and management of approximately 30 000 acute presentations annually. All children entering this ED are triaged by an experienced and specifically trained emergency nurse.

A single retrospective, randomised chart audit was undertaken to review documentation recorded at the point of triage. Charts were audited from July 2007, before ETEK was published; July 2008, after the publication of ETEK but before ETEK-based education sessions were introduced at the study hospital; and July 2010, after the ETEK-based education sessions had been conducted. This study received ethical clearance from the appropriate Hospital and University Ethics Committees.

The researchers extracted triage records from Emergency Department Information System (EDIS), the electronic