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Doctor at triage – Effect on waiting time and patient satisfaction in a Jamaican hospital

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ABSTRACT

Introduction: Waiting time in the Emergency Departments is a major source of patient dissatisfaction in hospitals. Triage attempts to have the most critically ill patients seen first with an overall reduction in waiting time. Triage teams may include specially trained nurses or alternatively a specialist physician. The aim of this study was to determine if inclusion of a specialist physician on the triage team at the University Hospital of the West Indies (UHWI) in Kingston Jamaica reduced waiting time and improved patient satisfaction.

Methods: A prospective, cross sectional survey of ambulatory care patients was undertaken in 2006. Triage was completed by a team consisting of a doctor and two nurses during the first week and by nurses only during the second week.

Results: The study showed that there was no significant difference in the length of time patients spent in the emergency department based on whether or not they were triaged by a physician led team or by a team of nurses only. Type of triage team did not affect the level of patient satisfaction. Waiting time was significantly influenced by factors which came into play after triage such as the wait for X-ray and laboratory services.

Conclusions: There appears to be no reduction in waiting times experienced by patients at the UHWI emergency department as a result of inclusion of a specialist emergency physician in the triage process. This suggests that specialist emergency department nurses are adequately trained in triage, and that delays in the triage process at UHWI are due to other factors.

Introduction

A common source of patient dissatisfaction in emergency departments and ambulatory care units is the waiting time to see a clinician (Nairn et al., 2004; Taylor and Benger, 2004). Triage is designed to assign each person presenting to the emergency department a priority for care which ensures that those who are most ill are seen first. In many emergency departments triage is carried out by specialist nurses trained in emergency medicine. There is evidence that significant advantages can be obtained by having a doctor participate in the triage process (Subash et al., 2004; Terris et al., 2004). The potential benefits include, higher level of patient acceptance of triage categorization and facilitation of adjunctive measures such as analgesia and radiography. In addition, the triage doctor disposes of some patients with less severe complaints such as viral conjunctivitis (Subash et al., 2004; Terris et al., 2004). This reduces the number of patients that need to be seen in the examination rooms and thereby increases the overall efficiency of the unit. It is expected that the impact of such a system would be maximal for patients with relatively low acuity complaints (Terris et al., 2004). Inclusion of a doctor on the triage team resulted in a significant reduction in the number of patients waiting to be seen in the emergency department of one British hospital. Furthermore, inclusion of a doctor on the triage team resulted in a significant increase in the number of patients discharged immediately (Terris et al., 2004). The inclusion of a doctor in the triage team has implications for resource limited countries as these

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physicians may not be readily available and may also come at a higher cost (Choi et al., 2006).

In 1988 the University Hospital of the West Indies (UHWI) in Kingston, Jamaica established the Scotiabank® Accident and Emergency Unit. This was initially a separate entity from the Emergency department which had provided care for both emergent and non-emergent cases (McDonald et al., 2005). In 2000 these two areas were merged into the existing Emergency Medicine Division with the former emergency department now an ambulatory care facility providing care for non-urgent cases. (McDonald et al., 2005). A four-level triage system which is run by specialist emergency medicine trained nurses is operational in the department (Table 1). There are four Priority (P1–P4) levels based on acuity of presentation (Fayyaz et al., 2013).

Patients with emergent and urgent conditions are accorded triage designations of P1 and P2. These patients are taken directly to the resuscitation area and are not seen at triage hence their waiting times are not impacted by the triage process. Non-urgent patients are divided into two groups: intermediate (complicated but not immediately life-threatening) or P3 and fast-track (minor/review cases) or P4 (Table 1). This is the written policy of the UHWI and Emergency Department nurses and specialist emergency physicians trained at the hospital are taught to use this triage tool and the general principles of triage; however, we have no evidence that this tool has been validated.

Patients at the emergency department of the ED of the UHWI have expressed concern about waiting time at triage. In a quality assurance survey of 2003 waiting time in the ED was shown to be influenced by the length of time from triage to registration (Hanson, 2003). We postulated that the inclusion of a specialist emergency physician on the triage team at the UHWI would significantly reduce waiting time and increase patient satisfaction. The aim of this study was to assess the impact of triage by teams comprising a specialist emergency physician and two nurses or a nurse-only triage team on the waiting times for low acuity (fast-track) patients.

Methods

A prospective, cross sectional survey of patients who were assigned to ambulatory care (fast-track patients) in the Emergency department of the UHWI was undertaken in 2006. Patients presenting to triage between 9:00 am and 3:00 pm on Monday and Tuesday of two specified consecutive weeks were recruited into the study. Fast-track patients (triage category P4) included those with minor illnesses which could potentially be seen the next day. Patients with more complicated illness likely to require work-up but not considered life or limb-threatening were assigned to triage category P3. Triage was completed by a team consisting of a consultant emergency medicine physician and two nurses during the first week and by three nurses only during the second week. *On a given 9 AM to 3 PM shift a total of four nurses participated in triage (2 nurses up to 1 PM and two others between 1 PM and 3 PM).* The emergency department staff was not blinded to the study and investigations were ordered at the discretion of the treating physician. Patients enrolled were those assigned a triage category P3 (more complicated illnesses) and P4 (minor illnesses or for review). Those with more severe illnesses (P1 and P2) requiring urgent attention were seen immediately and not enrolled in this study.

Table 1
Triage tool in use at UHWI.

Level	Acuity	Treatment/ reassessment time	Sample conditions
P1	Emergent	Immediately	Head injuries, severe burns, severe bleeding, heart-attack, breathing-impaired, internal injuries
P2	Urgent	Within 15–30 min	Fractures
P3	Semi-urgent	Within 30–60 min	Alcohol intoxication, drug ingestion, renal calculi, laceration, abdominal pain, eye injury – vision intact
P4	Non-urgent	1–2 h	Cystitis, male STD, earache, abscess, strain/sprain

The following data were collected from each patient: age, sex, presenting complaint, time from registration to discharge, and waiting time to see the doctor in an examination room. Data were also collected on factors which may add to waiting time including; types of investigations done (X-rays, chemical pathology, haematology or microbiological investigations). Patient were asked to rate their level of satisfaction with the service based on a Likert like scale which had the following responses; Slightly satisfied, Satisfied, Very satisfied, Dissatisfied, Very Dissatisfied.

Data were collected by a researcher who was not a member of the triage team. Informed consent was obtained from all participants in the study.

Statistical analysis

Data were analysed using SPSS 12.0 for Windows®. Pearson's correlation was used to determine associations between measurement variables and multiple regression analysis was used determine which demographic and clinical factors were independently associated with time spent in the department.

Results

A total of 257 patients were enrolled. Most of the clients seen (68.9%, $n = 177$) had minor illnesses or were for review visits (P4) while 19.1% (49) of clients had more complicated illnesses (P3). The triage status of 12% (31) of clients was not recorded.

The majority of clients (89%, $n = 230$) were seen and sent home on the same day. Only 2% ($n = 5$) were admitted to hospital, while the outcome of 8.6% ($n = 22$) was not recorded. There was no significant difference between the acuity status of patients triaged by doctors and those triaged by nurses ($\chi^2 = 1.63$; $p = 0.204$). Doctors triaged 42.9% ($n = 21$) and nurses triaged 57.1% ($n = 28$) of patients in acuity category P3. Similarly in category P4 doctors triaged 53.1% ($n = 94$) of patients whereas nurses triaged 46.9% ($n = 83$) of patients.

The average length of time spent in the department between registration and seeing the doctor in the examination room was 2.14 ± 1.01 h and this was not significantly different between males and females. However, clients triaged with more complicated illnesses (P3) on average spent significantly longer periods of time in the unit than did patients triaged with minor illnesses (4.58 ± 3.11 h and 3.33 ± 1.99 h, respectively: $t = -2.52$, $p = 0.015$).

The mean length of time spent in the department was not different for patients triaged by either nurse-only teams (3.77 ± 2.31 h; $n = 102$) or doctor-led triage teams (3.27 ± 2.30 h; $n = 113$) [$t = 1.576$; $p = 0.116$]. Further, in acuity class P3 there was no significant difference between the mean time spent the unit by patients triaged by the doctor-led triage team compared to those triaged by nurses only (4.70 ± 3.7 h vs. 4.50 ± 2.99 h respectively) [$t = 0.209$; $p = 0.2019$]. Similarly, there was no difference in the mean time spent in the ED by persons who were in acuity category P4 and who were triaged by the doctor-led triage team (3.16 ± 1.98 h) compared to those triaged by the team of nurses (3.52 ± 2.00 h: $t = 1.131$; $p = 0.3590$).