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Emergency nurses' knowledge and experience with the triage process in Hunan Province, China

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ABSTRACT

Introduction: Triage is implemented to facilitate timely and appropriate treatment of patients, and is typically conducted by senior nurses. Triage accuracy and consistency across emergency departments remain a problem in mainland China. This study aimed to investigate the current status of triage practice and knowledge among emergency nurses in Changsha, Hunan Province, China.

Method: A sample of 300 emergency nurses was selected from 13 tertiary hospitals in Changsha and a total of 193 completed surveys were returned (response rate = 64.3%). Surveys were circulated to head nurses, who then distributed them to nurses who met the selection criteria. Nurses were asked to complete the surveys and return them via dedicated survey return boxes that were placed in discreet locations to ensure anonymity.

Results: Just over half (50.8%) of participants reported receiving dedicated triage training, which was provided by their employer (38.6%), an education organisation (30.7%) or at a conference (26.1%). Approximately half (53.2%) reported using formal triage scales, which were predominantly 4-tier (43%) or 5-tier (34%).

Conclusions: The findings highlight variability in triage practices and training of emergency nurses in Changsha. This has implications for the comparability of triage data and transferability of triage skills across hospitals.

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1. Introduction

To facilitate timely treatment of patients that present to hospital Emergency Departments (EDs) a triage process is often implemented [1]. Triage is usually conducted by a senior nurse in the ED to ensure that patients are seen and treated in order of their clinical urgency [2]. Triage also seeks to minimise morbidity, disfigurement, pain, emotional distress and patient dissatisfaction with their care experience [3]. As the number of patients presenting to EDs continues to increase worldwide [4], triage enables ED staff to prioritise patient care so that patients requiring more immediate care are seen first.

A number of triage scales have been developed, which provide a verified, professionally accepted and validated decision-making structure, reducing the degree of subjectivity in the triage decision-making process [2,4]. Triage scales are developed with

the aim of being reliable and reproducible, and independent of the nurse performing triage [3,5]. Other advantages of using formal triage scales include the generation of comparable and comprehensive information on patient attendance and acuity, which may be used for resource allocation, measuring system performance, planning and research purposes [2]. Triage data can also inform and influence ED workload decisions, human resource requirements and funding [4].

The most widely used and recognised triage scales are the Manchester Triage Scale, the Canadian Triage Acuity Scale and the Australasian Triage Scale [1–4,6]. The Manchester Triage Scale is predominantly used throughout the UK. It is a 5-point scale that focuses on key signs or symptoms rather than a tentative medical diagnosis and is less focused on patients' ability to provide a detailed medical history [3]. Separate flowcharts exist for 52 different symptoms, allowing nurses to triage patients based on the severity of their main presenting complaint [2]. The Canadian Triage and Acuity Scale is another 5-point scale and has been widely accepted and used in Canada [1,2]. It has good interrater reliability, and has been demonstrated to be valid, and relatively

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easy to use and apply in various health care settings [4]. The scale is based on a presumptive disease diagnosis made from a detailed history or description of the patient's presenting problem [3]. While this scale is primarily focused on the provision of timely care to those who most urgently require it, it also takes into account the concept of customer service. Therefore, the scale also prioritises providing care to patients with less urgent problems within a reasonable time frame that would meet patients' expectations [4]. The Australasian Triage Scale was first developed and implemented in Australia in 1993 and was substantially revised in 2000. It is also a 5-point triage scale, with patients allocated to different categories based on their need for time-critical intervention, the potential threat to their life from their presenting problem and the need to relieve suffering [2,3,6].

In mainland China, most EDs do not have a dedicated emergency triage system in place and there is a shortage of appropriately trained triage nurses [1]; however, large urban hospitals are increasingly adopting triage scales [7]. It has been noted that triage accuracy is an ongoing problem in China, yet unsolved by any one "gold standard" triage method [8,9]. A review of the literature examining the current state of ED triage in mainland China showed wide variation across the country in terms of how patients are triaged [10]. The review also noted limitations in triage training for nurses and confusion regarding the minimum experiential and knowledge requirements for those undertaking triage as part of their role [10].

In 2012 a national guideline for triage practice was released by the central Chinese government, which refers to the design of normative flow in the emergency department [11]. This document provides guidance on patient treatment options, the arrangements for ED patients and the management of the quality of medical care in the ED. The guideline specifies that nurses should undertake the role of triage and that triage needs to be provided on a 24 h per day basis. Furthermore, nurses assigned to triage duty should have at least five years of nursing experience. The guideline instructs nurses to record patient demographic details, presenting problem, any treatment provided at triage, and the disposition of the patient, along with an assigned triage category in the patient record. The guideline promotes a 4-tier scale whereby Tier A includes life-threatening cases, requiring immediate and aggressive interventions, Tier B includes serious cases with a potential threat to life, limb or function requiring rapid intervention, Tier C includes urgent, acute symptoms without a potential threat to life, limb or function, and Tier D includes patients with mild or non-urgent conditions without evidence of deterioration [11].

The aim of this study was to explore the experience and roles of emergency nurses in Changsha, Hunan Province, China.

2. Method

The study explored the roles and experience of emergency nurses in Hunan Province, China, who are engaged in the role of ED triage.

2.1. Setting

The setting was 13 tertiary hospitals located in Changsha, Hunan Province, China. These hospitals varied in size and patient throughput. The smallest of the 13 hospitals has a total of 1200 inpatient beds, 20 beds for observation in the ED and 10 beds in the resuscitation room, and averages 150 patients per day. The largest hospital has 3500 inpatient beds, 45 beds for observation in the ED and 15 beds in the resuscitation room, and averages 300 patients per day.

2.2. Participants

Participants included registered nurses with experience in ED triage who were aged 18 years and over. Participants' roles included Junior Nurses (with Diploma or Masters Degree and less than five years of nursing experience), Senior Nurses (Diploma holders with over five years of nursing experience or Masters Degree holders with over one year of nursing experience), Nurses in Charge (experienced nurses responsible for managing nurses in their department), Associate Professors (Associate Chiefs of Nursing with extensive knowledge and experience, similar to a Nurse Practitioner) and Professors (senior professionals with extensive knowledge and experience in the field).

Surveys were circulated to head nurses of the ED from each participating hospital who then distributed them to nurses who met the selection criteria. The inclusion criterion was a nurse currently working as a triage nurse within the ED, while the exclusion criterion was a nurse who had previously worked as a triage nurse within the ED, but currently holds a different position in the department.

2.3. Data collection

The researchers used a survey they had adapted from Goransson [12]. Nurses were asked to complete the surveys and return them via a dedicated survey return box located in each of the participating hospitals. The boxes were placed in discreet locations away from foot traffic to ensure that completed surveys could be returned anonymously. The completion of a survey was taken to indicate voluntary participation and informed consent to be involved in the research project. The surveys were in Chinese (Mandarin) and took approximately 20 min to complete. Completed surveys were collected over a period of 1 month from 12 March 2015 to 12 April 2015.

2.4. Data analysis

The translation of the surveys into English was undertaken by members of the research team fluent in Chinese and English. From a sample of 300 participants, a total of 193 completed surveys were returned at the conclusion of the study (response rate = 64.3%). Quantitative survey data were analysed using SPSS software version 22, while text responses were thematically analysed without the use of specialised software due to the limited range and length of responses.

2.5. Ethics approval

The study was approved by the Ethics Committee of Xiangya Hospital, Changsha and the Hunan Emergency Nursing Association, as well as the Flinders University Social and Behavioural Research Ethics Committee (Project Number 6566). Participants gave informed consent by completing the questionnaire, and their privacy, confidentiality and right to withdraw from the study were upheld at all times.

3. Results

The majority of participants in this study were female (97.4%) and aged between 25 and 34 years (65.8%). The majority of participants (80.8%) had completed a Bachelor Degree in Nursing. Just under half of all participants were employed as a senior nurse (47.2%), with 24.9% and 25.4% employed as a junior nurse and nurse in charge, respectively. Most participants had between one and nine years of both nursing and emergency nursing experience

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