Short Communication
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Early Warning Scores-Are We Doing it Right?

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In the developing countries where critical care units are scarce, prioritization is necessary for optimal utilization of health care. The National Institute for Health and Clinical Excellence (NICE) recommended using a triage tool for the acutely ill patients admitted to hospital in 2007. There are many scoring systems available for triage in the ED as well identifying deteriorating patients in the ward setup. This is of special relevance to nurses who are frequently the first contact with the critically ill patients. But are the various scoring systems of any use in predicting deterioration early enough to be of benefit?

A recent randomized control trial concluded that the majority of "deteriorating" patients were not detected until within 15 minutes of cardiac arrest, admission to an intensive care unit, or death [1]. There have been suggestions that late signs of deterioration would decrease the value of any predictive score [2]. Complex multi faceted early warning scores are thought to increase the accuracy in the clinical setting in a theoretical and mathematical sense [3] but they are not the ideal in the busy clinical set up as they may not be user friendly [4]. Even among the EWS systems in use, significant errors in calculation [5] and inter observer variability in scoring has been reported [6].

Since early identification of the deteriorating patient in the ward and institution of critical care is of paramount importance, it would be interesting to note whether any physical variable has significant predictive value over others. Subbe et al noted that systolic blood pressure was rarely associated with increased risk except when it was less than 100mmhg [7]. Similarly hypothermia had a greater predictive value of increased risk compared to pyrexia. Another recent study confirmed that patient exposed to hypothermia within 24 hours of admission to hospital did significantly worse than their counterparts [8]. It has also been noted that routine clinical parameters are unreliable in predicting the mortality in scoring systems [9]. Routine measurement of temperature and blood pressure in AE was shown to have lower predictive value of mortality [10,11]. Combination of various clinical parameters has been shown to increase the predictive value of the scoring systems [12].

Even in scoring systems that are in routine use incomplete documentation of vital signs has been a problem. A recent study demonstrated that afferent limb failure was present on 23% of cardiac arrest patients needing unplanned ICU admissions or Medical emergency team calls [13]. Such afferent limb failures have been shown to increase the mortality of patients [13]. Other studies have noted that respiratory rate is one of the physical examination finding noted least by the primary care teams, so much so it has been termed "the neglected sign" by some investigators [14]. In a recent study it was noted that although pulse rate blood pressure and temperature were documented frequently, respiratory rate was documented sparsely, in a cohort of post surgical patients [15].

An interesting finding from a recent study showed that most frequent trigger for nurses in activating the rapid response team is the subjective criterion of "worry over patients deteriorating condition" [16]. This is in keeping with another study confirming that experiences nurses picked up patients needing immediate medical attention base on their clinical judgment [17]. Although most EWS do not have provision to document such subjective criterion, it seems an important factor for calling for emergency aid to deteriorating patients.

What does the future hold for early warning scores in clinical practice? We certainly need to develop improved ways to increase the accuracy of measurement and documentation of the vital signs in patient at risk of acute deterioration [18]. There is evidence that clinical judgment of the primary providers, including first contact nurses may play important role in identifying deteriorating patients. Recent interest has been triggered in using patient and family inputs to activating the rapid response teams to identify deteriorating patients [19,20].

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