

Vital Sign Assessment Directives Have Not Associated With Diagnostic Validity

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With great interest, we have read the notable publication in the recent *Acta Medica Iranica* from Hosein Nejad *et al.*, entitled “Evaluation of the Significance of Vital Signs in the Up-Triage of Patients Visiting Emergency Department from Emergency Severity Index Level 3 to 2” (1).

We would like to bring your attention to the discrepancy regarding the overall conclusion of the study on the directive for using vital signs in triage decision making. Authors indicated that heart rate (HR) and respiratory rate (RR) have stronger contribution to up-triage of level III patients than O₂ saturation, so they suggested that RR should be measured first in level III patients and secondly HR should be measured if RR is within normal ranges and even the omission of the O₂ saturation criteria in the case of severe overcrowding of the emergency department.

First of all, however, it has been well documented that respiratory rate correlates poorly with oxygen saturation (2), these findings do not degrade the significance of peripheral capillary oxygen saturation (O₂ saturation). Peripheral capillary oxygen saturation (SpO₂) saturation is an indicator for the partial pressure of oxygen (PaO₂) criteria. The SpO₂ measurement is easy, rapid and invasive and in contrast with RR measurement, SpO₂ do not accompany by the higher coefficient of variance, inaccuracy, poor interobserver agreement, and low variability of routine measurements in clinical practice (3,4,5). Therefore it does not seem appropriate to downgrade the SpO₂ measurement especially in triage room that is highly dependent on tools for rapid measurement in the case of severe overcrowding.

Secondly, any recommendation for vital signs measurement in triage must be justified based on diagnostic validity methodology. The association between vital signs criteria and mortality or morbidity must be accounted for any supplementary directives (6,7). Therefore, the study has not been fully prepared to jump to conclusion. Apart from this point, the study

must have used inferential statistics in order to reach any form of judgment. However emergency severity index triage system has shown an acceptable level of reliability and validity (8), further studies were recommended to adopt the ESI efficiently.

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