

Reliability of the computerized version of the ELISA scale at the University Hospital of Liège.

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INTRODUCTION

Crowding in ED and its undesirable consequences remains an important challenge in the field of public health. Some years ago, in the ED of University hospital of Liège, it leads to the implementation of a new triage algorithm: the ELISA scale. This scale enables a prioritization of the patients as well as the development of an organized care system. Following the extend of informatic technology use in hospitals, a computerized ELISA scale has been developed.

The main objective of this work is to check if the application of the computerized version of ELISA triage scale enhances its reliability. The secondary objective is to assess the difference between triage made with ELISA and triage with the computerized version.

METHODS

The computerized version of ELISA is a 5-level triage algorithm with the same flowcharts as for classical ELISA. 10 specialized triage nurses tested the intra-rater reliability of the computerized version on volunteer basis by comparing the classification of 30 clinical scenarios at 2 different times. The same nurses assessed the inter-rater reliability by sorting 100 clinical scenarios. Lastly, both scales were compared according to the time variable and the classification assigned to the same scenario by both scales. A Survey enabled nurses' satisfaction to be considered.

RESULTS

The inter-rater reliability is revealed during Fleiss' Kappa test by strong results which are however not perfect, with a p-value of 0.71. Moreover, Wilcoxon's test shows the intra-rater reliability with a p-value of 0.75. Student's T-test highlights that the average time needed for the triage of 30 scenarios with the computerized version is highly different from the triage with the ELISA scale. Furthermore, the difference of triage time between both scale is on average 17.13 +/- 2.98 minutes. A student's T-test confirms that triage time with the computerized version at time 2 is very ($p < 0.001$) lower than triage time at time 1. The nurses agree to work with the computerized version of this scale in the future.

CONCLUSION

The computerized version of the ELISA triage scale turns out to be reliable. Despite a longer triage time surely due to the obligation of following strictly all the flowcharts with the computerized version and a lack of training, we can observe a lower variability in triage between the nurses who perform triage, compared to the classical version.