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The effect of time target on overcrowding and clinical outcomes in ED: A systematic review and meta-analysis

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Many studies have reported the effectiveness of time target on reducing Emergency Department (ED) overcrowding and improving clinical quality. We investigated the effect of introducing time target on ED overcrowding and clinical quality using meta-analysis. We searched electronic databases including PubMed, Cochrane Library and Embase until June 2017. Search keywords were including time target, national emergency access target, four hour rule and shorter stays in ED. Two investigators selected and reviewed articles according to predefined inclusion and exclusion criteria. The quality of articles were evaluated by RoBANS checklist. Data were abstracted by a pre-determined criteria and performed meta-analysis using RevMan software. Out of 721 articles, 16 studies were included in the final analysis. A meta-analysis of four studies on ED Length Of Stay (LOS) showed that the mean EDLOS was reduced by 0.64 hours (95% CI, 0.34~0.94) since the introduction of the time target. Other studies also showed that EDLOS was reduced. There was no definite trend for hospital admission rate. A meta-analysis of nine studies on the clinical quality showed that the total odds ratio was 1.02 (95% CI, 0.74~1.32). Time taken until the visitation of a doctor and the initiation of treatment were both reduced. The rate of left without being seen was decreased. EDLOS was reduced and no significant association was seen between mortality and the application of time target since the introduction of time target. Rate of revisiting, time to clinician, time to treatment and rate of left without being seen was reduced.

Biography

Byoungseok Yoon has completed his Bachelor's degree from Yonsei Unieversity, Bio-engineering Department, Seoul, South Korea and Master's degree from Gachon University, School of Medicine, South Korea. He is currently working in Residency at Yonsei University, School of Medicine, Emergency Department, Severance Hospital, Seoul, South Korea.

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