

Ergonomics in Healthcare system-Human Factors models: a review article

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Abstract

Introduction: The healthcare system is one of the largest sectors in most countries and is a socio-technical system in which people play a preponderant role. Nowadays medical work systems are facing three major challenges: 1) Healthcare costs, 2) Quality and patient demands and 3) complexity of healthcare. These problems show the necessity of applying ergonomic models in the healthcare sector. The aim of this study was to review the practical ergonomic models in healthcare system.

Material and Method: For this review article, the authors searched through ScienceDirect, PubMed, ProQuest internet databases from 2005-2014 using the following keywords: Healthcare, Ergonomics, Human factors and model.

Result: Overall, 85 articles were reviewed. By evaluating articles' titles, 30 articles related to the study subject were chosen. Then, reviewing the abstracts resulted in 15 articles and in the final step 5 full-text articles were selected which described practical models of ergonomics in healthcare: 1) SEIPS, 2) DIAL-F, 3) Extended Patient-Staff-Machine-Interaction, 4) Adapted Medical-Task and 5) Recursive Hierarchical Task-Process-Task-Model.

Conclusion: Most of the published studies emphasize on application of ergonomic models in healthcare centers since these models may reduce their problems. These ergonomics approaches support patient-centered treatment processes, user-oriented design of medical environments, efficient utilization of resources and increase motivation of clinical staff.

Keywords: *Ergonomics, Healthcare, Human factors, Model*

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