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Title: Healthcare promotion in cardiovascular diseases: Is there a place for information technology?

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Abstract: Introduction: Cardiovascular diseases (CVDs) have been recognized as the major global healthcare concern. CVDs are the leading cause of mortality and morbidity in Iranian population according to the Ministry of Healthcare and Medical Education. There is a body of literature reporting the increasing role of health information technology (HIT) in prevention, treatment and monitoring of different categories of diseases. Giving these into account, we aimed to answer: Where and how can HIT be applied for the promotion of cardiovascular care? And, what lessons can we learn for our healthcare system? Methods: To answer our research questions, we performed a systematic literature review. The MESH terms: cardiovascular disease, health Information technology, health promotion, prevention & control, and combinations of these terms were used to search PubMed (NLM) and Embase databases as well as Cochran Library from 1995 to 2010. The title and abstract of the 498 retrieved literatures were evaluated manually with respect to their relevancy to our study objectives. In this stage 69 papers were remained and more refinement of the literature was performed by excluding non-experimental studies. Moreover, the reference lists of the final literature were also evaluated to find more relevant papers.

Findings: The comprehensive search of literature resulted in 23 full papers reporting on the impact of applying HIT to promote and/or to improve cardiovascular healthcare. Some important results of analyzing these literatures were: in 87% of the studies HIT was used in projects involving tele-communication (e.g., tele-home care) and/or electronic data registration (e.g., registry systems for CVD). HIT was mainly used for remote monitoring of patients with CVD (48%), mostly in outpatient settings (61%), and in order for managing patients with long-term care (e.g., hypertension) (48%). The studies reported direct positive impact (61%) and/or indirect positive impact (43.7%) of HIT applications on care promotion of patients with CVD or people with CVD risk factors. The most commonly used HIT infrastructure was Internet (74%). Discussion and Conclusion: There is more opportunities to promote the quality of cardiovascular care and to manage CVD risk factors using HIT. Continuous and shared cares reap most of the benefits. Considering the need of our healthcare system and with respect to the infrastructures required, it is both necessary and feasible to use the potentiality of information technology in promoting CVD care.

Cardiovascular diseases, health information technology, health promotion, systematic review

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