Editorial Article

Healthcare Information Technology in Medical Education: An Opportunity or a Threat

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The information technology (IT) industry is paving its path into modern health care and nothing can stop it [1].

Just like the prominent role of IT in all aspects of modern life, its growing role in the clinical setting cannot be left unnoticed.

From the economic perspective, the "Health Care Information Technology" plays a major role in lowering costs and increasing patient care efficacy, as well as gathering data that can lead to better resource administration, which is appreciated especially in low resource countries [2].

Just like all other fields of science, in regards to medical education, IT is fortifying the process of education in various ways such as computer-assisted learning, patient simulation and access to various medical resources continuously.

The IT industry is a rapidly growing field and new mobile-based and web-based applications and software's including Hospital Information Systems (HIS) are being developed on an everyday basis.

Surely, this growing industry is not going to wait and render its growth and development due to a slow promotion of medical personnel.

In Iran, during the last 10 years, there has been a trend towards upgrading the infrastructure of electronic medical records and e-learning [3].

Poor English language proficiency, medical insurance issues, variable inflation rates, slow internet speeds, and international embargos have all slowed down the process but this is a one-way road and the trip has started.

Maybe an important reason for the medical personnel and doctors to have stayed behind is the fact that they have not been systematically or academically trained for this purpose. At the same time, the infrastructure is not sufficient to completely switch from more conventional teaching methods to e-learning or changing the conventional medical records to electronic records in hospitals.

Having said that, lack of an academic training and infrastructure has led to a gap in computer-based knowledge between older doctors who have more clinical experience compared to younger physicians with less clinical experience; which has led to less transfer of experience to younger doctors. Yet, the number of health care personnel using hospital information systems is rising which is promising and according to recent studies, this increase is leading to significant improvement in coordination of patient care [4]. It should be noted that daily usage of internet is different from knowledge of medical databases and hospital information systems.

Currently, most of the medical curriculums in Iran do not systematically prepare physicians to use electronic health records.

Medical schools' curriculums are flatteringly strained to include all required material, however; the necessity for teaching IT in these programs is a fact.

It should be taken into account that during residency training, there is a limited time for didactic learning and the students tend to focus on developing competencies. So, IT should be taught comprehensively in medical schools. At the same time, different educational courses for graduated medical staff are a clear essence.

Last but not the least, an important issue is that appropriate use of IT for educational issues needs a comprehensive infrastructure, in addition to personal skills and personal IT knowledge. Implementing electronic health care infrastructure and e-learning seems to be very challenging in developing countries due to high costs [5]. Absence of such a developed framework makes it very difficult to use IT for educational or clinical purposes and may even be a threat to the quality of teaching and patient care due to loss of data or inability to correctly deliver or access educational packages.

At the end it should be noted that a systematic approach to teaching Health Care Information Technology to everyone involved in the medical industry and at the same time implementing the required infrastructure to keep the quality of teaching at top notch is needed in Iran and it is a must for the medical programs to keep up with the pace of the IT industry for promoting teaching and patient care.

References

[1] Aceto G, Persico V, Pescapé A. The role of Information and Communication Technologies in healthcare: taxonomies, perspectives, and challenges. J Network and Computer Applications. 2018; 107:125-54.

[2] Vogenberg FR, Santilli J. Healthcare trends for 2018. Am Health Drug Benefits. 2018; 11(1):48-54.

[3] Asadi F, Moghaddasi H, Rabiei R, Rahimi F, Mirshekarlou SJ. The evaluation of SEPAS national project based on electronic health record system (EHRS) coordinates in Iran. Acta Inform Med. 2015; 23(6):369-73.

[4] Kruse CS, Beane A. Health information technology continues to show positive effect on medical outcomes: systematic review. J Med Internet Res. 2018; 20(2):e41.

[5] Kumar M, Gotz D. System Design Barriers to HIS Data Use in Low and Middle-Income Countries: A Literature Review. Weekly Epidemiological Record. 2014; 89(40):429.