Design and evaluation of a web-based system for emergency trolley clinical training: a new approach in learning and recalling nursing students of Tehran University of Medical Sciences

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Abstract

Introduction:
The emergency trolley is a collection of everything that is used not only in cardiopulmonary resuscitation but also in other life-threatening situations. On the other hand, the correct implementation of the resuscitation process and minimizing the error of prescribing vital drugs requires complete knowledge of emergency medicine, which should be improved especially in nursing students. we decided to conduct a study with the aim of determining the effect of using the web-based system of emergency trolley training on the knowledge level of nursing students of Tehran University of Medical Sciences.

:Method

This study was conducted using a semi-experimental method, two groups were randomly assigned. The research samples included undergraduate nursing students included in the inclusion criteria. Inclusion criteria include 7th and 8th semester nursing students, the ability to access the web via mobile or computer. The sample size was determined to be 25 people in each group. The intervention was educational application containing drugs in the resuscitation trolley (uses, drug interactions, time of onset of effect training to the patient and family in the form of an algorithm), drug calculations by QR code. In order to measure knowledge, pre- and post-tests were taken. Satisfaction and userfriendly also were checked. Data were analyzed using SPSS-25 software.

:**Results**

The findings showed that after the intervention, the knowledge score in the intervention group increased significantly compared to the control group, and this increase is statistically significant ($P<0.001$). Also, the result of the Wilcoxon test shows that there is no statistically significant difference in the control group between the time before and after the intervention ($P=0.440$), while in the intervention group, the students' knowledge score increased

after the intervention compared to before the intervention. The average satisfaction and ease of use of the application in the test group was above 8 (on a scale of 0 to 10

:**Conclusion**

The results of this research showed that the web-based educational aid application designed for the latest edition of emergency medicine trolleys (edition 8) has significantly improved the knowledge of undergraduate nursing students in this field to be effective, also the satisfaction and ease of use of the application and QR code were reported at a very high level, which is a valuable finding. Therefore, it is recommended to use this software in addition to the routine and formal education of the university.

Keywords:
Software, Education, Nursing student, Emergency Trolley