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NURSES KNOWLEDGE ON EMERGENCY SERVICE INDEX (ESI) TRIAGE THROUGH MOBILE HEALTH (M- HEALTH)

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ABSTRACT

By empowering nurses to take more responsibility for their own learning, mobile health has the potential to transform the role of educators. As a result, the purpose of this study was to see how a mobile health strategy affected emergency nurses' knowledge of the Emergency Service Index triage system. A quasi-experimental study was conducted on emergency room nurses in 2 selected hospitals. In each group, the sample size was 25 nurses (a total of fifty participants). Participants were randomly assigned to one of two groups: mobile health or workshop. A self-administered questionnaire with twenty questions was used to assess participants' knowledge. There was no significant difference in knowledge grades between the m-health and induction training groups before the intervention, but there was (p=0.013) after the 2-week intervention. For emergency nurses, the m-health program was an effective education tool since it empowered nurses to take more responsibility for their own learning. As a result, it is proposed that educators can adopt m-health in association with standard training because it is less expensive and takes less time.

KEYWORDS

Knowledge, Emergency Service Index (ESI) Triage, Mobile health, Induction training and Nurses.

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INTRODUCTION

Seconds and minutes are vital to the patient in medical emergencies, and these time measures may determine the time between death and major handicap or a prosperous life. In this context, one feature of emergency care that is just as important as the emergency department's ability to evaluate, treat and determine a patient's fate is the use of an

effective and suitable triage system. The Emergency Severity Index (ESI) is a triage approach that considers both treatment acuity (how quickly should a patient be seen?) and resource consumption (what resources is the patient likely to need?). If a patient does not satisfy the criteria for a high acuity level (level 1 or 2), the triage nurse assesses anticipated resource demands to assist decide a triage level (level 3, 4, or 5).

The triage system classify patients at five levels of priority: immediate action (red), urgent (orange), delayed (yellow), standard (green) and non-urgent (blue) based on the presence or absence of life-threatening conditions and the severity of the disease[1]. According to several studies, triage is carried out in hospitals with insufficient knowledge among nurses and it is the responsibility of nursing educators to teach effectively and efficiently in order to improve knowledge and decision-making skills among nurses as members of the health-care system[2,3].

In the meanwhile, contemporary training methods such as e- learning can assist teachers in achieving this goal. To put it another way, health care educators have come to the conclusion that training and learning cannot be confined to the boundaries of a classroom and they are looking for a means to free the learning and training process from the constraints of time and location. Electronic learning, as one of the most important applications of information technology, is a type of solitary education that is available in a variety of formats, including online learning, computer-based learning, web-based learning and offline learning, as well as mobile technology, in which learners can achieve educational goals based on their abilities[5].

Mobile technology is a new term that describes the services that are supported by mobile communication services including patient monitoring, cell phones, tablets and PCs. The use of mobile technology in clinical and educational settings has risen at a faster rate than other forms of e-learning. Mobile health improved learning capacity in nursing programs by improving the process of memorizing and organizing a large number of variables and data in a clinical scenario. Under other words, in the mobile health method, training has been made an active process by involving the learner in the learning process and a portion of the training has been placed on the student's shoulders. Therefore, this study was done to assess the level of nurses' knowledge on Emergency Service Index Triage (ESI) through mobile health (m- health).

MATERIAL AND METHODS

A quasi-experimental study was conducted among emergency room nurses in 2 selected hospitals. In each group, the sample size was calculated to be 25 people (a total of fifty participants). Participants were randomly assigned to one of two groups: mobile health or induction training. A video package consisting of ESI content on pdf format, pictures, animation video on demonstration of the triage system with ongoing instructions as slide show for 45 minutes was developed by the researchers. This was sent to the nurses enrolled in the m-health group. Prior to start of the study, the induction training group was given traditional training in the form of workshop was given with the similar content and data was collected after 2 weeks. Followed by that, the m-health group was given with video on ESI to avoid contamination. The demographic data and knowledge of nurses on ESI triage was assessed at baseline and after 2 weeks. A self-administered questionnaire with twenty questions was used to assess participants' knowledge. The consent from the participants and ethical clearance was obtained prior to the study. Descriptive and inferential statistics were used to analyse the data.

RESULTS AND DISCUSSION

In this study, 64% were female nurses, 42% had a bachelor in nursing degree and the mean age of the participants were 27 ±3.4 as SD. Furthermore, the mean years of experience of nurses were 3.2±0.78 and 14% nurses had previous experience on ESI triage training (Table No.1).

According to the findings, in both the induction training and mobile health groups, the mean score of knowledge increased significantly after the intervention compared to before the intervention. In other words, the effectiveness of both instructional

techniques in altering the degree of nurses' knowledge regarding ESI triage training is reflected in this rise. According to Table No.2, the mean level of knowledge of nurses on ESI triage was 9.50±0.98, was increased to 18.23± 1.23 which was significant at p=0.01 level for m-health group. Similarly, the level of knowledge of the induction training group was increased significantly at p=0.05 level too. But the level of significance was slightly high in m-health group which shows that the m-health intervention is better that traditional training in improving the level of the nurses' knowledge on ESI triage. This may be due to the fact that m-health approach may be a convenient method of learning for nurses and it might have given them the opportunity to revise it many times as it is easy to do it during their leisure time such as during commuting, etc. The similar findings were reported in few studies were the electronic training had significantly improve the knowledge level and the performance of nurses too in the ESI triage[5,6].

Table No.1: Distribution of demographic characteristics of Nurses

S.No	Demographic Variables	Percentage / Mean ±SD
1	Female	64%
2	Age	27 ± 3.4
3	Qualification (B.Sc Nursing)	42%
4	Years of Experience	3.2 ± .078
5	Previous Experience on ESI triage training (Yes)	14%

Table No.2: Comparison of the level of knowledge of nurses on ESI triage

S.No	Level of Knowledge	m-health Group	Induction Training Group	'p' value
1	Before Intervention	9.50±0.98	9.01±1.11	0.17
2	After intervention	18.23± 1.23	15.51±3.24	0.013
3	Paired t-test results (p)	0.01	0.05	-

CONCLUSION

For emergency nurses, the m-health program was an effective education tool since it empowered nurses to take more responsibility for their own learning. As a result, it is proposed that the educators can adopt mobile health in association with standard training because it is less expensive and takes less time.

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DECLARATION OF CONFLICTING INTEREST

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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