- ***Basic Research***

Patient Safety Training Bundle: A Predictor of Improving Staff nurses' Knowledge and Safety Performance

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Abstract

Introduction: Patient safety is fundamental to quality nursing care. A cornerstone of continuous improvement based on training as well as learning from errors and adverse events. **Aim:** The aim of this study was to assess the effect of patient safety training bundle on staff nurses' knowledge and safety performance. **Methods**: The study was carried out at Ain-Shams University Hospital using a Quasi - experimental design on 100 staff nurses. **Tools**: The data were collected through a Patient safety knowledge questionnaire, and Observational checklist for safety performance. **Results:** The results of the study revealed that pre-intervention phase, staff nurses' knowledge of patient safety was low, with only (34%) of them had satisfactory knowledge. on the other hand, statistically significant improvements were revealed at the post-intervention phase in all areas, reaching 100.0%, with slight declines at the follow-up phase (95%) but still higher compared with the pre-intervention levels($p<0.0001$). their performance increased from 50% to 96% in the post intervention phase and slightly declined to94% at follow up phase ($p=0.002$) **Conclusion and recommendations*:*** the study intervention (patient safety training bundle was statistically significant independent positive predictor of staff nurses' knowledge and safety performance scores. the study recommends application of patient safety training bundle to improve staff nurses' safety performance in similar settings, further studies are needed to assess safety performance and its effect on quality patient care.

Keywords: *Improvement, Knowledge, Patient safety, Predictor, Safety performance, Staff nurses, Training bundle*

Introduction

Quality of care improvement and prevention of practice errors is dependent on nurses' adherence to the principles of patient safety ***(Georgios et al., 2019).*** The World Health Organization defines patient safety as the absence of preventable harm to patients and prevention of unnecessary harm by healthcare professionals ***(World Health Organization [WHO], ,2019).*** Principles of patient safety include proper identification of patient and matching to his/her care elements, prevention of patient handover errors, medication administration safety, performance of correct procedure at correct body site, and take appropriate precautionary measures to avoid infection ***(WHO,2020).***

The definition of safety performance differs according to the researchers' backgrounds; however, the literature mostly focuses on that safety performance may include safety organization and management, safety equipment and measures, accident statistics, safety training and evaluation, accident investigations and safety training practice. ***(Huang et al., 2018).*** Safety performance, measurement, managers' safety monitoring, and safety implementation performance are critical factors of safety culture enhancement. Thus, organizations should construct measures in developing overall patient safety process. (***Vifladt, et al 2018)***

Developing a patient safety culture was one of the recommendations made by the Institute of Medicine to assist hospitals in improving patient safety and nurse performance as key players in quality care. Assessing the staff nurses' safety performance is an important step in improving patient safety in hospitals, it is required by international accreditation organizations. Accordingly, healthcare organizations should obtain a clear view of the patient safety aspects that requiring urgent attention, identify the strengths and weaknesses of their patient safety as well as their existing patient safety problems ***(Vaismoradi, et al 2020)***

Significance of the study

Patient safety is a guarantee right to all patients. The nurses' role is to preserve patient safety and prevent harm during the provision of care in both short-term and long-term care settings ***(WHO, 2020).*** Nurses are expected to adhere to the principles of patient safety. This safety performance is required to quality care initiatives, and training of staff nurses aimed at the prevention of practice errors and to achieve sustainable and safer healthcare systems. The researchers noticed the need of staff nurses to training in relation to patient safety

principles to improve their safety performance and maximizes their role as key persons in delivery of quality and safety care.

Aim of the study

The aim of this study was to assess the effect of patient safety training bundle on staff nurses' knowledge and safety performance at Ain Shams University hospital

Operational definitions for this study:

- Safety performance: is nurses' adherence to the steps of the procedures related to patient safety principles
- A patient safety training bundle is a set of evidence-based training activities and content to be implemented for staff nurses to enhance their safety performance.

Research Questions:

Q1. What is the staff nurse' knowledge regarding patient safety at Ain-Shams University Hospital pre/ post patient safety training?

Q2. What is the level of safety performance of staff nurses at Ain-Shams University Hospital pre/ post patient safety training?

Research hypothesis:

- H1. Patient safety training will improve staff nurses' knowledge regarding patient safety
- H2. Patient safety training will improve staff nurses' safety performance

SUBJECTS AND METHODS

1. Research design A quasi-experimental study design with pre-post assessment was used in this study.

2. The study setting: The study was conducted at Ain-Shams University Hospital in the following units: ICU, CCU, Stroke ICU, cardiac catheterization, cardiology, operating theaters and Kidney dialysis

3. Subjects of the study:

The subjects of this study consisted of the staff nurses who are responsible for providing direct patient care in the aforementioned settings during the time of the study. Their total number was 120 staff nurses. The sample size was 100 staff nurse, 36 males and 64 females;

this sample size was large enough to estimate a prevalence rate of knowledge and safety performance of 60% among staff nurses with 5% standard error at 95% level of confidence and compensating for a non-response rate of about 10% using the finite population correction ***(Kish and Leslie, 1965)***

Sampling technique: Simple randomized technique was used in this study

4. Tools of data collection:

Two tools were used in data collection, namely, Patient safety knowledge questionnaire, and an observation checklist for staff nurses' safety performance.

I-Patient Safety Nurses' knowledge Assessment Questionnaire:

This tool consisted of two parts.

o *Part I:* This was aimed at collecting data regarding the demographic characteristics of the staff nurses such as age, gender, and working unit.

o *Part II*: This was developed by the researchers based on pertinent literature review ***(Joint Commission Resources [JCR] 2010; World Health Organization [WHO], 2012)*** to assess staff nurses' knowledge regarding patient safety, and patient safety principles. It included 42 Multiple-Choice (MCQ) questions covering different aspects of patient safety such as concept of patient safety, and patient safety principles

***Scoring*:** For each question, a correct response was scored 1 and the incorrect zero. For each area of knowledge, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into percent scores. Knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

II-Staff Nurses' safety Performance Observation Checklist : This tool was developed by the researchers based on review or related literature ***(Mohamed, 2010; Salem, 2012; Joint Commission on Accreditation of Health Care Organizations [JCAHO], 2016)*** to assess the performance of patient safety principles by the staff nurses. It consisted of 83 items covering the steps of the procedures related to patient safety principles to be performed by the staff nurse, in addition to a part for identification data such as code number, name of the unit, the time of observation and observation number. Each item of the checklist was to be checked as either "done" or "not done," in addition to "not applicable.

Scoring: The items observed "not done" and "done" were scored "0" and "1", respectively. The items "not applicable" were not scored and were discounted from the totals. For each dimension(principle), the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into percent scores. The practice was considered adequate if the percent score was 85% or more and inadequate if less than 85%. This high cut off point given that patient safety is a critical issue in quality.

Tools validation**:** Validity of the study tools were presented to a panel of experts for face and content validation, the jury panel consisted of five experts, professors of nursing administration and medical-surgical departments from the faculties of nursing Ain Shams, Cairo, and Zagazig Universities. The process involved their overall opinion about the tools. Then, they assessed each item for clarity, comprehensiveness, simplicity, understanding and applicability. Their suggestions were also sought in the structure of MCQ. Accordingly, to their opinions recommended modifications were performed by the researchers. A pilot study was done on ten staff nurses representing approximately 10% of the main study sample. The pilot served to assess the clarity of the knowledge questionnaire as well as the feasibility of the observation checklist. Since no changes were done in the tools, the pilot sample was included in the main study sample.

Reliability**:** The reliability of the scales used in the tools was examined through assessing their internal consistency. The scales showed good as indicated by their Cronbach's Alpha coefficient 0.956 for the questionnaire. As for the observation checklist, the reliability was assessed using the inter-rater agreement method. and independently observing the same staff nurse at the same time. The reliability proved to be high with 100% agreement in almost all items.

Field work:

The actual fieldwork of the study lasted for eight months from the beginning of December 2019 to the end of August 2020. It involved phases of assessment, planning, implementation, and evaluation.

Assessment phase: This phase took 2 weeks from mid of December 2019 to the beginning of January 2020. After finalization of the data collection tools based on the pilot study results, data collection was obtained from the staff nurses who gave their approval to participate in the study Each staff nurse took time to fill in each questionnaire ranged from

20-30 minutes. The same technique was applied immediately after the program and after three months (follow up). The filled forms were handed back to the researchers in the same day. the collected data served as a pretest for baseline comparison with posttest data. It also helped the researchers to identify the educational needs of the staff nurses.

Planning phase: This phase took 2 weeks from the beginning of January 2020 to the mid of January 2020. The patient safety training bundle program aimed at improving staff nurses' knowledge and safety performance was designed by the researchers based on the scientific background, and in the light of the needs identified in the pretest assessment. Also, schedule and time of sessions was determined by both researchers and staff nurses.

Teaching methods and learning activities were identified and the place for conducting the training bundle sessions was booked and prepared in collaboration with the director of staff development department in the hospital.

Implementation phase: This phase took one month from the mid of January to the mid of February 2020. A designed patient safety training bundle program was given to staff nurses. It included application of patient safety training bundle through eight sessions (four theoretical and four practical sessions) The time allotted for implementing the training bundle was 16 hours, 4 weeks (2 sessions /week) and every session took 2 hours. The training bundle was implemented in the training and development department in the hospital.

In the first session the researchers explained, training bundle aim, objectives, plan, content, outlines and method of training and evaluation. At the beginning of each session an orientation to the new session and its aims took place. Daily verbal informal feedback was done at the end of each session regarding the contents presented, methods of instruction used, and level of understanding. The researchers initiated the active participation of the participants.

Different teaching methods & modalities were used during the implementation of the program. These methods included modified lectures, small group discussion, role plays, small group activities, assignments, 3,2,1 countdown, examples from life and work situations. *Additionally,* Audio visual media was used such as data show, white board, videos, and flipcharts.

Description of designed Patient safety training bundle: it includes (helpful handout about all patient safety topics and content discussed in the training sessions to be used as a

memorial reference, brochure represents as a summary of main point in patient safety principles to raising awareness, videos clarified the performance of patient safety principles, exercises sheets, and procedure manual of all patient safety principles steps) this training bundle is distributed to all study staff nurses and also given to all the head nurses, and nursing director and also to the head of training and development department

Evaluation phase: This phase took one month till mid of March 2020. after implementing the bundle, immediately knowledge post-test was done for all the subjects using the same questionnaire used before, two weeks later, observational checklist is used to assess post implementation staff nurses' safety performance as used at the pretest

Due to Covid-19 epidemic after implementing the bundle, and the lockdown the follow up phase started at the begging of July2020

For follow-up, the same process was repeated four months after the post-bundle evaluation, using the same data collection tools. This phase took two months from July to the end of August 2020. A coordination was done between the researchers and training and development department and infection control team in the hospital to be enabled to collect data within the preventive measures of COVID 19. A daily schedule was held along the week according to the number of subjects who are present in the work. The researchers were allowed to enter each hospital only 2 days / week after following all precaution measures.

Results

Table 1 shows that at the pre-intervention phase, staff nurses' knowledge of patient safety was low, with only 34.0% of them having satisfactory knowledge. On the other hand, the highest percentage of adequate knowledge was for the principle of patient safety related to performance of correct procedure at correct body site, wrong-patient, and wrong-surgery (75%). Statistically significant improvements were revealed at the post-intervention phase in all areas ($p<0.001$), reaching 100.0% for preventing patient handover errors. The follow-up phase had some declines in staff nurses' knowledge in most areas, but the levels remained significantly higher compared with the pre-intervention levels ($p<0.001$).

In total, **Table 2** demonstrates generally low staff nurses' performance of the totals of patient safety principles at the pre-intervention phase (50%). The lowest percentages of adequate performance were related to " proper identification of patient and matching to their elements (18.0%), However, all principles demonstrated statistically significant

improvements at the post-intervention phase, with slight declines at the follow-up phase but still higher compared with the pre-intervention levels. (p<0.001), (p=0.002) respectively

Table 3 demonstrates statistically significant moderate positive correlation was revealed between their scores of knowledge and performance (r=0.523).

In multivariate analysis, **Table 4** demonstrates that the statistically significant independent positive predictors of staff nurses' knowledge score were the study intervention (patient safety training bundle) and it is most influential. Conversely, their age was a negative predictor. The model explains 54% of the variation in the knowledge score.

Similarly, Table 5indicates that the study intervention was the only statistically significant independent positive predictor of staff nurses' safety performance score. The model explains 45% of the variation in this score. None of the other staff nurses' characteristics had a significant influence on it.

Table (1): Staff nurses' knowledge related to patient safety, and principles of patient safety throughout the study phases (n=100).

Satisfactory (60%+) Knowledge of Patient safety	**Time**						**X^2 (pre-post)**	**X^2 (pre-FU)**
	Pre (n=100)		**Post (n=100)**		**FU (n=100)**			
	No.	**%**	**No.**	**%**	**No.**	**%**		
Patient Safety	**34**	**34.0**	**91**	**91.0**	**69**	**69.0**	**74.73 (<0.001*)**	**26.29 (<0.001*)**
Principles of patient safety								
Proper identification of patients and matching to their elements	**52**	**52.0**	**95**	**95.0**	**85**	**85.0**	**49.54 (<0.001*)**	**25.87 (<0.001*)**
Prevention of patient hand over error and safety during transition	**72**	**72.0**	**100**	**100.0**	**95**	**95.0**	**36.08 (<0.001*)**	**20.31 (<0.001*)**
Improve medications administration safety	**60**	**60.0**	**96**	**96.0**	**98**	**98.0**	**39.94 (<0.001*)**	**48.49 (<0.001*)**
Performance of correct procedure at correct body site	**75**	**75.0**	**97**	**97.0**	**97**	**97.0**	**23.47 (<0.001*)**	**23.47 (<0.001*)**
Take appropriate precautionary measures to avoid infection	**72**	**72.0**	**97**	**97.0**	**96**	**96.0**	**27.27 (<0.001*)**	**24.77 (<0.001*)**
Total satisfactory knowledge	**38**	**38.0**	**100**	**100.0**	**95**	**95.0**	**70.63 (<0.001*)**	**22.20 (<0.0001*)**

Statistically significant at p<0.05

Table (2): Staff nurses' performance of patient safety principles throughout the study phases (n=100).

Safety principles indicators Adequate (85%+) Performance	**Time**						**X^2 (pre-post)**	**X^2 (pre-FU)**
	Pre (n=100)		**Post (n=100)**		**FU (n=100)**			
	No.	**%**	**No.**	**%**	**No.**	**%**		
Proper identification of patient and matching to their elements	18	18.0	97	97.0	68	68.0	140.99 (<0.001*)	55.04 (<0.001*)
Prevention of patient hand over error and safety during transition	77	77.0	98	98.0	91	91.0	21.30 (<0.001*)	7.61 (0.006*)
Improve medications administration safety	65	65.0	99	99.0	82	83.2	44.12 (<0.001*)	9.37 (0.002*)
Performance of correct procedure at correct body site	93	93.0	99	99.0	99	99.0	Fisher (0.03*)	Fisher (0.03*)
Take appropriate precautionary measures to avoid infection.	53	53.0	93	93.0	78	78.0	44.36 (<0.001*)	14.77 (0.002*)
Total adequate safety performance	50	50.0	96	96.0	94	94.0	58.36 (<0.001*)	52.77 (0.002*)

Statistically significant at p<0.05

Table (3): Correlation matrix of staff nurses' scores of knowledges level and performance

Scores	**Spearman's rank correlation coefficient**	
	Knowledge	**Performance**
Knowledge		**.523****
Performance	**.523****	

(**) Statistically significant at p<0.01

Table (4): Best fitting multiple linear regression model for the knowledge score level

	Unstandardized Coefficients		*Standardized Coefficients*	*t-test*	*p-value*	*95% Confidence Interval for B*	
	B	***Std. Error***				***Lower***	***Upper***
Constant	***92.32***	***19.55***		***4.723***	***<0.001***	***53.86***	***130.77***
Age	***-1.62***	***0.84***	***-0.07***	***-1.920***	***0.056***	***-3.28***	***0.04***
Intervention	***23.21***	***1.21***	***0.72***	***19.178***	***<0.001***	***20.83***	***25.59***

r-square=0.54

Model ANOVA: F=127.65, p<0.001

Variables entered and excluded: gender, , and work unit

Table (5): Best fitting multiple linear regression model for the safety performance score

	Unstandardized Coefficients		**Standardized Coefficients**	**t-test**	**p-value**	**95% Confidence Interval for B**	
	B	**Std. Error**				**Lower**	**Upper**
Constant	**85.86**	**0.45**		**192.705**	**<0.001**	**84.98**	**86.73**
Intervention	**9.00**	**0.55**	**0.67**	**16.486**	**<0.001**	**7.92**	**10.07**

r-square=0.45

Model ANOVA: F=271.79, p<0.001

Variables entered and excluded: age, gender, work unit and knowledge score

Discussion

Patient safety is an integral part of quality. Its goal is that the treatment or treatment environment will not cause the patient any danger or harm. Adverse events may include treatment-related infections, incorrect or delayed diagnosis, or a medication error. **(*Suliman,2019*).** Staff Nurses' safety performance is critical to the surveillance and coordination that reduce negative outcomes of care. Patient safety education can be

implemented by providing a comprehensive curriculum to prepare nurse interns for safe practice ***(Skutil, 2018)*.**

The present study was carried out to assess the effect of patient safety training bundle on staff nurses' knowledge and safety performance at Ain Shams University hospital. The study findings indicate that the use of patient safety training bundle was successful in improving staff nurses' knowledge, and safety performance, leading to acceptance of the study research hypothesis**.**

According to the current study findings, most of staff nurses had unsatisfactory knowledge of patient safety and its principles before implementation of the intervention. Such knowledge deficit might be due to insufficient information about patient safety in undergraduate curricula. The findings of the present study revealed significant improvement in staff nurses' knowledge regarding patient safety and principles of patient safety after implementation of the study intervention. The effect of the study intervention was confirmed through multivariate analysis, which identified the intervention as the main independent positive predictor of the staff nurses' score of knowledge. Such improvement in staff nurses' knowledge is critical to patient safety and quality of care. Similar successes of patient safety training bundle interventions in improving nurses' knowledge of safety were reported in studies in Portugal ***(Tronchin et al, 2019)*** and in Scandinavia ***(Sauter et al., 2016)*.**

The current study has also addressed staff nurses' safety performance through assessing their performance to the patient safety principles. The results demonstrated variable levels of performance of patient safety principles. The worst performance of patient safety principles was related to proper identification of patient and matching to their elements, an important explanation of the deficient performance of staff nurses related to this principle is that they may know the patient in person and by name. In agreement with this, ***Mohamed (2010)*** in a study in Egypt mentioned that staff nurses sometimes mistakenly bypassed patient identification because they already know the patient. On the same line, ***Hassan and Ahmed (2012)*** reported deficient performance of accurate patient identification among nurses in a study in Egypt. This was attributed to those nurses were assigned for a small number of patients, and they knew their patients very well due to his/her long stay in ICU or ward.

Overall, the implementation of the present study led to significant improvements in staff nurses' performance related to all patient safety principles at the post-intervention phase,

with slight declines at the follow-up phase. Moreover, the regression analysis identified the study intervention as the only positive predictor of the performance score. This is certainly due to the positive effect of the intervention on nurses' knowledge and safety performance. In fact, the results demonstrated significant positive correlations between nurses' scores of knowledges and their safety performance scores. ***(Carrizales and Clark, 2015)***

Therefore, the findings confirm the success of patient safety training bundle in improving staff nurses' performance. A similar success of a non-experimental study demonstrated improvement in medication safety after implementation of patient safety principles and goals ***(Beadles et al, 2014)***.

Furthermore, the current study findings demonstrated that the adequacy of staff nurses' performance of patient safety principles was sustained through the follow-up phase. This indicates that it became deeply rooted in their practice, In congruence with this, ***Suhonen et al (2014)*** clarified that a culture of patient safety arises from attitudes, activities and enduring ethical values that are conducive to the safe delivery of patient care. Hence, there is commitment of staff nurses and organizations to minimize patient harm, promote the wellbeing of patients and healthcare providers that reduce the likelihood of adverse events, and communicate safety concerns, while at the same time learning from other events occur without punishment.

Conclusion

The study findings lead to the conclusion that the staff nurses in the study settings have deficient knowledge of patient safety, and inadequate performance of patient safety principles at the pre intervention phase. The use of the developed patient safety training bundle is effective in improving their knowledge, and safety performance. Thus, the set research hypothesis can be accepted, and the patient safety training bundle can be used for this purpose.

Recommendations :

In view of the study findings, the following recommendations are proposed.

- Application of patient safety training bundle to improve staff nurses' safety performance in similar settings.
- Further studies are needed for assessing safety performance and its effect on the quality of patient care and on nurses' job satisfaction.
- A strategic plan for patient safety should be applied in the study settings.

- The hospital administration should make available all the equipment and supplies needed by the nurses to implement the patient safety principles.
- Patient safety principles must be an integral part of the orientation and ongoing on-job educational activities to all nursing staff in hospitals.

References

Beadles C.A., Hassmiller Lich K., Viera A.J., Greene S.B., Brookhart M.A., and Weinberger M. (2014): A non-experimental study of oral anticoagulation therapy initiation before and after national patient safety goals. BMJ Open.;4(2):e003960. doi: 10.1136/bmjopen-2013-003960.

Carrizales G. and Clark K.R. (2015): *Implementing Protocols to Improve Patient Safety in the Medical Imaging Department. Radiol Manage.;37(4):26-30; quiz 31*

Georgios E., Evridiki P., Vasilios R., and Anastasios M. (2019): *Factors influencing nurses' compliance with Standard Precautions in order to avoid occupational exposure to microorganisms: A focus group study. BMC Nursing; 10:1. available at: http://www.biomedcentral.com /1472-6955/10/1.*

Hassan R.M. and Ahmed S.T. (2012)*: Patient safety: Assessing nurses' compliance, Journal of Nursing Available Rhodes, M. (2008): Peace health. Care for an indwelling urinary catheter. pp. 1-4 Available at: http;//www.peacehealth.org/kbase/topic/special/ tv7406s pec/sec1.ht .*

Huang Y.H., Ho M., Smith G.S., Chen P.Y. (2018): *Safety climate and self-reported injury: Assessing the mediating role of employee safety control. Accident Analysis and Prevention; 38(3): 425–433.*

Joint Commission Resources [JCR] (2010): *Front Line of Defense: The international patient safety goals.*

Joint Commission on Accreditation of Health Care Organizations [JCAHO], (2016): Patient safety solutions. Available at: http://www.ccforpatientsafety.org

Kish and Leslie (1965): Survey Sampling. New York, John Wiley and Sons.

Mohamed N. (2010): Assessment of Staff Nurses Compliance to the International Patient Safety Goals at Intensive Care Unit in *A Military Hospital Unpublished Master Thesis, faculty of nursing .Ain Shams University.*

Salem M. (2012): *nurse knowledge questionnaire regarding patient safety standard Unpublished Master Thesis, faculty of nursing .Ain Shams University*

Sauter T.C., Hautz W.E., Hostettler S., Brodmann-Maeder M., Martinolli L., Lehmann B., Exadaktylos A.K., and Haider D.G. (2016): *Interprofessional and interdisciplinary simulation-based training leads to safe sedation procedures in the emergency department. Scand J Trauma Resusc Emerg Med.;24:97. doi: 10.1186/s13049-016-0291-7.*

Suliman M. Measuring patient safety competence among nursing students in the classroom and clinical settings. Nurs Educ Perspect. 2019;*40(3):E3–7. https://doi.org/10.1097/01.NEP.0000000000000460.*

Skutil M. (2018): *View of primary education in terms of the application of teaching methods in the educational process focusing on project based teaching. International conference of education, research and innovation. Valencia: IATED, pp. 6437-6443.*

Tronchin D.M., Peres H.H., Lima A.F., Alavarce D.C., Prata A.P., Santos M.R., and Aroldi J.B. (2019): *Development of an online nursing management course: successful experience between Brazil and Portugal. Rev Esc Enferm USP.;49 Spec No:162-7. doi: 10.1590/S0080-6234201 50000800023. English, Portuguese.*

Vaismoradi, M ., Tella, S., Logan P. A. , Khakurel, J., and Vizcaya-Moreno F.(2020): Nurses' Adherence to Patient Safety Principles: A Systematic Review. Int J Environ Res Public Health. Mar; 17(6): 2028.

Vifladt A., Simonsen B.O., Lydersen S., and Farup P.G. (2018)*: Changes in patient safety culture after restructuring of intensive care units: Two cross-sectional studies. Intensive Crit Care Nurs.;32:58-65. doi: 10.1016/j.iccn. 2015.06.004. Epub 2015 Oct 23. http://www.ccforpatientsafety.org*

World Heath Organization (WHO) Patient Safety. (2012); *Available online: https://www.who.int/patientsafety/en/*

World Heath Organization (WHO(2019) Patient Safety. [(accessed on 24 December 2019)];*2019 Available online: https://www.who.int/patientsafety/en/*

World Heath Organization (WHO)(2020) Patient Safety. [(accessed on 24 December 2020)];*2020 Available* ***online: https://www.who.int/patientsafety/en/***

الملخص العربي

حزمة تدريبيه لامان المريض : مؤشر لتحسن المعارف والاداء الامن لدي الممرضين

المقدمه: يعتبر امان المرضى أساس جودة الرعاية التمريضية و حجر الاساس في التحسين المستمر على أساس التدريب وكذلك التعلم من الأخطاء والأحداث السلبية.

الهدف من هذه الدراسة :هو تقييم تأثير حزمة تدريب امان المريض على معرفة الممرضيين والأداء الامن, أجريت الدراسة في مستشفى جامعة عين شمس باستخدام تصميم شبه - تجريبي على 100 ممرض وممرض. تم جمع البيانات من خلال استبيان معرفة امان المريض ، وقائمة ملاحظه للاداء الامن

نتائج الدراسة : كشفت أن مرحلة ما قبل التدخل ، كانت معرفة الممرضيين العاملات بامان المريض منخفضة ، حيث كان لدى (34٪) منهم فقط معرفة مرضية. من ناحية أخرى ، تم الكشف عن تحسينات ذات دلالة إحصائية في مرحلة ما بعد التدخل في جميع المجالات ، ووصلت إلى 100٪ ، مع انخفاض طفيف في مرحلة المتابعة (95٪) لكنها لا تزال أعلى مقارنة بمستويات ما قبل التدخل .($p < 0.0001$) ارتفع أداؤهم من 50٪ إلى 96٪ في مرحلة ما بعد التدخل وانخفض قليلاً إلى 94٪ في مرحلة المتابعة..($p = 0.002$)

الخلاصة والتوصيات: كانت حزمة التدريب على امان المريض مؤشراً إيجابياً مستقلاً ذو دلالة إحصائية عن معرفة الممرضيين العاملات ودرجات الاداء الامن. توصي الدراسة بتطبيق حزمة تدريب سلامة المرضى لتحسين أداء سلامة الممرضيين العاملين في بيئات مماثلة ، ودراسات أخرى لتقييم أداء السلامة وتأثيرها على جودة رعاية المرضى .