

The effect of nursing care standards on staff nursing performance

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Abstract: Background: Nursing care standards are general guidelines that provide a foundation as to how a nurse should act and what she should or should not do in her professional capacity and also influence on their performance. **Purpose of the study:** Was to assess the effect of nursing care standards on staff nursing performance in surgical care units through: assessing the actual nursing care standards in surgical care units, implementing the nursing care standards and evaluating the effect of standards on nursing performance after the implementation. **Design:** Quasi-experimental research design was used: the study was conducted in surgical care units (critical and intermediate) at National Liver Institute Hospital. **Sample:** All staff nurses (65) working in surgical care units (critical and intermediate) were involved in the study. **Instruments:** Data were collected using Observational checklist for assessing the process standard pre and post implementing nursing care standard. **Results:** There wasn't statistically significant difference in process standards in surgical care units. There was statistically significant difference in the total mean process scores regarding all items of nursing practice pre & post implementing the nursing care standards for patients in critical care units. There was highly statistically significant difference in the total mean process score regarding all items of nursing practice pre & post implementing the nursing care standards for patients in intermediate care units. **Conclusion:** Nursing care standards affect staff nursing performance **Recommendation:** The study results should be disseminated to the important key persons and healthcare agencies to be considered.

Key Words: *Healthcare agencies, Nursing care standards, Staff nursing performance.*

Introduction

Nursing integrates the art and science of caring and focuses on the protection, promotion, and optimization of health and human functioning; prevention of illness and injury; facilitation of healing; and alleviation of suffering through compassionate presence. Nursing is the diagnosis and treatment of human responses and advocacy in the care of individuals, families, groups, communities, and populations in recognition of the connection of all humanity (American Nurse Association, 2021).

Nursing care standard in ICU is a statement or criterion can be used by a

profession to measure quality of practice. Nursing care standard in health care is an authoritative statement that provides a minimum description of accepted actions that are expected from a health care organization or health care providers. Several professional organizations further define standards of nursing practice as general guidelines that provide a foundation as to how a nurse should act and what she should or should not do in her professional capacity. Deviating from this standard can result in certain legal implication (Morsy, 2018)

The primary reason for having standards is to promote, guide, direct and regulate professional nursing practice. Nursing care standards set out the legal and professional basis for nursing practice as describing the desirable and achievable level of performance expected of registered nurses in their practice, against which actual performance can be measured. Standards also serve as a guide to the professional skill, and judgment needed to practice nursing safely (Dolamo, 2018).

It is generally accepted that standards should be based on agreed up on achievable which is considered proper and adequate for specific purposes. The NCSs can be established, developed, reviewed or enforced by variety of sources as follows: 1) Professional organization, e.g. Associations as Joint omission on Accreditation of health care organizations (JCAHO) and American National Association (ANA), 2) Licensing Bodies, e.g. Statutory Bodies, 3) Institutions/Health Care Agencies, e.g. University Hospitals, Health Centers, 4) Department of Institutions, e.g. Department of Nursing, 5) Patient Care Units, e.g. Specific Patients' Unit, 6) Government Units at National, State and Local Government units and 7) finally, Individual e.g. personal standards (Ibrahim, 2016).

Nursing care standard's effect on the performance of nurses is important aspect of making sure that patient receive high level of care and receive it promptly when this care is required. So, nurses' performance level is cornerstone for better productivity of health care organizations. The performance of nurses differs from area to another depending on the kind of resources and professional advancement facilities available. Nurse's performance is very important

as nurses perform delicate work that related to the wellbeing of patient (Madlabana& Petersen, 2020).

Nurse performance is defined as the implementation of an action, achievement or fulfillment of a nurse's responsibilities in accordance with the tasks that have been charged to him (Supri et al., 2019). Also, Nurses work performance refers to the ability of nurses to achieve a certain level of productivity in the aspects of quantity or quality. There are seven dimensions of work performance, which are knowledge about work, attitude, decision-making, delegation, personal efficiency, planning and leadership capability (Abd El-Aziz, 2019).

Worker performance affects the success of an institution, while institutional factors in turn affect the performance of workers. Nurses performance is the final result of particular tasks which made by nurses. In other words, work performance is the result of a specific work in a certain quality in a certain time. Work performance is affected by many factors. First, it is influenced by the skills of nurses and the level of their motivation, but it is also influenced by work conditions are created for nurses for the full application of their skills and knowledge (El-Sayed, 2018).

Nurses' performance is also affected by many factors like hospital policies, motivation, training and development, relations between head nurses and higher level of management etc. Staff performance can be enhanced by various ways. Head nurses' performance play a major role for any hospital, its positivity leads to success while its negativity may lead to failure. If the staff is satisfied with their job or working conditions their performance will be much better than those who are not happy with their work (Mahmoud, 2019).

The organization improve nurses' performance by enhancing the productivity of nurses, identification of excellent performers with of rewarding people who are ready for promotion, identification of those who need some type of support to improve and increase their work performance, determining whether the set targets have been achieved and whether laid down standards have been adhered to, remuneration according to achievement, detection and elimination of problem areas in jobs or the work environment, placement of staff according to their ability and reduction or elimination of grievances (Abd El-Aziz, 2019).

Staff performance can be measured by various ways like productivity, absenteeism and employee satisfaction. Also, performance appraisal system is a measurement tool used in the organization to measure the effectiveness and efficiency of their employees. Performance appraisal system is needed because every employee has a different attitude to handle the work. Performance appraisal tends to improve the work performance, communication, expectations, determining employee potential and aiding employee counseling (Ibrahim, 2021).

Significance of the study

Nursing is the biggest profession in health care and it is an important component in efforts to improve the quality of care in health institutions and when nurses work professionally, this will make a service system effective and efficient (Supri et al., 2019). Nursing care standard is one of the most important aspects in the nursing. It is an authoritative statement by which the quality of nursing practice, service and education can be judged. It is a guideline and a recommended path to safe conduct an

aid to professional performance. It provides a baseline for evaluating quality of nursing care, increase effectiveness of care and improve efficiency, help to clarify nurses' area of accountability, help nursing to clearly define different levels of care and also, help supervisors to guide nursing staff to improve and enhance their performance (Bashir, 2019). The researcher conducts this study to assess the effect of nursing care standard on staff nursing performance.

Purpose of the study

The aim of this study was to assess the effect of nursing care standards on staff nursing performance in surgical care units (critical and intermediate) through: assessing the actual nursing care standards (structure and process) in surgical care units (critical and intermediate), implementing the nursing care standards and evaluating the effect of standards on nursing performance after the implementation.

Methods

Research design:

Quasi-experimental research design was carried out.

Research setting:

The study was conducted in surgical care units (Critical and intermediate) at National Liver Institute Hospital which affiliated to Menoufia University Hospitals.

Subjects:

Staff nurses

All staff nurses working in surgical care units (critical and intermediate). The total number of staff nurses was 65 (40 staff nurses in critical care unit and 25 staff nurses in intermediate care unit).

Data collection instruments:

Observational checklist. Aimed at assessing the process standards pre and post implementing nursing care standard in the surgical care units (critical and intermediate). Items included in an observational checklist were modified by the researcher through reviewing the national and international standards of care (Joint Commission on Accreditation of Hospital (1996), Abd El-Ghaffar, (1997), Mahrous (2003), El-Gendy (2008), Ahmed (2008) and Shaban (2012)).

The scoring system:

The items rated by using a three point likert Scale for structure standard ranged from “completely present” for score of “2”, “incompletely present” for score “1”, “not present” for score “0” and for process standard ranged from “completely done” for score of “2”, “incompletely done” for score “1”, “not done” for score “0”.

▪ **Validity of the study instrument:**

A bilingual panel of five experts was recruited to test the content and face validity of the instrument. The panel consisted of experts from nursing administration from the Faculty of Nursing, Cairo and Ain Shams University. The researcher asked the panel to critique the instrument as a whole, including identifying areas of concern and reviewing the construction, flow and grammar. Necessary modifications and deleting of some items were done to reach the finalized version of the instrument.

▪ **Reliability of the study instrument:**

The instrument was tested for reliability by the Internal Consistency Coefficient Alpha.

Ethical consideration

Before beginning to collect data from the study subjects, the researcher introduced herself to them and explained the aim, nature, time of conducting the study, potential benefits of the study and how data will be collected. The researcher informed them that their information will be treated confidential and will be used only for the purpose of the research. Additionally, each subject was notified about the right to accept or refuse to participate in the study. Furthermore, the subjects’ anonymity was maintained as they weren’t required to mention their names.

Pilot study:

Pilot study was conducted to test the feasibility, clarity and applicability of the instruments and to estimate the time needed to collect the data. It was carried out on 10% of the total sample (n=7) no modifications were done to the instruments. The piloted subjects were included in the final sample.

Field work

A. Preparatory phase

- The researcher started to develop observational checklist to assess the actual nursing care standards (process standards) in surgical care units.
- The researcher reviewed the current available literature (e.g., articles, textbook, journals, etc.) to modify the study instrument of data collection then approved by the study supervisors.
- The researcher selected all staff nurses working in the surgical care units (critical and intermediate) who are responsible for providing direct nursing care for patient.
- The preparation, construction and approval of the data collection instruments from supervisors

consumed around three months. It started in September, 2019 and lasted at November, 2019.

B. Implementation phase:

- Data were collected for assessment of actual staff nurses' performance. Each one of the nurse was observed by the researcher.
- Collection of data was done in different times of work during the three shifts. . This was done six days per week. Each nurse has been under observation until the entire observation checklist was fulfilled.
- The researcher has informed the nurses that they will be observed but not informed them about the hours of observation or the content of the tool.
- The duration of the collection of data was lasted five months from February 2020 to June 2020. Three months were in the critical care units and the other two were in intermediate care units.
- The researcher scheduled the teaching sessions for both theory and practice. The researcher divided the nurses into small groups, each group contains 5 nurses. Teaching has been implemented for nurses in terms of sessions and teaching on the spot during their official working hours, there were a total of 11 sessions. The duration of each session was 45minutes to 60 minutes, including 10 minutes for discussion and feedback. Each session usually started by a summary of what has been taught during the previous sessions and the objectives of the new topics. Feedback and reinforcement of the developed nursing care standards was performed according to nurses needs to ensure their understanding. Each nurse obtained a copy of the developed nursing care standards booklet that included all the training

contents. Additionally, the researcher also put posters on walls to also make staff nurses more knowledgeable about nursing care standards. This took three months. It started at the beginning of March 2021 and lasted at the End of May 2021.

Evaluation phase:

Finally, the researcher evaluated the effect of post implementing nursing care standards on staff nursing performance in surgical care units (critical and intermediate) by using the previous observational checklist to evaluate their performance. This was taking four months from June 2021 to September 2021.

Statistical analysis:

Data entry and statistical analysis were done using the Microsoft Excel and Statistical Package for Social Sciences (SPSS) program version 22. Data were presented in tables and figures using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. T-test and P-value was used to test correlation between variables. Also, Chi-square for trend was used to assess the statistical significance of trends of scale. Statistical significance was considered at $p\text{-value} \leq 0.05\%$ and non-significant difference was considered at $P > 0.05\%$. Collected data were statistically analyzed, presented and tabulated using appropriate reliable, valid statistical methods & tests.

Results:

Table (1): Clarifies personal characteristic of the studied staff nurses. It shows that more than half of staff nurses (61.5%) working in critical surgical ICU, while (38.5%) working in intermediate surgical ICU. the largest proportion of staff nurses were

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in the age group 20-< 30 years (73.8%). As regards gender, the majority of staff nurses were female (63.1%). As for nursing qualification, more than half of staff nurses (55.4%) had nursing diploma. Regarding marital status, about half of the staff nurses were married (52.3%). Concerning years of experience, more than half of staff nurses (52.3%) had experience 1-<5 years.

Table (2): Reveals frequency distribution of the process standards pre-implementing nursing care standards in critical and intermediate care unit. The table discussed that there was no statistically significant differences in process standards pre implementing nursing care standards in critical and intermediate care unit.

Table (3): Discusses total mean of process items as observed by the

researcher pre and post implementing nursing care standards for patients in critical care unit (n=25). It illustrated that there was statistically significant difference in the total mean process scores regarding all items of nursing practice pre & post implementing the nursing care standards for patients in critical care units.

Table (4): Reveals total mean process items as observed by the researcher pre and post implementing nursing care standards for patients in intermediate care unit (n=25). It illustrated that there was statistically highly significant difference in the total mean process score regarding all items of nursing practice pre & post implementing the nursing care standards for patients in intermediate care units.

Table (1): Percentage distribution of the studied nurses according to their personal characteristic

Personal characteristic items	No	%
Work unit:		
Critical surgical ICU	40	61.5
Intermediate surgical ICU	25	38.5
Age:		
< 20 years	14	21.5
20 -< 30 years	48	73.8
30 -< 40 years	3	4.6
Mean± SD	22.14±4.3	
Gender:		
Male	24	36.9
Female	41	63.1
Nursing qualification:		
Nursing diploma	36	55.4
Diploma with specialty	0	0
Associated degree in nursing	19	29.2
Bachelor's degree in nursing	10	15.4
Marital status:		
Married	34	52.3
Not married	31	47.7
Years of experience:		
1-<5 years	34	52.3
5-<10 years	28	43.1
10-<15 years	3	4.6
Mean± SD	5.45±3.13	

Table (2): Frequency distribution of the structure and process standards pre implementing a designed nursing care standards in critical and intermediate care units.

	Maximum score	Critical	Intermediate	t-test	p-value
Structure	142	116±12.54	120±15.4	1.22	0.096
Process	66	39.18±10.35	40.00±10.35	0.043	0.966

Table (3): Total mean of process items as observed by the researcher pre and post implementing nursing care standards for patients in critical care unit (n=25).

Process items	Maximum score	Pre implementation	Post implementation	Paired t test	p.value
Assessment of patient care	6	3.03±1.64	4.65±1.82	4.195	0.001*
Nursing diagnosis	8	5.48±1.91	6.73±1.65	3.135	0.002*
Nursing planning	16	9.85±2.96	12.78±4.56	3.404	0.001*
Implementation	10	7.28±1.88	8.40±2.70	2.164	0.034*
Evaluation	10	5.93±2.09	8.05±2.76	3.877	0.001*
plan for discharge	16	7.63±2.98	12.03±4.82	4.915	0.001*
Total process score	66	39.18±10.35	52.63±17.96	4.1	0.001*

Table (4): Total mean process items as observed by the researcher pre and post implementing nursing care standards for patients in intermediate care unit (n=25).

Process items	Maximum score	Pre implementation	Post implementation	Paired t test	p.value
Assessment of patient care	6	3.36±1.19	5.00±1.00	5.286	<0.001**
Nursing diagnosis	8	5.32±1.84	6.84±1.37	3.306	0.002
Nursing planning	16	9.84±2.91	13.08±1.80	4.733	<0.001**
Implementation	10	6.96±1.74	8.44±1.16	3.536	0.001*
Evaluation	10	5.60±2.65	7.56±1.64	3.151	0.003
A plan for discharge	16	8.92±1.85	12.56±1.80	7.049	<0.001**
Total process score	66	40.00±7.75	53.48±5.27	7.195	<0.001**

Discussion

Standards of care are critically important and are the first steps of quality improvement program, standards are the level of excellence that must be followed and practiced. The standards have been developed as references for nursing staff in critical care, managers and commissioners associated with critical care, in order to provide and support safe patient care, focused upon quality and desired

patient outcomes. The standards should help inform the workforce development program necessary for the continued evolution of critical care services which enhance staff nurses' performance (Indraratna et al., 2019). Observational checklist was designed for assessing the process standard in surgical care units. Process standard is the nursing process (NP) that helps nurses making a clinical decision. The

nursing process is a scientific method that uses scientific reasoning, problem-solving and critical thinking for delivering holistic and quality nursing care. Implementation of the nursing process in the clinical settings improves the quality of nursing care, enhances the level of nurses' knowledge, improves the quality and quantity of nurses' documentation and increases their job satisfaction and self-efficacy (Semachew, 2017). In this process, the nurse needs to assess and identify the problem, review the existing solutions, select and implement the best option and ultimately evaluate them (Potter & Perry, 2017). Process standards involve assessment, diagnosis, planning, implementation, evaluation and patient discharge.

The results of the present study revealed that the majority of nurses had unsatisfactory practice levels with low total mean score before nursing care standards (NCSs) implementation. This might be due to lack of knowledge regarding NCSs and lack of written standardized nursing care standards for patients in surgical care units. While, after implementing a designed nursing care standard (NCSs), there was high improvement in nurses' practice with high total mean scores and statistically significant differences between pre implementation and post implementation periods.

the present findings were congruent with (Abou Zed & Mohammed, 2019) who studied (Impact of nursing guidelines on nurses' knowledge and performance regarding to prevention of ventilator associated pneumonia in neonates) and revealed that the application of the nursing guidelines has a positive outcome on improving nurses' performance regarding to prevention of ventilator associated pneumonia in neonates and with

(Mohamed, 2019) who studied (Effect of training program on nurses' performance regarding care for patient under mechanical ventilator in ICU) and stated that the majority of studied nurses had satisfactory total practice score regarding care for patient under mechanical ventilator in ICU post program implementation.

The present findings were consistent with (Gaber, 2020) who studied (Impact of applying nursing care protocol regarding the patient with thoracentesis) and stated that there were positive impact on nurses' practice regarding nursing care for patients post-intervention of nursing care protocol. Also, (Abd El-Mawgood, 2020) who studied (Impact of nursing guidelines on nurses' performance related to care of patient with chest tube) found that nursing guidelines significantly improve nurses' performance.

Additionally, this finding was in the same line with (Mohamed, 2020) who studied (Effect of nursing guidelines on Knowledge and quality of life for patient with knee osteoarthritis) and (Mansour, 2020) who studied (Effect of educational program for nurses about pre and post-operative care on clinical outcome of patient undergoing ureteral stent surgery) and revealed in their studies that nurses' practice were poor at pre-program phase while it has been improved during post program phase which reflects that educational program was effective and had positive impact on nurses' performance.

On the same line, the present study was congruent with (Hanafy, 2020) who studied (Impact of implementing a designed specialized nursing care guidelines on patient's outcomes and nursing staff empowerment in pediatric cancer hospital) and documented that nurses who had poor levels of skills before the exposure to a training program had a significant

improvement after the implementation of the program and also revealed that great improvement in total practice mean score level obtained by nurses after implementation with presence of highly significant differences between of pretest and post-test

The present study also agreed with (Abd El-Mawgood, 2020) who studied (Impact of nursing guidelines on nurses' performance related to care of patient with chest tube) and revealed that the mean score at pre-nursing guidelines intervention improved post-nursing guidelines intervention and there was highly statistical significant differences in mean of all practice score among pre and follow up nursing guidelines intervention and also with (Atya, 2020) who studied (Effect of an educational program on the nurses' performance regarding vascular access infection prevention) and indicated that the post mean practice score of nurses were exposed to educational program were higher than their pretest practice scores.

Conclusion

- There was no statistically significant difference in process standards in surgical care units' pre implementing NCSs.
- There was statistically significant difference in the total mean process scores regarding all items of nursing practice pre & post implementing the nursing care standards for patients in critical care units.
- There was highly statistically significant difference in the total mean process score regarding all items of nursing practice pre & post implementing the nursing care standards for patients in intermediate care units.

Recommendation:

- Improve nurses' willingness toward nursing care standards (NCSs)

through increasing their awareness regarding the benefits of using research findings in practice. Also, through arranging regular workshops and clinical field trips to the organizations or hospitals that actually applied nursing care standards (NCSs),

- Orientation programs should be provided for all newly nurses about the developed NCSs,
- Periodic monitoring of nurses' practice to evaluate the level of nurses working in surgical care units.
- Nurses should always be encouraged to attend scientific meetings and conferences to keep pace with the rapidly growing wealth of knowledge and practice necessary for proper nursing service.
- Nurses should be aware by postoperative complications, how to prevent it and how to deal with it when develop. Nurses should be aware by instructions that given to patients before discharge and inform patients about it.
- Nurse managers must establish a research disseminating center in the hospital to collect and disseminate the best research findings,
- A reward system for nurses interested in NCS may be needed to help profile innovative practice,
- Further research is needed to test the following:
 - ✓The effect of implementing nursing care standard on the quality of patient care.
 - ✓Influence of proposed nursing care standards on nursing job involvement.

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