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Original Research Article

Effect of Proposed Program of Patient Safety on Nurse's Performance and Quality of Care at Kosti and Rabak Teaching Hospitals-Sudan

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Background: **The profession of Nursing has been at the forefront of patient safety taking special attention to the training and education of its workforce. Internationally, the International Council of Nurses (ICN) has been tackling this issue with force since it established that Patient safety is fundamental to quality health and nursing care.** ***Aim:*** **To study the impact of a design propose program for nurses about patient safety and evaluate the impact of it on nurses' knowledge.** ***Methodology:*** **This was a quiz experimental study, One hundred and eight nurses were included as all the entire population meeting the inclusion criteria taken as a sample, using census to achieve a desirable level of precision, The data was collected in four phases using a self-administered questionnaire, phase one includes an orientation about the training program. Phase two (pretest data), in which the questionnaire was distributed for nurses and each one was allowed sufficient time to fill it. After collection of pretest data, the nurses have received the training program, the training was continued for four months.** ***Phase three:*** **A post-test was obtained from the participants at the end of the program, the same self-administrative questionnaire. Follow up phase include the same process in phase three after one, two and three months to make sure of the consistency. The data was analyzed by (SPSS) program with (P. value, mean, standard deviation, T. test, and chi squire test).** ***Results:*** **Nurses' skills were improved after intervention of the program from not done and poor to be in proper skills and technique concerning safe patient monitoring infection control, safe medication administration, safety communication and safe environment.** ***Recommendations:*** **Great emphasis should be directed towards the educational aspects on patient safety by providing educational posters, guidelines, pamphlets, manual and modern educational facilities, collaboration should be encourage between institutions and federal ministry of health to formalize a protocol of patient safety.**

Keywords: Patient, Safety, Nurses, Quality of care and Performance.

INTRODUCTION

Patient safety is the foundation of good patient care. The unnerving fact that healthcare can harm us as well as heal us is the reason for suggesting that patient safety is the heart of healthcare quality. Effectiveness, access to care, timeliness and the other dimensions of quality are all important. But when a member of a family goes into hospital or receives other healthcare then above all, family members want them to be safe. There is something horrifying about being harmed, or indeed causing harm, in an environment of care and trust.

Both for patients and staff, safety is the emotional heart of healthcare. It`s also believed in terms of understanding, improvement and day-to-day running of health care that safety is a touch's one and guide to the care that is given to the patients; the clinician nurses or the organization that keeps safety to the fore in the midst of the many other often competing priorities achieves something remarkable and provides the care that we would all want to receive (1).

Nowadays, patient safety is one of the Nations' most health care challenges, there is an increasing number of patients who die in hospitals each year as a result of lapses in patient safety practice. Improving patient safety, remains a health care organizational challenge, compared to other industries with highly reliable processes, health care baseline process reliability is low and patient safety solutions continue to be a high demand (2).

Patient Safety has been an issue of paramount importance for the Nursing profession since the early work by Florence Nightingale, which included setting care and hygiene standards in hospitals to combat

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deadly healthcare-associated infections and avoidable complications thus championing the safety of patients. Particularly, in 1854 during the Crimean War Florence Nightingale collected data on mortality rates of soldiers which she divided into three categories: deaths caused by preventable contagious diseases, deaths due to infections of patient's wounds, and deaths from all other.

It soon became obvious to Nightingale that soldiers were dying as patients in field hospitals from avoidable complications and infections at a faster rate than those dying on the battlefield. Consequently, she implemented actions to improve standards of care resulting in the death rate falling drastically and planting the seeds of the patient safety movement for the decades to come (3).

The profession of Nursing has been at the forefront of patient safety taking special attention to the training and education of its workforce. Internationally, the International Council of Nurses (ICN) has been tackling this issue with force since it established that Patient safety is fundamental to quality health and nursing care. ICN believes that the enhancement of patient safety involves a wide range of actions in the recruitment, training and retention of health care professionals, performance improvement, environmental safety and risk management, including infection control, safe use of medicines, equipment safety, safe clinical practice, safe environment of care, and accumulating an integrated body of scientific knowledge focused on patient safety and the infrastructure to support its development (11).

The study on the state of the art on Patient Safety in Europe including literature on high reliability organizations, medication errors, and hospital-acquired infections. This work was subsequently used to inform discussions in the European Commission and Parliament regarding the proposed Council Recommendation on Patient Safety and Healthcare-Associated Infections. Finally, the Position Statements describe general requirements for Patient Safety with particular reference to the need for education on Patient Safety (13).

The integration of Patient Safety Core Curriculum guidelines for the development of Patient Safety modules in nursing education systems is welcomed (4).

Communication is central to human interaction. Without it, people cannot relate to those around them, make their needs and concerns known or make sense of what is happening to them. One of the most basic goals for nursing staff is that their patients and clients and those who care for them, experience effective communication (14). Nurses and nursing staff are at the heart of the communication process: they assess, record and report on treatment and care, handle information sensitively and confidentially, deal with complaints effectively, and are conscientious in reporting the things they are concerned about.

Information that is accessible, acceptable and accurate, and that meets patients' and clients' needs, shared actively and consistently. Nursing Staff communicate effectively with each other to ensure continuity, safety and quality of health care for all, Documentation, communication during handover, information sharing, managing complaints, and reporting incidents and concerns are the more formal aspects of communication (12).

JUSTIFICATION

In the past, they have often viewed nurses'responsibility in patient safety in narrow aspects of patient care, for example, avoiding medication errors and preventing patient falls. While these dimensions of safety remain important within the nursing purview, the breadth and depth of patient safetyimprovement are far greater. So nurses are at the front lines of health care delivery. In fact, they constitute the largest group of health care professionals providing direct care to patients. The most critical contribution of nursing to patient safety, in any setting, is the ability to coordinate and integrate the multiple aspects of quality within the care directly provided by nursing, and across the care delivered by others in the setting[16].

Nurses and other health care professionals are under increased security to provide safe, effective care. Likewise, nursing education programs are faced with increased pressure to be more adapted about practice of patient safety.Moreover,nurses are in a unique position to improve patient safety because of their inherent proximity to patients. This position gives nurses the needed insight to identify problems in healthcare systems and to be part of patient safety solutions. However, to do this, nurses must be supported and encouraged without fear of retribution, as well as have an understanding of how organizational culture change can be accomplished (6).

The fundamental role of the nurse is to provide quality patient care and support for those suffering from health problems, yet these functions have often been disregarded by health care organizations. Nurses have not been treated as professional caregivers even though their presence at the bedside can literally mean life or death for their patients (5). There is no enough research dealing with the patient safety in Sudan just regarding with infection control, with the importance of the maintaining of patient safety worldwide.

This study aims to implement an educational program for nurses about patient safety and involves a wide range of actions in the recruitment, training and retention of health care professionals, performance improvement, environmental safety and risk management, including infection control, safe use of medicines, equipment safety, safe clinical practice and safe environment to avoided harm of our patients.

OBJECTIVES

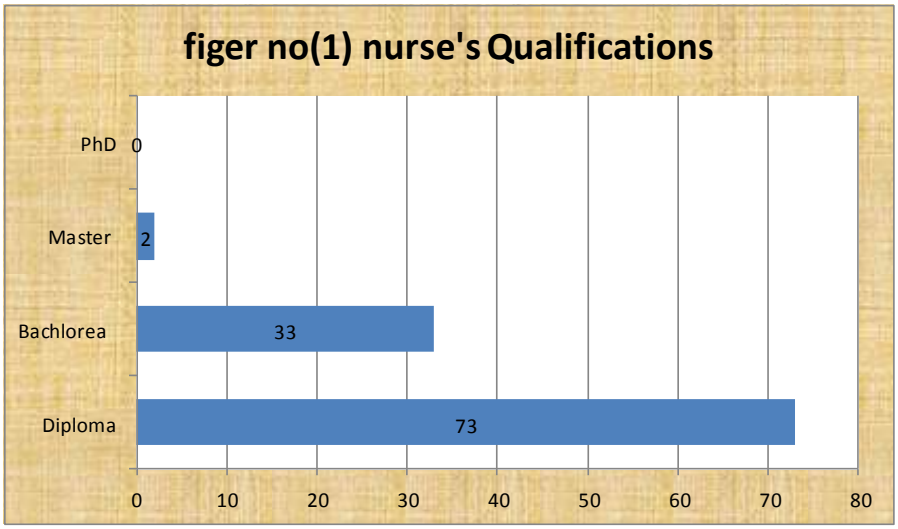
General objective

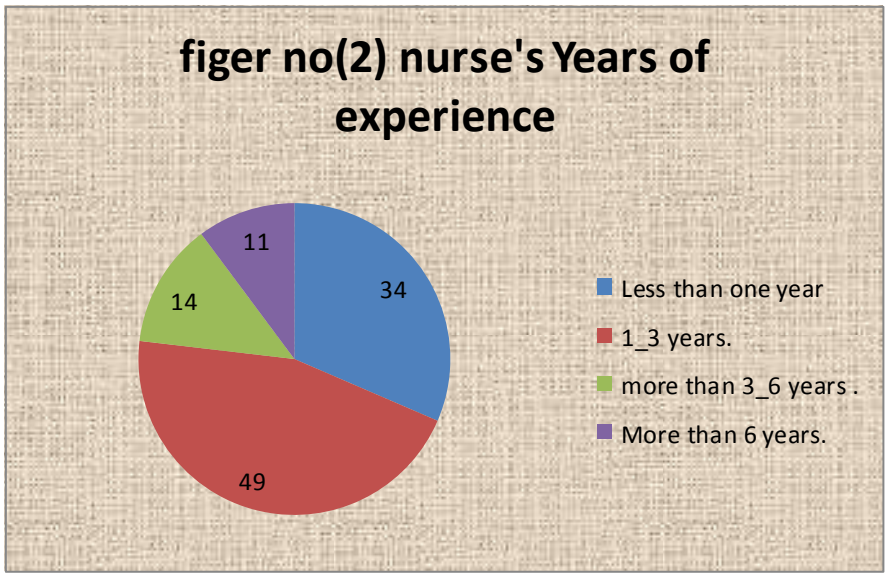
To study the effect of a design propose program for nurses about patient safety and evaluate the effect of it.

Specific objectives

1) To identify the basic performance of nurses about safety communication, patient monitoring, safety medication administration, safety environment, and infection control.
2) To design and Implement a training program for nurses about patient safety.
3) To assess the effectiveness of the designed program for nurses' performance regarding patient safety.

RESULTS


figer no(1) nurse's Qualifications
PhD
Master
Bachlorea
Diploma
0
2
33
73
0
10
20
30
40
50
60
70
80


figer no(2) nurse's Years of experience
34
49
14
11
Less than one year
1_3 years.
more than 3_6 years .
More than 6 years.

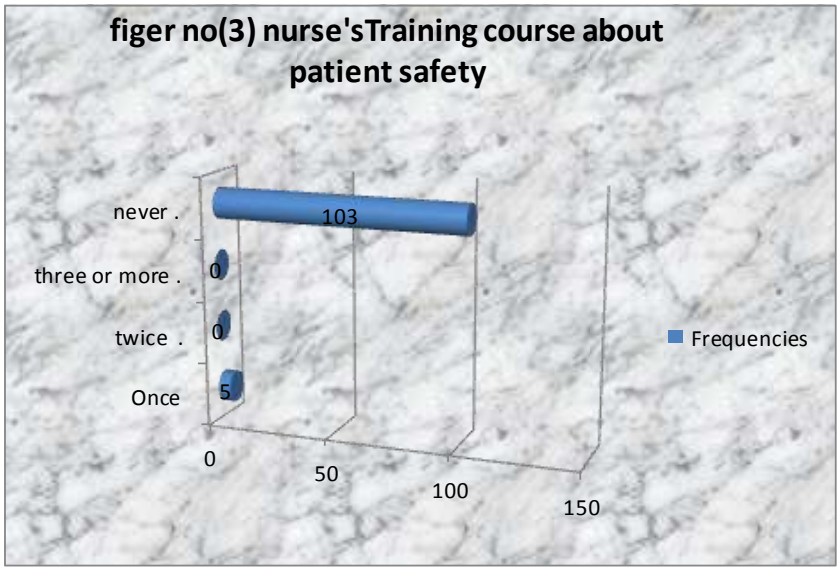

figer no(3) nurse'sTraining course about patient safety
never .
three or more .
twice .
Once
103
0
0
5
0
50
100
150
Frequencies

Table (1) represents nurse's performance Crosstab regarding Temperature between pre-, post-test (I), post-test (II) and post (III)

Crosstab Temperature								
		Pre	Post-1	Post-2	Post-3	Chi-Square	df	P-Value
Not done	Count	72	0	0	0	339.864	9	0.000**
	% within Pt	67%	0%	0%	0%			
Poor	Count	19	2	0	0			
	% within Pt	18%	2%	0%	0%			
Faire	Count	8	17	13	16			
	% within Pt	7%	16%	12%	15%			
Proper	Count	9	89	95	92			
	% within Pt	8%	82%	88%	85%			
Total	Count	108	108	108	108			
	% within Pt	100%	100%	100%	100%			

*significance ** highly significance

Table (2) represents nurse's performance Cross tab regarding Pulses between pre-, post-test (I), post-test (II) and post (III)

Crosstab Pulses								
		Pre	Post-1	Post-2	Post-3	Chi-Square	df	P-Value
Not done	Count	63	0	0	0	286.762	9	0.000**
	% within Pt	58%	0%	0%	0%			
Poor	Count	15	3	3	0			
	% within Pt	14%	3%	3%	0%			
Faire	Count	7	24	21	17			
	% within Pt	6%	22%	19%	16%			
Proper	Count	23	81	84	91			
	% within Pt	21%	75%	78%	84%			
Total	Count	108	108	108	108			
	% within Pt	100%	100%	100%	100%			

*significance ** highly significance

Table (3) represents nurse's performance Crosstab regarding blood pressure between pre-, post-test (I), post-test (II) and post (III)

Crosstab Blood pressure								
		Pre	Post-1	Post-2	Post-3	Chi-Square	df	P-Value
Not done	Count	81	0	0	0	338.544	9	0.000**
	% within Pt	75%	0%	0%	0%			
Poor	Count	10	1	0	1			
	% within Pt	9%	1%	0%	1%			
Faire	Count	7	16	15	9			
	% within Pt	6%	15%	14%	8%			
Proper	Count	10	91	93	98			
	% within Pt	9%	84%	86%	91%			
Total	Count	108	108	108	108			
	% within Pt	100%	100%	100%	100%			

*significance ** highly significance

Table (4) represents nurse's performance Crosstab regarding Respiration between pre-,post-test (I), post-test (II) and post (III)

Crosstab Respiration								
		Pre	Post-1	Post-2	Post-3	Chi-Square	df	P-Value
Not done	Count	66	0	0	0	286.298	9	0.000**
	% within Pt	61%	0%	0%	0%			
Poor	Count	14	1	3	1			
	% within Pt	13%	1%	3%	1%			
Faire	Count	6	29	26	16			
	% within Pt	6%	27%	24%	15%			
Proper	Count	22	78	79	91			
	% within Pt	20%	72%	73%	84%			
Total	Count	108	108	108	108			
	% within Pt	100%	100%	100%	100%			

*significance ** highly significance

DISCUSSION

The study reveals that (103 nurses) most of them are younger, and most of them having nursing diploma (73), (33) having baccalaureate and (2) having master degree, also most of them less experiences in their work area, (34) have experience less than one year, (49) (1-3 years), (14) (3-6 years) and only (11) have an experience more than (6 years), (103) they not received any training course about patient safety , only (5) nurses from the total (108 nurses) have once training course. These findings indicated that study groups were younger, have a good level of knowledge but they were not expertise at their work site or have training course which reflects on their care and present patient to risk.

Nursing skills were studied in five domains which were, safe patient monitoring, infection control, safe medication administration, safety communication, safe environment. All of the mentioned domains showed markedly an improvement in score from pre-intervention to post-intervention as the following:

Regarding the safe patient monitoring the performance of the study group was considered to be either poor or not done pre-program, because in assessing patient vital signs; more than two third of them were not assess for body temperature (67%), pulses (58%),blood pressure (75%), or respiration (61%), theses result was improved during post-tests to include all of them.

Also nurses have poor performance pre-program concerning body hygiene because (68%) did not perform hygienic care and (25%) perform it in poor technique, but their skills were improved during post-test to in proper way because most of them (75%), (78%), and (90%) done it during post-test one, two, and three respectively. In addition to that, nurses' level of performance was poor or they did not perform safe environment pre-program because (32%) were poor, and not done (51%), where these findings were improved after application of the program and during follow-up to be in proper skills.

Concerning the application of infection control measures during patient care to maintain safe patient environment nurses did not perform hand washing, using of personal protective equipment, using sharp containers, using safety bogs, using sterile equipment for sterile procedure, or dispose the waste product (28%), (37%), (44%), (24%), (71%), (50%) pre-program and (24%), (19%), (37%), (25%), (11%), (32%) done it in poor skills, this behavior was improved in proper was during post-test and follow up phase, respectively. Also, they were poor in position the patient and provide safe therapeutic communication skills. In spite of this poor skills among the study group but there was proper performance was done by nurses when giving safe medication, or perform documentation and reporting pre-program.

The study results support other research findings indicating that, positive practice environment enhance patient safety outcome. A study done to explore the relationship between ward environment in which nurses practice and specific patient safety outcomes, the outcome was that nurse reported patient safety level in the ward in which they work, a quantitative cross-sectional study was carried out, (108) general medical-surgical nurse in 30 hospitals throughout Ireland, the results conclude that the importance of ward level nurse factors such as educational level and work environment should be recognized and manipulated as important influence on patient safety (60).

Another study was done to design training intervention and then test its effect on nurse leaders perception of patient safety, three hundred and fifty six nurses in clinical leadership roles in two Canadian multi-site teaching hospitals (study and control), the result conclude that Sensitively delivered training initiatives for nurse leaders can help to foster a safety culture. Organizational leadership support for improvement is, however, also critical for fostering a culture of safety. Together, training interventions and leadership support may have the most significant impact on patient safety culture (61).

CONCLUSION

1. Nurses' skills were improved after intervention of the program from not done and poor to be in proper skills and technique concerning safe patient monitoring, infection control, safe medication administration, safety communication, safe environment. All of the mentioned domains showed markedly an improvement in score from pre-intervention to post-intervention.
2. Lack of training stand as a problem or barrier that prevents providing of good patient safety guidelines among nurses.

RECOMMENDATIONS

1. Continuous training courses about the patient's safety should be implemented for nurses.
2. Application of the patient's safety course in the nursing student curriculum.

3. Enhance the health care workers to perform the Essential Safety Requirement (ESR) in their working area.

Collaboration between institutions and federal ministry of health toperform annual patient's safety conference and workshop and formalize a protocol with chick list as a tool that helps ensure consistent application of key elements of evidence-based practice in patient safety.

CONFLICT OF INTEREST

The authors declare that there are no conflicting interests regarding this article.

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