Improving Staff Nurses' Handling of Telephone Orders: Reflection on Staff Nurses' Safety Behavior

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Abstract: **Effective handling of telephone orders by staff nurses is essential for maintaining continuity of care and improving quality of sevice. Any unintentional error during handling of telephone orders can endanger patient safety.**

Aim: the current study aimed to improve staff nurses' handling of telephone orders and investigate its'reflection on staff nurses'safety behavior.

Design: quasi-experimental design was used.

Setting: The study was conducted at Ain Shams University hospital.

Subjects: 65 staff nurses were participated in the study.

Tools of data collection: it included knowledge questionnaire, an observation checklist, audit sheet, and safety attitude questionnaire.

Results: 44.6% of staff nurses had satisfactory knowledge in the pre-intervention phase and reached to 93.8% at post intervention phase, less than one third of them had adequate performance when receiving telephone order before the intervention which increased significantly after the intervention to 96.2% , less than one quarter of staff nurses had adequate performance regarding documentationof telephone order in patient medical file before the intervention compared to 98.5%of them after the intervention slight more than two thirds of staff nurses had positive safety behavior before the intervention which increased significantly to 95.4% after the intervention.

Conclusion: the improvement of staff nurses' handling of telephone orders was associated with enhancement of staff nurses'safety behavior.

Recommendations: Hospital on need to develop written policy about safe handling of telephone order and implement it and create a non-punitive work environment is required.

Keywords: **Safety behavior, staff nurses, telephone order.**

1. INTRODUCTION

Delivery of safe and proper health care is extremely important to patients' health. Currently, a wide range of safety issues has challenged the healthcare delivery and therefore, many personal and organizational strategies have been developed for promoting patient safety (***Scott, 2011).***Health care practitioners have a responsibility to do no harm and health care institutions have an obligation to protect public health. Health care practitioners have a professional duty to provide care to all patients without the threat of undue harm.The community has a right to expect that health care workers and the institutions in which they work will take all necessary and reasonable precautions to keep them safe and minimize harm***(Joint Commission on Accreditation of Health Care Organizations,2016).***

Communication can be defined as a dynamic, two ways and circular process concerned with giving and receiving ideas, feeling, attitudes and information among people. It is a process of sharing information or the process of generating and transmitting meanings. It is simply the act of transferring information from one place to another (*Nilson, 2012*). There are various categories of communication and more than one may occurs at any time, verbal communication in which listen to a person to understand their meaning, face to face, telephone, radio or television and other media, nonverbal communication in which you observe a person and infer meaning as body language, gestures, written communication as letters, E-mail, magazines, or via other media and visualization as graphs and charts (*Nesa, 2015*).

Communication process requires a vast repertoire of skills in interpersonal and interpersonal processing; listening, observing, speaking, questioning, analyzing, and evaluating. Using the process is developmental and transfers to beyond all area of life (*Nilson, 2012*).Ineffective communication is reported as a significant contributing factor in medical errors and inadvertent patient harm. Error in communication is a major reason that leads to adverse events in patient health which cause physical and emotional harms to patients and their families and also financially costly (*Marquis &Huston, 2017*).

The studies conducted by the *Joint Commission on Accreditation of Health Care Organizations, (JCAHO) (2016)* revealed that poor information communication is the main risk factor for 65% and the contextual risk factor for 90% of sentinel events. Although verbal and telephone orders (VOs) are commonly used in the patient care process, Substantial differences were found after reviewing of hospital verbal and telephone order policies across 40 acute care settingsin United States, these differences were in terms of who is authorized to give (including non-licensed personnel) and take verbal orders and in terms of time allowed for the prescriber to cosign the VO. There was no discussion of the process to review the VO before it was communicated in turn to the hospital personnel receiving the order. Policies within several of the same hospitals were inconsistent in terms of the periods specified for prescriber co-signature (*Wakefield et al., 2012*).

Information communication happens repeatedly among healthcare providers,one of its forms in healthcare settings is the telephone order.Telephone orders are verbal communication given through phone by a doctor or someone authorized to prescribed drug or make order to safe patient life.Effective handling of telephone orders facilitates the continuity of care and enhances patient safety(*Chegg,2018*). Whenever the nurses receive a verbal or telephone order, three steps should be done to verify the information; first, write it down on the order form or enter it into a computer,next, read the information back to the clinician,and finally, have the clinician confirm that what was read back was correct. In emergency situations, such as a code, it may not be feasible for the nurse to write down information and then read it back. In such cases, simply repeating the order is acceptable (*Metules, 2007*).

There are many precautions usually considered in handling phone order; first, doctors limit telephone to emergency case alone where electronic or written communication is impossible, second, telephone orders are given to a nurse only even if other resident or intern is available. If telephone orders must be given, the following guidelines are followed; a) a time entry of order is recorded, b) the order received is repeated (read back) to the prescribed doctor or recorded, c) drugs with low margin as safety are not prescribed, d) the order also includes as much patient detail as possible e.g.drug description should include:drug name, dosage, form, frequency, route, and duration, f) the name of doctor is recorded, and finally g) atime frame is set (*Chegg,2018*).

Safety is overriding principle in accepting verbal or telephone orders which have higher potential errors as those orders can be mis-transcribed. From policy of telephone order, verbal or telephone order may be accepted by a registered nurses, licensed practical nurses, respiratory therapists, or pharmacists when it is impossible or impractical for the authorized prescriber to write them (*Vancouver,2012*).Telephone orders (verbal orders received via the telephone)can be more error-prone than written orders due to the introduction of a number of variables not present when orders are written directed by the prescriber. There is potential to misinterpret spoken language as a result of accent or pronunciation which can intimidate the patient life. Phonetics components of medication names when verbalizes can increase the potential for error with sound alike drug names (*koczmara, jelinic, and perri,2015*).

Patient safety has been defined by the Agency for Healthcare Research and Quality (AHRQ) as freedom from accidental or preventable injuries produced by medical care. Institute of Medicine (IOM) has also defined the patient safety as freedom from accidental injury.It is also known as a set of common understanding of the group members in viewing patient safety, and emerges from the dynamic reciprocal interaction among people, tasks, and systems (**Daniel,**

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2009;Feng, Bobay, & Weiss, 2015). Patient safety incidents lead to unnecessary suffering and are a major cause of prolonged hospital stays. It is considered to be crucial to the maintenance of healthcare quality and has become a main concern for healthcare organizations around the world**(Ammouri, et al., 2014).**

The promotion of safety is an evolving concept and focuses upon preventing medical errors and maintaining patient safety. Safety is the outcome of interactions between attitudes, values, skills,and behaviors to commit to workplace safety management (**Nieva&Sorra, 2017**).Safety culture of an organization can motivate workers to engage safe behavior and facilitate the translation of these behaviors into daily practice, and can also influence the ability of staff to raise concerns regarding safety and the ability of managers torespond to those concerns.Safety culture reflects the deeper and less readily accessible care values and assumption of the organization regarding safety and human resource (**Zhou et al, 2015**).

Reflection is a mental process of thinking and learning often used in every day life. Approach to reflection tended toward the psychological and educational nature of the process by which people manipulate knowledge toward a purpose, in other word, reflection generates knowledge (**Brooke et al., 2015**). It is used as a kind of umbrella to signify something that is good and desirable ,every body has his her own interpretation of what reflection means, and this interpretation is used as the basis for trumpeting the virtuesof reflection in a way that makes it sound as motherhood (**Finlay,2015**). Reflection is a process begins with looking back on a situation, pondering over it; learning from it and then using the new knowledge to help in future similar situations.So reflection is used as a learning tool in professional practice (**Jackson et al., 2010**)

Significance of the study:

Although verbal and telephone orders (VOs) are commonly used in the patient care process, there has been little examination of the strategies and tactics used to ensure their appropriate use or how to ensure that they are accurately communicated, correctly understood, initially documented, and subsequently transcribed into the medical record and ultimately carried out as intended *(Wakefield etal. , 2012).*

Patients who admitted to medical units usually are chronic ill patients with multiple diseases and several persistent health problems, so they need fast and accurate manipulation with their complaints from different health care providers especially nurses.The researchers observed that staff nurses, who worked in afternoon and night shift in medical units needed to call the unit medical residence in phone to inform him/ her about updating patient condition, needs, and/or complains. Accordingly, he /she gave orders through telephone which have a higher potential for errors as these orders sometimes can be misheard, misinterpreted and /or mis-transcribed which can threaten patient life.Hence, this study carried out in an attempt to develop staff nurses' skills in handling telephone orders as a means for maintaining safety for both the patient and the work place.

Aim of the study:

The study aimed to improve staff nurses' handling of telephone orders and investigate its reflection on staff nurses' safety behavior.

Research Hypothesis:

The improvement of staff nurses handling of telephone orders will be associated with enhancement of safety behavior among staff nurses.

2. SUBJECTS & METHODS

Research Design:

Aquasi-experimental design with one group pret-post assessment was used in this study.

Setting:

The study was conducted in medical units at Ain Shams University hospital which affiliated to Ain Shams University Hospitals. This hospital consists of 19 units rendered services for different medical specialties as, Tropical medicine, Neurology, Renal diseases, Endocrine disorders, gastrointestinal diseases, Cardiac, Chest, Blood diseases.Total bed capacity of this hospital is 534beds.

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Subjects:

Total number of staff nurses working in the above mentioned units was138staff nurse.The inclusion criteria were staff nurse who take afternoon and night shifts and responsible for providing direct care to the patient, consequently 72 staff nurse were eligible to participate in the study. Three of them refused to participate in the study and another 4 withdrawn from the study in different phases, finally, 65 staff nurses were participated in the study.

Tools of data collection:

Four main tools were used for data collection namely, Knowledge questionnaire, an observation checklist, an audit sheet and Safety attitude questionnaire (SAQ).

a) Knowledge questionnaire:

It is a self-administered questionnaire sheet aimed to assess staff nurses knowledge regarding telephone orders. It was developed by the researchers based on review of related literature *(Schnalletal, 2008; Joint commission resources, 2010; World Health Organization, 2012)*. It included 30 multiple choice questions (MCQs) underlying three main dimensions as follows; communication (11 items), telephone order (12items),and patient safety (7 items).

Scoring system:

For each question, a correct answer was scored one and the incorrect scored 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. Knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

b) Observation checklist:

It aimed to assess staff nurses' performance when receiving telephone order. This tool was developed by the researchers based on review of related literature(*Joint Commission International Standards for Hospital, 2008*; *Elsayed, 2010; Salem, 2012).* It consisted of 10statements as asking about patient full name, spelling the medication name if necessary, read back to the doctor the ordertaken.This tool contains items for identification data as code number, work unit, date and time of observation.

Scoring system:

Each statement observed to be done was scored one and zero if not done .the scores of the items were summed-up and the total divided by the number of items, giving a mean score. The performance was considered adequate if the percent score was 80 %or higher and inadequate if less than80 %.

c) Audit sheet:

This tool aimed to check documentation of telephone order as written by staff nurses in patient file. It was developed by the researchers through review of related literature *(Joint Commission International Standards for Hospital, 2008, Elsayed, 2010; Salem, 2012).*The audit sheet was consisted of 10 items as write the order in correct patient file, write date and time of telephone order, write doctor name, name of staff received.

Scoring system:

The auditing items were checked to be done was scored 1 and zero if not done.The score of the items were summed-up and the total divided by the number of items, giving a mean score. The performance was considered adequate if the percent score was 80 % or more and inadequate if less than80%.

d) Safety Attitudes Questionnaire (SAQ):

This tool was used to measure safety attitudes of staff nurses. It adopted from *(Sexton et al., 2006; Devriendt et al., 2012).* It consists of 36 items covering six safety attitude dimensions: Team work Climate, Safety Climate, Perceptions of Management, Job Satisfaction, Working Conditions, and Stress Recognition.

Scoring system:

For each item, the responses from strongly agree to strongly disagree were scored from 5 to 1respectively. The scoring was reversed for negative items.For each dimension of safety attitude,the scores of the items were summed-up and the

total divided by the number of the items,giving a mean score for the dimension.Staff nurses attitude was considered positive if the percent score was 60% or more and negative if less than 60%.

Attached sheet was used for collecting data regarding demographic characteristics of the study subjects such as age, gender, maritalstatus and work unit, qualifications in nursing, years of experience, previously attending training programs about communication and patient safety.

Tools Validity and Reliability:

After the construction of data collection tools, validity of the tools were assessed by a panel of experts consisted of nine members; seven of them are professors and assistant professors of medical-surgical nursing and nursing administration departments from Ain Shams and Cairo Universities and two are consultants of quality management from Ministry of Health.Two types of validity were used face and content validity. Face validity aimed at inspection the items to determine whether the tools measure what is supposed to measure. Content validity was conducted to determine whether the tools cover the appropriateness of content as well as its relevancy to the study aim.Based on experts'opinions, necessary modifications were done as adding, omitting items, and rearranging of some items.

Cronbach alpha coefficient was used to assess the reliability of the tools through internal consistency. It turned to be 0.92 for knowledge questionnaire, 0. 89 for observation check list, 0.91 for audit sheet, and 0.93 for safety attitude questionnaire.

Preparatory stage:

This stage started from January to March 2016. The researchers reviewed the past and current national and international related literature to be acquainted with study topic and developing the different study tools.

Pilot Study:

A pilot study was conducted on seven staff nurses representing 10% of the main study subjects to examine the clarity, feasibility and applicability of the study tools in addition to estimate time needed to fill in the different study tools.The knowledge questionnaire and safety attitude questionnaire sheets were given to staff nurses for filling it. The time needed for filling the sheets was ranged from 30 to 40 minutes, while the observation checklist and audit sheet which performed by the researchers took from 5 to 10 minutes. No modifications were done after the pilot study. Pilot stage took one month.

Field work:

The actual field work started from the beginning of May2016 and completed by the end of February2018. It involved assessment, planning, implementation, and evaluation phases.

a) Assessment phase:

This phase startedat the beginning of May2016 till December2016. The researcher met the study subjects and explained the aim of the study and how to fill in different questionnaire sheets.The collection of data was done during working hours of afternoon shift two days per week.Each participant filled in the questionnaire sheets at their work units and return it back to the researcher. The researchers were present in this process to clarify any queries and prevent knowledge contamination.These sheets were distributed two times throughout the study phases.

The staff nurses were then observed individually by theresearchersusing the observation check list .Each checklist was given a code and marked by the work unit.Each staff nurse was observed three times.The observation lasted 2-5 minutes according to telephone call duration. The average of the three observations was used in the statistical analysis. The researchers used concurrent audit to check and revise staff nurses documentation of telephone order in the patient file. This audit .It occurred two times throughout the study phases.

b) Planning phase:

Based on analysis of the data obtained from the assessment phase, and the review of the related literature, the researcher designed the program and its'content. Objectives of the proposed program were written; also designing handout was done.

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The place and time for conducting the staff nurses work schedule, then program schedule was prepared accordingly.All materials and equipment which needed were prepared. This phase took one month.

c) Implementation phase:

The participated staff nurses were divided into five groups according to their work schedule.The researchers implemented the training program sessions from 11am to 1pm. Each group took three weeks to complete the program.In the first session the researcher explained the aim of the study, program aim, objectives and contents outlines.

At the beginning of each session an orientation about the objectives of the session took place. The teaching methods used during the implementation of the program were varied based on the session topic as lectures, discussions, role plays, group activities, assignments, and practice session. Audio-visual media were used, such as data show, white board, and flipcharts. The researchers distributed a booklet about content of the program to the participants. This phase took four months from February to May 2017.

d) Follow up phase:

One month after completion of implementing the program, theresearchers evaluated the effect of the intervention on staff nurses' knowledge, performance, and attitude. This was done using the same data collection tools as in the assessment phase. The observations were done three times for each participant,and the average was used in analysis. This phase started in July 2017 and completed by the end of February 2018.

Administrative design and ethical considerations:

The researchers obtained the approval for conduction of the study from the directors of the hospital after explaining the aim of the study.The researchers met the study subjects and explained the aim of the study and obtained their approval to participate in the study.They were informed about their right to refuse to participate or withdraw from the study at any time. They also assured that the collected data would be confidential and used for the research purpose only. The study procedures could not induce any actual or potential harm to the participants.

Statistical Design:

Data entry and statistical analysis was done using Statistical Package for the Social Science (SPSS)version 20.0.Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, means and standard deviations for quantitative variables.Qualitative categorical variables were compared using chi square test. Statistical significance was considered at p-value <0.05.

Limitations of the study:

The main limitation was prolonged time for collecting data through the observation and audit because it dependson occurrence of telephone order.Sometimes telephone orders not occur during the whole shift. The second one was thelimited references and theoretical sources and few Egyptianresearches about the study subject.

3. RESULTS

Table (1): Demographic characteristics of the studied staff nurses (n=65)

Variables		No.	%
Age (years):	<35 years	37	56.9
	≥35 years	28	43.1
	Mean±SD	33.± 7.8	
Gender	Male	15	23.1
	Female	50	76.9
Marital status	Married	49	75.4
	Not married	16	24.6
Nursing Qualification:	Diploma	48	73.8
	High average diploma	17	26.2

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Years of experience:	<15	27	41.5
	≥15 years	38	58.5
	Mean±SD	18.73± 6.4	
Attending training programs about communication	Yes	58	89.2
	No	7	10.8
Attending training courses about patient safety	Yes	36	55.4
	No	29	44.6

Table (1) shows that more than half of staff nurses had less than 35 years old with mean age 33± 7.8, more than three quarters of them were female. About one quarter of staff nurses (24.6%) not married, 73.8 of them had nursing diploma. More than two fifths of studied staff nurses had less than fifteen years of experience and majority of them were previously attending training programs about communication. 44.6% of staff nurses didn't attend any previous training courses related to patient safety.

Table (2): Staff nurses' knowledge regarding telephone order before and after the study intervention (n= 65)

Satisfactory Knowledge (60%+)	Before the intervention		After the intervention		x^2	p-value
	No	%	No	%		
Communication Dimension	47	72.3	64	98.5	17.81	<0.001*
Telephone order dimension	23	35.4	62	95.4	51.69	<0.001*
Patient safety dimension	26	40	63	96.9	48.77	<0.001*
Total	29	44.6	61	93.8	36.98	<0.001*

(*) Statistically significant at $p < 0.05$

Table (2) illustrates that at the pre intervention phase; less than three quarters of staff nurses had satisfactory knowledge regarding communication dimension, at the same phase, less than half of staff nurses had satisfactory knowledge regarding telephone order and patient safety dimensions. Statistically significant improvements were revealed at the post intervention phase in all dimensions (p< 0.001),reaching 98.5% satisfactory knowledge for communication dimension. Also there was statistically significant improvement of total knowledge regarding telephone order throughout the intervention phases.

Table (3): Staff nurses' performance when receiving telephone orders before and after the study intervention (n=65)

Adequate performance (80% +)	Before the intervention		After the intervention		x^2	p-value
	No	%	No	%		
Total	21	32.3	63	96.2	59.35	**<0.001***

(*) Statistically significant at $p < 0.05$

Table (3)clarifies that at the pre intervention phase, less than one third of staff nurses had adequate performance when receiving telephone order. While after the program majority of staff nurses had adequate performance when receiving telephone order. Statistically significant improvement was detected at the post intervention phase (p< 0.001).

Table (4): Auditing of documentation of telephone order as written by staff nurses before and after the study intervention (n=65)

Adequate performance (80 % +)	Before the intervention		After the intervention		x^2	p-value
	No	%	No	%		
Total	16	24.6	64	98.5	47.88	**<0.05***

(*) Statistically significant at $p < 0.05$

Table (4) Shows that less than one quarter of studied staff nurses had adequate performance regarding documentation of telephone order in patient file before the intervention.While majority of them had adequate performance regarding documentation of telephone order at post intervention phase.

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Table (5): Staff nurses' attitude toward safety before and after the intervention (n=65)

Positive attitude (60%+)	Before the intervention		After the intervention		x^2	p-value
	No	%	No	%		
Teamwork Climate	44	67.7	59	90.7	16.56	< 0.001 *
Safety Climate	52	80	62	95.3	11.53	< 0.001 *
Perceptions of Management	47	72.3	58	89.2	5.99	< 0.05 *
Job Satisfaction	37	56.9	53	81.5	9.24	< 0.05 *
Working Conditions	49	75.4	60	92.3	6.87	< 0.05 *
Stress Recognition	60	92.3	31	47.7	39.34	< 0.001*
Total	4061.5		5889.2		19.23	< 0.001*

(*) Statistically significant at $p < 0.05$

Table (5) demonstrates that, majority of staff nurses had positive attitude toward stress recognition and safety climate dimensions (92.3% & 80%) respectively before the intervention. There were statistically significant improvements in all safety attitude dimensions and total attitude throughout the study phases.

4. DISCUSSION

Bad events occur in hospitals every day, it can occur in the most efficient and safety conscious areas. No area is immune, and healthcare providers do not come to work with the intention of harming their patients. The main purpose of the study intervention was to improve knowledge and performance of staff nurses when handling telephone order and assess its' reflection on safety behavior.

The results of the present study showed that there were statistically significant improvements of staff nurses' total knowledge regarding telephone order throughout the intervention. This finding may be attributed to the information which staff nurses had during the program and the highly interest of them to gain knowledge about study topic which is very important for them. This finding was in congruence with **Ahmed et al. (2013)** who highlighted the positive effect of training program on the improvement of study subjects' knowledge and performance.

The improvement of subjects' knowledge after program was ascertained by **Kiyancicek, et al., (2014)** who assured that the importance of health care professionals' education has to be emphasized in order to gain information, ability and attitude for safety patient care. Providing patient safety is an important topic that every country has to care about regardless of development level. Similar success of training intervention in developing nurses' knowledge was reported by **Tronchin et al., (2015)** and **Sauteretal, (2016).**

The present study findings revealed that before the program, less than one third of participated staff nurses had adequate performance when receiving telephone orders, this result may be attributed to staff nurses do not ensure about full patient name and not read back the verbal order taken by telephone . There was obvious improvement of staff nurses performance after the program which may be attributed to they trained in the program about the steps and manner to handle telephone orders effectively and the reserchers clarified the situations for receiving telephone order, and explain the signficance, advantages and consequences of effective handling of telephone order. The finding was in agreement with **Chegg** *(2108)* who stated that verbal/telephone orders should only be used in emergency situations and shall only be taken by a Registered Nurse who should repeat the order to the doctor to ensure that the details are correct and can refuse it if she believes that it may compromise the patient's care and treatment. Nevertheless, *Joint Commission on Accreditation of Health Care Organizations (JCAHO (2016)* emphasized the importance of effective communication among caregivers.

At the preprogram phase, less than one quarter of staff nurses care about documenting telephone order and the doctor name and nurse name in patient file, this could be due to staff nurses' perception about telephone order as verbal order and it achieved its' purpose by implementing doctor order which taken on phone and the majority of staff nurses didn't recognize their vital role in documenting these orders. Meanwhile this performance was improved markedly after the training program because of the focus of training program on whole process and steps to handle telephone orders safely and effectively. This improvement of staff nurses documentation of telephone order was guaranteed by (*Kiyancicek, etal. 2014*) who emphasize the implication of educational training programs on subjects' performance level and work outcomes.

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Regarding safety attitude, the present study revealedthere is a significant improvement of positive safety attitudeamong staff nurses after the intervention; this was shown in all dimensions and in the total score after the intervention. This improvement in the positive attitude may be attributed to the staff nurses interest and concern about safety behavior which inspire nurses practice, the Egyptian culture focus on behavioral aspects which enhance the practice and spread among work group. The studied hospital keeps on providing training programs and courses about patient safety and related processes and procedures. In agreement with this finding (**Schwendimann, et al., 2013; Bondevik, et al., 2014;Brasaite, etal.,2016**) demonstrated the effectiveness of safety campaign in enhancing safety behavior and culture in front line staff. Also, *Alshammari et al., (2015)* suggest practical training program related to patient safety can enhance safety culture and attitude.

5. CONCLUSION

There was improvement in staff nurses' knowledge and practice when handling telephone orders which accompanied with enhancement of safety behaviors of the staff nurses.

6. RECOMMENDATIONS

1- Hospital on need to develop written policy for safe handling of telephone order and implement the developed policy.

2- Create a non-punitive work environment is required.

3- In-service training and continuing education programs have to be focused on evidence -based practice and must be initiated for nurses to be acquainted with necessary skills to perform their work effectively and safely.

4- Encourage staff nurses to use new technology modes and facilities regarding communication after securing hospital approval

5- Nurse Managers have tosupervise staff nurses' adherence to safe practice and rewardthe best performers.

6- Use Feedback and communication in a confidential manner about errors will allow staff to learn from errors and avoid them in the future.

7- Safetyissues have to be incorporated into nursing curricula.

8- Further studies are suggested:

- Investigate the effect of training program about patient safety goals on staff nurses'safe practice.

- Assess the work climate and its' influence on incidence reporting among nurses.

Implications of the study:

Results of the current study have implications for nursing practice, management, education, and research.The importance and value of teaching and continuing education is an integral part of health professional development.Health care providers have to participate in developing this important areaespecially safety skills and knowledge. All healthcare professionals are responsible for safety issues either for patient or work place. Therefore, it might be a good idea to arrangeinter-professional training courses and focus upon the benefits of working as coordinatedteam to ensure safe patient care.

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