



## ORIGINAL ARTICLE

### Nurses' errors during nursing work

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#### Abstract

**Background and objectives:** Patient safety is an essential and vital component of quality nursing care. However, the nation's health care system is prone to errors, and can be detrimental to safe patient care due to basic system flaws. Studies in different parts of the world have reported nursing errors, which resulted in excess injuries and unnecessary deaths. The study aimed to assess nursing errors generally in some of daily activities through nursing work.

**Methods:** A descriptive study was conducted between November 2, 2013 and January 30, 2014. It was implemented on a convenience sample of the nursing staff (94 nurses) working at three teaching hospitals in the Mosul city. A preliminary open-end question was directed to nurses (11) regarding errors and mistakes that can occur in daily nursing activities. Then a self-administered checklist was constructed for the study, which consisted of three main aspects: nursing administration (14 items), personal aspect and communication (9 items), and professional aspect (19 items). Each item had two options (no = 1; yes = 2). SPSS 11.5 was used to analyze data through descriptive statistics (frequency and percentage) and inferential statistics (chi-square), while  $P \leq 0.05$  was considered significant.

**Results:** Majority of the nurses were in both the surgical and internal medicine wards (37.2%) and in hospital A (38.3%). Most (40.4%) of them had a tenure of 20–29 years of work. Majority of the errors were due to professional activities (84.21%) followed by management and administration aspects (64.29%) and personal aspects (77.8%).

**Conclusion:** The study found that the role of nurses is functional and not professional, as it clearly lacks; job description, proper professional relationships, sense of belonging to the profession, sense of responsibility, adherence to professional rules at work, lack of patient care, and staying away from career development. The study recommends: emphasis on nursing documentation during daily work, nursing process in caring the patient, and emphasis on sterilization and disinfection guidelines.

**Keywords:** Nurse, error, nursing, nursing work

#### Introduction

Despite considerable advances in technology and health care skills, many patients are harmed or die due to medical errors. In addition, many such errors lead to exorbitant expenditure, which have been reported in numerous studies in different countries.<sup>4,5</sup>

Patient safety is an essential and vital component of quality nursing care. However, the nation's health care system is prone to errors, and can be detrimental to safe patient care, due to basic system flaws.<sup>1</sup> Safety during patient hospitalization is the patients' right, and the priority of health professionals. Errors that occur during the application of medical/nursing

interventions or patient hospitalization have drawn health researchers' attention over the last decade.<sup>6</sup> Healthcare providers, despite the precision and skills, are not immune to such errors.<sup>7</sup> In fact, error is a serious, inevitable, and permanent threat to the patient safety.<sup>8</sup> A considerable portion of the medical errors are nursing errors that occur when providing health care services, which annually cause thousands of deaths, and, as a result, an increase in treatment expenses.<sup>9</sup> Errors can be categorized as: failure to follow standards of care, failure to use equipment in a responsible manner, failure to communicate, failure to document, failure to assess and monitor the patient, failure to act as a patient advocate,<sup>10</sup> hospital infections, and improper management of clinical situations and medication errors.<sup>6</sup>

Nursing in Iraq tends mainly to be a job or duty only, for the nurse lacks autonomy without any opportunity to innovations and carries out physician's orders without any nursing notes (in most settings) and any meetings corresponding the patient's status. On the other hand, the nurse faces many challenges, such as work overload, critical health status, lack of role collaboration with supervisor and colleagues, interpersonal conflict, inferiority, lack of job satisfaction, ambiguity and role conflict, supremacy of physician on the health care team, cynicism from other medical and paramedical staff, less concern of sterilization and disinfection practices, verbal and physical violence and so on. Therefore, vulnerability of occurring such errors during work can happen among nurses and it can be stand-by at any time. The present study aimed to assess nursing errors in some of the daily activities during nursing work.

## Materials & methods

This descriptive study was conducted between November 2, 2013 and January 30, 2014. It was implemented on a convenience sample of the nursing staff (94 nurses) working at three teaching hospitals (hospital A, B, and C) in the Mosul city. Staffing schedule depended on the hospitals, wherein each nursing administrator in his/her hospital divided nurses into four groups (shifts) of not more than four nurses in each group. Each group had been working throughout 24 hours during their shifts (rotation of daily work among groups was every four days weekly), however, due to work overload some of

them refused to participate in this work. Therefore, the sample of the study was restricted to 94 nurses on the scheduled days of visiting the hospitals for gathering data. The approval of participation in the study was through verbal commitment.

A preliminary open-end question was directed to nurses (9) regarding errors and mistakes that can occur in general daily nursing activities, which was "As you view, what are the errors that can take place during general daily nursing work?". They mentioned many aspects of general daily activities. Depending on their comments, in addition to reviewing many related literatures, a self-administered checklist was constructed for the purpose of the study which consisted of three main aspects: nursing administration (work guidelines=3 items, commitment to assignments=3 items, nursing documentation=3 items, and care of patient unit=5 items), personal aspect (inferiority and disdain=4 items, dependency on others and lack of concern for patient=3 items, and communication with colleagues=3 items), and professional aspect (assessment of patient health status=9 items, sterilization and disinfection guidelines=3 items, drug administration=4 items, and career development=3 items). Each item had two options (no=1; yes=2). Five of all items had reverse answers (coded as R). The content validity of the tool was checked by three nursing experts and its reliability was checked through test-retest application on other nurses (9) for three weeks in-between ( $r=0.81$ ), however, they were not included in the final sample of the study.

SPSS 11.5 was used to analyze the data through descriptive statistics to demonstrate the demographic characteristics of the sample, in addition to the true answers of each item, as frequency and percentage. Whereas, in regard to aspects and sub-aspects, the true answers of each of them were summated and presented as frequency and percentage. Chi-square test was used as inferential statistics to indicate the significant level with respect to each item.  $P \leq 0.05$  was considered statistically significant.

## Results

Table 1 indicates the demographic characteristics of the sample. Majority of the nurses were in the age group of 30–39 years (39.4%) and were males

(72.3%). Many of the nurses were nursing institute graduates (diploma; 42.5%). Among the sample, most of the nurses worked at both surgical and

internal medicine wards (37.2%) and at hospital A (38.3%), and the tenure was 20–29 years in majority of them (40.4%).

**Table 1:** Demographic characteristics of the sample

Variable	n (%)
<b>Age (years)</b>	
20–29	34 (36.2)
30–39	37 (39.4)
40–49	23 (24.4)
Total	94 (100)
<b>Gender</b>	
Male	68 (72.3)
Female	26 (27.7)
Total	94 (100)
<b>Educational qualification</b>	
Preparatory vocational school graduate (Baccalaureate)	23 (24.5)
Nursing institute graduate (Diploma)	40 (42.5)
Nursing college graduate	31 (33)
Total	94 (100)
<b>Ward (site of work)</b>	
Surgical	35 (37.2)
Internal medicine	35 (37.2)
Emergency unit	24 (25.6)
Total	94 (100)
<b>Hospital</b>	
A	36 (38.3)
B	32 (34)
C	26 (27.7)
Total	94 (100)
<b>Tenure (years of work)</b>	
1–9	36 (38.3)
10–19	20 (21.3)
20–29	38 (40.4)
Total	94 (100)

**Table 2a:** Nurses' answers regarding items of nursing error aspects

Aspects	Sub-aspects	Items	True answers	Chi-square	P value
<b>Management and Administration (14 items)</b>	<b>Work guidelines (3 items)</b>	I wear uniform from the moment I enter the ward and don't remove it until leaving the work.	64	12.29	0.001
		I don't discuss with the administrator even in case of wrong directions.	36	5.14	0.05
		I do what I see suitable, even if it opposes the directives issued.	29	13.78	0.001
	<b>Commitment to assignments (3 items)</b>	I accomplish only nursing practices or procedures that I am assigned to accomplish.	43	0.68	Non- sig.
		In case of assignment of work activities among nurses, I do the work of others in their absence.	54	2.08	Non- sig.
		I carry out responsibilities of my leader, in the case of assignment, even if he/she holds certificate better than me.	43	0.68	Non- sig.
	<b>Nursing documentation (3 items)</b>	I document any procedure or care I provide to the patient, immediately.	34	7.191	0.01
		I document any error taking place during patient care.	37	4.255	0.05
		I document any emergency that happens during providing care to the patient.	33	8.34	0.005
	<b>Patient unit (5 items)</b>	I clean and disinfect the patient's unit and belongings by myself.	24	22.51	0.001
		I always inspect and watch the cleanliness of the ward and direct the cleaners.	68	18.76	0.001
		I work hard to keep the ward completely calm.	55	2.72	Non- sig.
		I inform immediately in case of any shortage or deficit in the services provided to the patient.	70	22.51	0.001
		I do bed making daily.	34	7.19	0.01

<b>Personal Aspect (9 items)</b>	<b>Inferiority and Disdain (3 items)</b>	I feel others disdain my profession (R).	38	3.45	Non- sig.
		Physicians often mock me as a nurse (R).	35	6.13	0.05
		When asked about my profession, I deny that I am a nurse (R).	27	17.02	0.001
	<b>Dependency on others and lack of concern for the patient (3 items)</b>	I complete the work that has been assigned to me only (R).	37	4.26	0.05
		I advise the patient in case of any incorrect behavior he/she behaved, even if he/she is not from my ward patients.	75	33.36	0.001
		I care for other things in the ward, in addition to the nursing procedures or practices.	39	2.72	Non- sig.
	<b>Communication with colleagues and others in the work field (3 items)</b>	I collaborate with my colleagues at work as a team (R).	62	9.57	0.005
		I suffer many problems in relationship with my colleagues because of work (R).	34	7.2	0.01
		My relationships with my colleagues are based on the patient's best interest.	54	2.09	Non- sig.

Table 2 a and b demonstrates 64.29% errors in management and administration activities (66.7% work guidelines errors, 66.7% commitment to assignments errors, 100% nursing documentation errors, and 40% care of patient unit errors), 77.8% errors in personal aspects (100% inferiority and disdain errors, 66.7% dependency on others and lack of concern for the patient errors, and 66.7% communication with colleagues and others in the work field errors), and 84.21% errors in professional activities (88.9% assessment of the patient's current health status errors, 100% of sterilization and

disinfection errors, 75% drug administration errors, and 66.7% career development errors). The table also represents that all items of work guidelines and all items of nursing documentation had significant relationship with nursing error at different levels. Whereas, all items of commitment to assignment and all items of sterilization and disinfection did not have any level of significance in their relationship with nursing error. On the other hand, the items of each remainder sub-aspects revealed fluctuation in their relationship with nursing error.

**Table 2b:** Nurses' answers regarding items of nursing error aspects

Aspects	Sub-aspects	Items	True answers	Chi-square	P value
<b>Professional Aspects (19 items)</b>	<b>Assessment of Patient's Health Status (9 items)</b>	I collect sufficient information about previous diseases the patient suffered from.	40	2.09	Non- sig.
		I inquire about previous surgeries the patient underwent.	40	2.09	Non- sig.
		I ask the patient about the beginning of the current chief complaint.	39	2.72	Non- sig.
		I assess the patient's need for care that should be provided to him/her prior to carrying out.	37	4.26	0.05
		I inquire from each patient daily about his/her health condition.	65	13.79	0.001
		I discuss with my colleagues about the development of health status of each patient per day.	44	0.39	Non- sig.
		I pay attention to all changes or complications that occur in the patient's condition.	35	6.13	0.05
		I check and inquire accurately about every emergency event happened to any patient.	35	6.13	0.05
		I follow-up results of the tests and compare them with its predecessors.	31	10.89	0.001
	<b>Sterilization and disinfection (3 items)</b>	I wash my hands thoroughly before each practice, nursing procedure, or care I do for each patient.	40	2.09	Non- sig.
		I change the disinfectant solution used for thermometers daily.	42	1.06	Non- sig.
		I use one container to put all materials used in patient care.	54	2.09	Non- sig.
	<b>Drug administration (4 items)</b>	I inspect and be assure from the expire date of each drug used for the patients.	41	1.53	Non- sig.
		I keep the drug of each patient behind him/her.	36	5.15	0.05
		I observe each patient till he/she swallows his/her drug.	33	8.34	0.005
		I observe each patient after he/she took his/her treatment.	37	4.26	0.05
	<b>Career development (3 items)</b>	I always participate in the development or training professional sessions.	44	0.89	Non- sig.
		I look and search for any opportunity to complete my study and explore it honestly.	63	10.89	0.001
		I always read (at least half an hour daily) in the field of specialty.	42	1.06	Non- sig.

R, Reverse answer

## Discussion

In addition to the higher patient acuity, work system factors and expectations also contribute to the nurses' workload which implicates nurses are expected to perform nonprofessional tasks, such as delivering and retrieving food trays, housekeeping duties, transporting patients, and ordering, coordinating, or performing ancillary services.<sup>11</sup> These duties can place the nurse in high vulnerability to behave incorrectly during the work carried out. Therefore, to prevent this, it is essential to involve the analysis of facts and circumstances on a case-by-case basis with regard to everything that he or she does in the clinical setting. Increasingly, nurses are held accountable to the public for their professional judgment and the outcomes arising from that judgment.<sup>10</sup>

### *Management and administration*

Historically, nurses were rarely recognized for their contributions to health care and seldom participated in policy developments that impacted health care delivery. Now, stakeholders in the health care community are beginning to recognize nurses' contribution and potential in positively influencing the health care delivery.<sup>12</sup> Nurses must have an additional duty to immediately report any unsafe patient care to the appropriate supervisor or manager. It includes identifying and reporting staffing problems, protecting the health, safety and rights of the patients, preserving the nurse's own integrity and safety, refusing a patient care assignment based on concerns for patient safety, and practicing with reasonable skills and safety.<sup>13</sup> On the other hand, work environment problems must be addressed for nurses in order to sufficiently protect patients.<sup>14</sup> As a fact, the role of the nurse corresponding policies, administration, and management in the Iraqi health care agencies is passive, as they only obligate in carrying out or implementing what is directed. They deal incorrectly with some essential nursing procedures or activities (care of patient's unit and bed making), as they consider these practices shaming and disdained (Table 2), although these activities are the most important in caring the patient.<sup>15</sup> Therefore, scientific and occupational legislative arrangements must be obligated in order to re-arrange nursing duties, such as activating

nursing job description and depending on nursing process in caring of patient and patient unit.

### *Personal aspects*

Changes and challenges of current health care system demand interprofessional collaboration for best outcomes.<sup>16, 17</sup> Nursing leaders who work with other members of the health care team with mutual respect and collaboration are more likely to succeed in improving patient safety, reducing medical errors, and decreasing staff turnover.<sup>18</sup> According to literature, physicians tend to respect and appreciate nurses' knowledge and skills when they work closely with nurses and get to know them well.<sup>19</sup> In Iraq, similar to rest of the communities, especially the Arabic societies, nursing is considered as a mediocre profession, which does not rise to the ranks of many professions due to the reports towards people who engage in and practice this profession. Due to these reasons, the participants of the current study felt inferior and dissatisfied about their relationship with colleagues and other medical and paramedical staff at work (Table 2) i.e., the personal aspects of nurses were unsatisfied. In contradiction to that, Sirota found that 41% of nurses were more satisfied with their collegial relationships, 33% were moderately satisfied, and 26% were highly dissatisfied. Seventy percent told that physicians don't understand their roles and responsibilities as a nurse, 60% told that physicians don't communicate with them about their concerns for a patient, and around 50% told that physicians don't listen to what they have to say about patients. Respondents (71%) also reported that physicians display unprofessional behavior (demeaning, dismissive, or intimidating) and 46% felt they're treated with disrespect and condescension (as "handmaidens"), also, some respondents told that older physicians treat them with arrogance and disrespect; however, others told that younger physicians display more of this behavior.<sup>20</sup> Community awareness towards nurses must be altered positively, for they are the cornerstone in caring all members of community; individualists, familial, and societal through all levels of care; preventive, therapeutic, and rehabilitative dimensions. Therefore, nurses must work collaboratively and strengthen the interrelationships with all medical and health team members.

### **Professional aspects**

Changes in the health status of a patient can be gradual or sudden and nurses are usually the first to see the changes and to take actions. A nurse's accuracy in assessing, monitoring, and timely reporting of changes in health status to a physician often differentiate between life and death.<sup>10</sup> In the present study, the nurse behaved as an employer in nursing or accomplished nursing activities as a duty, and not as professional personnel (Table 2). Therefore, nursing professionalism must be enhanced among nurses through continuous nursing education. According to O'Keefe, "Patient rights are the hallmark for advocacy of nursing care. Nurses are compelled to strive for excellent care of patients and the inclusion of their rights in today's health care system".<sup>21</sup>

Violations occur more frequently when nurses are under time pressure or high workload because of emergency situations. Under high workload, nurses might not have time to follow rules and guidelines for safe care, especially if following the rules and guidelines necessitate additional time, such as hand washing.<sup>22</sup> Despite the instructions and guidelines regarding sterilization and disinfection at all health agencies, the majority of nurses in the current study did not follow these instructions, perhaps due to their low level of awareness or absence of liability (Table 2). Therefore, emphasis and inspection from administration must be followed up periodically.

Drug administration is considered as one of the cornerstones when caring any patient, for it is depended on scientific expertise as to who, what, when, how, how-much or how-many doses, and the desired effects of the drug given to the patient in addition to the side effects of it. Medication error is defined as "any preventable event that may cause or lead to inappropriate medication use or patient harm".<sup>23</sup> It has serious direct results such as patient harm as well as increased healthcare costs and indirect results such as harm to nurses in terms of professional and personal status, confidence, and practice.<sup>24</sup> The participants in the current study did not follow or take into consideration these while working (Table 2). This can be due to the official instructions that put the responsibility of drug administration on pharmacists in our hospitals. It is estimated that medication errors in the USA account for 7000 deaths annually.<sup>25</sup> Ten to 18% of all reported

hospital injuries have been attributed to medication errors.<sup>26, 27</sup> Possibility of medication errors to result in death is 0.1%.<sup>23</sup> Studies that examined the types of medication errors divided them in categories, according to the description of the event: omission error, wrong drug error, wrong patient error, wrong route error, wrong time error, wrong technique error, wrong dosage-form error, and extra dose error.<sup>28</sup> The seriousness of any error during drug administration results in many fatal cases, so, nursing managers, nursing leaderships, nursing directors, and qualified nurses should concentrate more in order to educate, counsel, advocate, and train other nurses to be more professional during work.

Awareness has been steadily rising regarding the requirement of a new and standardized structure of education and training, along with infrastructure and incentives to support and promote nurses' engagement in professional development and career advancement opportunities.<sup>29</sup> It provides opportunities for nurses to enhance their competencies by participation in ongoing professional development. Thus, career advancement serves as a tool that supports nursing excellence through the conferment of higher clinical status to those nurses who meet the requirements.<sup>30</sup> Many reasons, including work overload, feeling inferior, and low pay or fee obtained, in addition to the concerns of life, impose the nurse to be far away from development (Table 2). The findings from the National Sample Survey (2008) of registered nurses entering the profession with a baccalaureate or higher degree is <34%.<sup>31</sup> Eventually, professional guidelines must be established and followed to evaluate nursing records or notes in all wards regarding each patient's health status and improvement, determining sterilization and disinfection procedures, steps to be undertaken at the moment and periodically, taking into account drug schedules through administration and validating their effectiveness and preventing their side effects. Decision makers should institute regulations that serve the profession and its personnel, in order to promote their social and socio-economic status and to stay inside the work and endeavor to motivate them for development.

### **Conclusion**

It is concluded from the study that the role of nursing is functional and not professional, as it

clearly lacks job description, proper professional relationships, sense of belonging to the profession, sense of responsibility, adherence to professional rules at work, lack of patient care and staying away from career development, and weakness of commitment to professional ethics. It could be due to the inferior view towards the profession and the contempt of the nurse, and these can be reflected on the lack of confidence of the nurse and, thus, the poor performance.

### **Implications for nursing**

Nursing mistakes or negligence reflected on the profession in terms of reducing its importance to the patient and society, but even worse, making the patient victim of these errors. Therefore, it requires professional assignments through legislations, laws, regulations, and instructions to explain the professionalism of nursing. On the other hand, it must be strict in rewarding the better and punishing the wrong, and be careful and take into consideration the patient's right to merit. All these require the community—firstly, policy—secondly, and the specialists in the field of medicine and health—thirdly to enhance the confidence of the nurse through financial support in order to improve their lifestyle.

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### **Conflict of Interest**

As long as nursing work is considered as a profession, it is necessary to have the prerequisites of any profession as good scientific knowledge, efficient and qualified practice and positive attitude toward the profession. Hence, this simple and modest effort carried out to demonstrate how nurses perform some daily routine nursing work in order to assign what were correct and modify what were wrong in order to provide the best nursing service for the patient.

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