

## Nurses' Awareness, Commitment, and Attitudes Regarding Patients Safety Measures

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### Abstract:

**Background:** Patient safety measures are directed to prevent or minimize complications and adverse event incident that needs the collaboration of all health staff. Nurses have a significant role in improving patient safety as major personnel dealing continuously over 24 hours with the patients. **Aim of the study:** Assess nurses' awareness, commitment, and attitudes regarding patient safety measures. **Subjects and Method: Research design:** A cross-sectional, descriptive design was utilized. **Setting:** The study was conducted at Medical-Surgical Units of Zagazig university hospitals. **Subject:** A convenient sampling of 100 nurses selected from these units in the period of March to January 2021. **Tools of data collection :** Two tools were used for data collection. **Tool (I):** A structured interviewing questionnaire that included **four parts:** demographic characteristics of participants, nurses' awareness, commitment, and attitude's regarding patient safety measures. **Tool (II):** was perceived implicit rationing of nursing care. **Results:** the majority of participants were females, about two third had technical nursing institute, with professional experience ranging from six to ten years, nearly two-thirds worked for more than 36 hours weekly, less than half didn't receive training courses regarding patient safety, more than three quarters reported that safety measures were excellent and had total satisfactory awareness regarding patients safety, nearly to half had high commitment level score, less than two-thirds had total positive attitudes, only half had a satisfactory total safety practices knowledge level score, more than quarter were rating missed nursing care as high and or moderate. A statistically significant difference and positive correlation were found between the demographic characteristics of participants and their awareness' level scores as well as with safety commitment, attitudes, and missed nursing care. **Conclusion :** Gaining confirmation regarding the level of nurses' awareness, commitment, and attitudes, toward patient safety measures are significant to undertake the essential strategies required to minimize the burden of health care, and its related effects. **Recommendations:** Continuously training on patient safety measures must be provided to nurses to be proficient, devoted, updating regarding patients' safety measures.

**Keywords:** Awareness, Commitment , Attitudes, Patients, Safety Measures

### Introduction:

Patient safety is a dynamic component of health care quality. A culture of patient safety is characterized by shared healthcare provider perspectives of the importance of safety, commitment, clearness of communications, and shared confidence in the efficacy of preventive measures which has been associated with some improved patient outcomes<sup>1</sup>. Patient safety must be an essential priority of health care providers; and should hold a higher level of knowledge regarding patient safety to safeguard patients<sup>2</sup>.

Patient safety constitutes an important element of the healthcare system and is directly related to the patient's health, well-being, results of care, and the cost of treatment. World Health Organization (WHO) defined patient safety as preventing errors and negative effects for patients connected

with health care<sup>3</sup>. Agency for Healthcare Research and Quality defined patient safety as freedom from accidental or preventable injuries produced by medical care<sup>4</sup>. According to the Global Patient Safety Action Plan 2021–2030, patient safety is “a framework of organized activities that creates cultures, processes, procedures, behaviors, technologies, and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make the error less likely and reduce its impact when it does occur”<sup>5</sup>.

National and international evidence shows that as many as 1 in 8 patients suffer harm while using healthcare services and up to 70% of this harm could have been prevented. The Patient Safety Strategy is a meaningful collaboration between the health service, staff, and patients, all working

towards safer care<sup>6</sup>. The estimate for low- and middle-income countries suggests that up to one in four patients is harmed, with 134 million adverse events occurring annually due to unsafe care in hospitals, contributing to around 2.6 million deaths<sup>7</sup>. Overall, 60% of deaths in low- and middle-income countries from conditions responsive to health care are due to unsafe and poor-quality care<sup>8</sup>. People mostly link patient safety with hospital-based care; however, unsafe care is a system-wide problem. Half of the global disease burden arising from patient harm originates in primary and ambulatory care<sup>9</sup>. Unsafe and poor-quality care leads to US\$ 1.4 trillion to 1.6 trillion worth of lost productivity each year in low- and middle-income countries. Global Challenges aimed to gain worldwide commitment and spark action to reduce healthcare-associated infections and the risks associated with surgery, respectively<sup>10</sup>.

Each person may be at some stage of illness and will be using health care services with expect that the best safest care is received. Maintaining the highest levels of patient safety is a fundamental priority for patients and healthcare organizations. The WHO assembly recently an annual World Patient Safety Day on 17 September to further strengthen awareness and animate strenuous action for safer care<sup>11</sup>. Patient safety is a human right and a fundamental principle of health care. Half of the adverse events could be prevented, and six international patient safety goals were introduced, covering correct identification of the patient, clear and effective communication, safety in administering medications, increasing the safety of operations, decreasing the risk of infections, and decreasing the occurrence of falls<sup>12</sup>.

Healthcare providers need to be aware of the expected organizational beliefs, values, and norms to achieve quality patient-centered care. Nurses' perspectives on patient safety are critical steps in enhancing the safety of the patient. Globally, all healthcare providers, including nurses, are vulnerable to committing different medical errors. Many healthcare practitioners, including nurses, have reduced knowledge levels of patient safety<sup>13</sup>. Healthcare providers' knowledge and attitudes, a collaboration by nurses, appropriate equipment and electronic

systems, education and regular feedback, and standardization of the care process influenced nurses' adherence to patient-safety principles. More studies are required to assess and enhance nurses' adherence to patient-safety principles and their effects on patient safety-outcomes<sup>14</sup>.

Medical institutions are committed to providing high-quality healthcare service; with ensuring patient safety<sup>15</sup>. Evidence shows that the issue of patient safety worldwide is not well addressed<sup>16</sup>. The most important challenge in patient safety is to identify how to prevent patients from being harmed during medical care, especially the "avoidable harms"<sup>17</sup>. The global patient safety action plan 2021–2030 vision is no one is harmed in health care, and every patient receives safe and respectful care, every time, everywhere & its goal is to achieve the maximum possible reduction in avoidable harm due to unsafe health care globally<sup>18</sup>.

Patient safety measures are a strategic priority for modern health care and central to countries' efforts in working towards universal health coverage. The nurses' role is to preserve patient safety and prevent harm during the provision of care in both short-term and long-term care settings<sup>19</sup>. Nurses are expected to adhere to organizational strategies for identifying harms and risks through assessing the patient, planning for care, monitoring and surveillance activities, double-checking, offering assistance, and communicating with other healthcare providers<sup>20</sup>. Nurses are the largest group of healthcare professionals that are the most interactive with patients. The action of nurses is imperative for the adoption of safe practices and better quality healthcare<sup>21</sup>.

Nurse Managers have an opportunity to enhance the professional commitment of their staff nurses through actions such as promoting a better work environment, encouraging teamwork, and providing instruction and feedback on preventing adverse clinical events. These activities, in turn, are expected to increase staff nurse awareness of patient safety issues<sup>22</sup>.

Nursing staff plays a vitally significant role in determining patient safety culture. Safety culture is a multi-dimensional concept

that comprises an assessment of leadership styles, individual and group ethical values, attitudes, and behaviors, practicing evidence-based medicine, using communication channels, learning from mistakes, recognizing systemic shortcomings, and providing patient-centered care<sup>23</sup>. The essential aspects of patient safety culture are teamwork, communication, shared beliefs about safety, and organizational learning<sup>24</sup>. Standard policies should also be improved and promoted to enhance the patient safety culture in hospitals<sup>25</sup>. Nurses with high commitment are usually confident in their abilities, deliver optimum work performance, and build trusting relationships with their patients<sup>26</sup>. Nurses' professional commitment has been found to positively affect the patient safety level among nurses<sup>22</sup>.

Nursing care restriction occurs when resources are insufficient (usually due to the lack of staff or lack of necessary materials), or when not all conditions for the provision of safe nursing care to patients are available. Numerous factors related to delaying of care (hospital characteristics: financial limits, number of patient beds), employees (skills, expertise, and level of education), and patients (type of disease, severity, and comorbidities) contribute to delay or incompleteness of health care interventions. Nurses are forced to give priority to tasks that may result in adverse patient outcomes or reduced safety and quality of care provided<sup>27</sup>.

Nursing care has a significant impact on patient safety. It appears that nurses, faced with insufficient resources and urgent tasks, find it difficult or even impossible to meet all the requirements set out in individual nursing care plans. Even more alarmingly, nurses may shorten, delay, or even omit elements of the required patient care. The effects of nursing care restrictions go against the principles of holistic nursing and adversely affect nursing care safety and quality<sup>28</sup>. In Egypt, the nurse/patient ratio is half the international figure, which led to a significant shortage of qualified staff that may not have a clear view of the safety framework. The potentiality for safety hazards can increase if they work in a challenging and dynamic environment with a high workload<sup>29</sup>.

### Significant of the study:

All human beings may be at some stage of illness and will be using health care services with expecting that the best safest care is received. Maintaining the highest levels of patient safety is a fundamental priority for patients and healthcare organizations. It is unacceptable that unsafe healthcare services still lead to 134 million adverse events annually in low- and middle-income countries, accounting for nearly 2.6 million deaths<sup>7</sup>. Nurses' perspectives on patient safety are critical steps in enhancing the safety of the patient. Nurses had a significant role to achieve the goals of patient safety, as they were the largest group of healthcare providers. A research study reveals that many healthcare practitioners, including nurses, have reduced awareness levels of patient safety; there is a lack of study that has addressed awareness and commitment toward patient safety among nurses working in the study area.

### Aim of the study:

#### The aim of the study was:

To assess nurses' awareness, commitment, and attitudes regarding patient safety measures at Zagazig University Hospitals.

This aim is fulfilled through 1. Assessing nurses' awareness regarding patient safety measures. 2. Assessing nurses' attitudes regarding patient safety measures 3. Determine nurses' commitment level regarding patient safety measures. 4. Clarified the relationship between nurse's knowledge, attitudes, and commitment level scores and their demographic characteristics

#### Operational definition:

**Awareness:** A situation of being conscious, knowledgeable and understanding something based on past information and experience

**Commitment:** an agreement someone to do or not do something

**Attitudes:** is positive or negative of person feelings or strong orientation towards something's

**Safety measures:** any practical steps taken by the responsible person to prevent and eliminate any hazardous condition .

**Research questions:**

1. What are nurses' awareness regarding patient safety measures?
2. What are nurses' attitudes regarding patient safety measures?
3. What is nurses' commitment level regarding patient safety measures?
4. Is there a relationship between nurse's knowledge, attitudes, and commitment level and their demographic characteristics?

**Subjects & Method:****Research design:**

A cross-sectional, descriptive design was used to fulfill the aim of the research, it is a quantitative research methodology used to expose in-depth knowledge of a phenomenon and investigates more than one variable.

**Study Setting:**

The study was conducted in the Medical-Surgical Units of Zagazig university hospitals. The researchers selected the estimated sample randomly from (ICU, ER, medical chest department, and dialysis unit). The ICU unit is located on the 2<sup>nd</sup> floor of the new surgery hospital. It occupied 20 beds, advanced ventilators, cardiac monitors, infusion pumps, suction apparatus, and oxygen. The dialysis unit at al-salam hospital sector on the 2<sup>nd</sup> floor of the medical hospital. It includes 4 rooms occupied by 15 beds with 15 machines.

**Study Subjects:**

Convenience sampling was used in this research. The study's sample size was calculated through the Rao-soft website based on a response rate of 50 %, at a confidence level of 95% with a 4.95% margin of error to select 100 nurses from a total of **134** nurses working in the mentioned sitting. (<http://www.raoSoft.com/sampleSize.html>).

Nurses who had worked at least one year's work experience directly with the patients , who accepted to participate in the study were invited to participate and informed about the aim and rules of the research.

**Study's Variables:**

The dependent variable represented nurses' awareness', attitudes, & commitment toward patient safety. The independent variable was nurses' rating of patient safety measured & selected demographic characteristics.

**Tools for data collection:**

In order to fulfill the objectives of the study two tools were used to collect necessary data:

**Tool I: A Structural interviewing questionnaire** was developed by the researchers based on relevant updating literature<sup>30-32&3</sup> in Arabic language and tested for face and content validity by five experts in nursing college, Zagazig university to gather the necessary data: It consists of **four parts** : demographic characteristics of the studied nurses, Knowledges, attitudes, and commitment of nurses regarding patient safety measures.

**The first part** includes 11 questions covering demographic characteristics of studied nurses such as age, gender, years of experience, marital state, working hours per week, training previously regarding patients safety.

**The second part (subpart A): General Nurses' perspectives** regarding patient safety measures included 8 multiple choice answer questions that covered overall Safety values, Safety Policy, Safety environment, Safety attitudes, Safety practices, Safety facilities, Safety training, and Safety communication and **perspectives regarding safety hazards** included 6 questions covered several errors occurred to patients and health staff per year, all errors were reported, common errors, the reality of patient safety measures at hospital and staff safety commitment. The score for nurses' perspectives regarding patient safety ranged from 1 for bad or need improvement, 2 for acceptable, 3 for good, and 4 for excellent perceptions.

**The second part (Subpart B): nurses' awareness' of** patient safety measures, has 100 questions covering the following items: Values of patient's safety (8 Q); Safety policies (7 Q); Safety environment (15Q); Safety patient identification (3Q); Safety medication administration (10Q); Safety preventive measures (20Q); Safety facilities (7 Q) Safety practices (15Q); and Safety communication (10Q). The total score of the studied nurse's awareness' regarding patient safety was the sum of the ten scores for all items. The mean scale score was the total scale score divided by the number of items. **Scoring:** nurse's awareness of safety measures scored one for the corrected answer and zero for incorrect and don't know,

so the total score ranged from zero to 100. Total awareness' is considered satisfactory if had a total level score equal to or more than 75%.

**The third part: Nurses' commitment** to safety practices measures when dealing with the patient; adapted by researchers includes (18Q) based on **Teng, et al.**<sup>33</sup>, it covered two components of commitment: affective commitment denotes an employee's emotional contribution to and association with the organization and continuance commitment, the perception of the risks of leaving the organization. **Scoring:** nurse's commitment to patient safety scored as high if had a score >70%, moderate from 70 to 50%, and low if it <50%.

**The fourth part: the Safety Attitudes Questionnaire (SAQ)**, was used to assess studied nurses' attitudes towards safety measures which are the most internationally used questionnaires and popular among researchers and investigators<sup>34-35</sup>. It has 30 core items representing six scales: teamwork climate, safety climate, job satisfaction, stress recognition, perception of management, and working conditions. The overall domain score was calculated by summing all items in each domain and then dividing by the number of items. **Scoring:** The attitudes consider positive if equal and or more than 70%, and negative if less than 70%. The questionnaires of commitment and attitudes scored as a four Likers-type scale, ranging from 4 for strongly agree, 3 agree, 2 disagree, to 1 for strongly disagree.

**Tool II: Perceived Implicit Rationing of Nursing Care (PIRNCA)**, measures 31 nursing activities common to medical-surgical inpatient settings (assessment, problem identification, care planning, implementation of procedures, and evaluation of care) necessary to achieve the desired outcomes in nursing care<sup>36-37</sup>. Respondents were asked to rate the frequency of missed nursing care with which they were unable to complete within the previous month's working shifts on a four-point scale, where 0 = never, 1 = rarely, 2 = sometimes, and 3 = often. If these activities were not required or not applicable, it was excluded from the final result, and the total care rationing rate is the average of the items. Implicit Rationing of missed nursing care

scored as high missed nursing care as no missed nursing care <20%, low 20-40 % moderate >40-60 %, and high >60%. The highest missed nursing care indicates low patient safety.

#### **Content Validity and Reliability:**

It was established for assure of content validity by a panel of five experts' professors from faculty of nursing Zagazig University who revised the tools for clarity, relevance, and comprehensiveness minor modification were applied accordingly. The reliability statistics of tools was tested using Cronbach's alpha coefficient to assess the internal consistency of overall the questionnaires was 0.82, for nurses awareness' was 0.89, the commitment questionnaire was 0.81, and for attitude, a questionnaire was = 0.91. The internal consistency coefficient on PIRNCA was 0.96, which is an extremely high reliability of the internal consistency type.

#### **Fieldwork:**

The researchers utilized a structured interviewing questionnaire for collecting the data from the beginning of January to the end of March 2021. The researchers were met with each nurse individually either in morning or afternoon shift based on their schadual and time suitable, they given a questionnar and pen to fill it with instructed to answer all questions accordingly. The time that staff nurses spent to fill the questionnaire was between 25 to 30 minutes.

#### **Pilot study:**

Pilot study was conducted on 10 (10 %) of nurses and they were excluded from the total number of nurses to insure the clarity and comprehensiveness of the tools.

#### **Administration and Ethical consideration:**

- The research was approved by the ethical committee at the faculty of nursing Zagazig university & and official permission for data collection was obtained from the hospital administrative director through the submission of a formal letter from the vice dean of the faculty of nursing in Zagazig university to get better cooperation during the implementation phase of the research, also nurses' oral consent was obtained before starting data

collection, they were allowed to refuse to participate and they were assured that the information collected would be treated confidentially and used for the research purpose only.

### Statistical Analysis:

All data were collected, tabulated, and statistically analyzed using IBM SPSS Ver 20.0 for windows (SPSS Inc., Chicago, IL, USA 2011). Quantitative data were expressed as the mean  $\pm$  SD. whereas, qualitative data were expressed as frequencies & percentage. The percentage of categorical variables was compared using the Chi-square test or Fisher's exact test when appropriate. Pearson correlation coefficient was calculated to assess the relationship between study variables, the (+) sign indicates a direct positive correlation & the (-) sign indicates an inverse correlation, also values near 1 indicate a strong correlation & values near "0 or -1" indicate weak correlation.

### Results:

**Table 1**, shows that more than three-quarters of studied nurses were females (78%), 78 % had technical nursing institutes, and 76% had experience from one to five years. The same table indicated that nearly to tow third of studied nurses worked for more than 36 hours per week (66%), more than half of the studied nurses were working in intensive care units, and less than a fifth worked in dialysis and emergency department (55%, 18%) respectively, and less than half had attended training regarding patient safety (49%).

**Table 2**, clarifies that the total studied nurses' perspectives regarding patients' safety measures was excellent (77%), the most items that were excellent were regarding patient safety values followed by safety attitudes & safety environment (79% & 67% & 65%) respectively. On the other hand, nearly two-quarters reported that safety facilities & safety training were bad (22% & 23%) respectively.

**Table 3**, clarifies that about third of studied nurses reported that number of errors occurred to patients per year was more than 3 per year, while about three quarter reported errors that occurred to staff per year was less than 3 per year and majority of terrors were

reported accordingly and less than three quarter view that patient safety measures at hospital was good (32%, 27% 88% & 71%) respectively.

**Figure 1**, shows the most frequent errors occurred in hospital as reported by studied nurses were violence in work place 17% followed by acquired infection both for staffing and patients ( 16% & 13%) respectively , patient fall down 15%, drug errors 14% and pressure ulcer 10%.

**Figure 2**, showed that nearly to half of studied nurses had high commitment level score regarding to patient's safety measures (48%), about two third had medium level score (36%) while only 12% had low level score.

**Table 4** represents the total studied nurses' knowledge regarding patient safety measures. It clarified that more than three quarters had total satisfactory awareness regarding patients safety as well as regarding safety values and safety patients identification (77%, 79%, & 84) respectively; two third had satisfactory awareness regarding the safety of medication administration (67%). On the other hand, more than half of them had unsatisfactory awareness regarding safety preventive measures, safety facilities, safety communication & safety practices (56, 55, 54 & 50%) with Mean  $\pm$  SD (17.81 $\pm$ 2.88, 22.79 $\pm$ 4.14, 15.85 $\pm$ 2.67 & 16.26 $\pm$ 3.45) respectively

**Figure 3**, illustrates that the studied nurses were rating missed nursing care was high only in 13%, while no missed care happen in 44% from nursing care with slightly more than quarter rating as low (27%).

**Table 5**, represents the relationship between the demographic characteristics of studied nurses and their total awareness' regarding patients' safety measures. It found a statistically significant difference between the socio-demographic characteristics of studied nurses and years of experience, working hours per week & their view about patient safety measures ( $P < 0.05$ ).

**Table 6**, confirms that the highest positive studied nurses' attitudes regarding patients' safety measures were regarding job

satisfaction followed by preparing of management, safety climate, and teamwork climate (81,73, 72, 69 %) respectively. The total positive attitude was 61% with Mean  $\pm$  SD 28.76 $\pm$ 2.87.

**Table 7**, illustrates that there was a positive statistically significant correlation between nurses' age, years of experience, missed nursing care, and satisfactory knowledge ( $r=.629^{**}$ ,  $p=.000$ ,  $r=.271^{**}$ ,  $p=.006$  &  $r = .306^{**}$   $p=.002$ ) respectively. Moreover, a positive correlation was shown between levels of education and safety preventive measures ( $r=.199^*$ ,  $p=.047$ ). Additionally, a positive correlation was found between safety values & polices with training, facilities, safety practices, safety drugs administration, missed nursing care, safety commitment, positive attitudes & satisfactory knowledge, Pt. identification correctly with safety practices, safety drugs administration, safety environment, missed nursing care, safety commitment & attitudes, between safety preventive measures and safety practices, safety drugs administration, safety environment, missed nursing care, safety commitment, attitudes & satisfactory knowledge, between safety practices with safety drugs administration, safety environment & missed nursing care, between safety drugs administration and missed nursing rating care, attitudes & satisfactory knowledge, between safety environment with missed nursing care & satisfactory knowledge, between missed nursing rating care with safety commitment & satisfactory knowledge, between safety commitment with positive attitudes & satisfactory knowledge finally between attitudes & satisfactory knowledge(  $r$  range from 0.198\* to .803\*\* with  $p<0.005$ ). **Likewise**, A positive correlation was found between facilities, safety values & polices safety environment, safety commitment, attitudes & satisfactory knowledge, while it was negatively correlated with safety drugs administration & safety practices.

**Whereas** a negative correlation was detected between years of experience with safety values & polices, training, and facilities ( $r=-.224^*$ ,  $p=.025$ ,  $r=-.254^*$ ,  $p=.011$  &  $r=-.296^{**}$ ,  $p=.003$ ) respectively. **Additionally**, a negative correlation was detected between working hours and Pt. identification, safety

values & polices, training, facilities, missed nursing care, safety commitment, attitudes & satisfactory knowledge ( $r= -.335^{**}$ ,  $p=.001$ ,  $r= -.460^{**}$ ,  $p=.000$ ,  $r= -.253^*$ ,  $p=.011$ ,  $r=-.304^{**}$ ,  $p=.002$ ,  $r=-.403^{**}$ ,  $p= .000$ ,  $r= -.264^{**}$ ,  $p=0.008$  &  $r= -.459^{**}$ ,  $p= .000$ ) respectively.

### Discussion:

Patients as well as healthcare organizations place a top quality on maintaining the highest standards of patient safety. Therefore, This research aimed to assess nurses' awareness and commitment to patient safety measures. Regarding the demographic characteristics of studied nurses, the result revealed that the majority of studied nurses were females and about two third had technical nursing institutes, with professional experience ranging from six to ten years. This result was in agreement with **Elmwafie, et.al** <sup>(38)</sup>, who reported that about three-quarters of the studied nurses were female, more than half of them were from a nursing institute, and less than five years of experience, this result illustrates that the nurses as a profession were a feminine service untie recent decide and mal was newly take direction to study nurses to gain a job with a financial benefit, and more than half of studied nurses working in intensive care units, less than fifth working in the operating room followed by the emergency department.

As regards working hours per week, nearly tow-third were worked more than 36 hours per week, similarly, **Zabin, et al** <sup>(39)</sup>, found that majority of the participants worked about 40 to 69 h a week, while almost a third of them worked about 20 to 29hrs a week. Additionally, **Teleş & Kaya** <sup>(40)</sup> found that the participants had 6 years of professional experience and worked for 60hrs or more per week, this indicates the shortage of nurses as a global and or may be increased demands of nurses services as a response to increasing populations and number of hospitals.

The current result clarified that less than half of the studied nurses didn't receive training courses regarding patient safety, the result was similar to the research of **Hussein, et al** <sup>(13)</sup> entitled" Patient safety attitude among healthcare workers at different levels of healthcare in Sharqia Governorate, Egypt, reported that approximately fifth have prior

training. This result indicates the need for continuously establishing more training programs on patient safety issues for all healthcare workers at all healthcare organizations.

Our result revealed that several errors occurred to patients & health care workers per year fewer than two-thirds, this result was congruent with **Abdelaliem & Alsenany** <sup>(41)</sup> found that less than a quarter of participants mentioned that event reports yearly were less than 3 and fewer than half perceive patient safety as excellent and about few percent show, it is either acceptable and or poor. Likewise, our result agreed with **Ali, et al** <sup>(42)</sup> found that less than one-third of the participants did not report any event, while 69.7% reported from one to more than 11 event reports. The most frequent errors that occurred in hospitals as reported by studied nurses in our study arranged from high prevalence to low were violence in the workplace followed by acquired infection both for staffing and patients, patient falls, drug errors, and pressure ulcers, this result was constant with **Assil, et al** <sup>(43)</sup> they found that Violence within EDs represents a significant problem, particularly as violent behavior against healthcare workers is widely accepted by patients in Egypt. Nevertheless, our results disagree with **Kakemam, et al** <sup>(44)</sup>, who found that the common adverse effect represent commonly in Patient falls are 51.2%, 60.8% adverse drug events, 54.8% surgical wound infections, 53.6% pressure ulcers, and 51.2% infusion or transfusion reaction

Regarding studied nurses' perspectives on total patient safety measures, more than three-quarters of them reported that it was excellent and most items that were excellent as reported were regarding patient safety values followed by safety behaviors & safety environment, although a quarter of them reported that safety facilities & safety training were bad. This result conflicts with **Teleş & Kaya** <sup>(40)</sup>, who found that almost half of the participants assigned a patient safety grade of acceptable. Additionally, this contrasted with **Hussein, et al** <sup>(13)</sup> who revealed that none of the participants rated the working unit as "excellent" in patient safety while more than half of them perceived it as acceptable, and a third rated it as very good. Moreover, **Ali, et al** <sup>(42)</sup> found that many of the surveyed

participants perceived that their working unit had an acceptable patient safety grade. From our point of view, this difference may be related to the majority of our participants being from critical sitting that takes priority for patient safety, different in educational level, training, and or due to the participant may be fear from reported the real situation and not awarded by the importance of such topic.

Implementing the necessary methods to reduce the burden of damage, and the expenses of its linked problems we need to improve the standard of care and gather evidence about the degree of knowledge, attitude, practice, and other aspects relevant to patient safety among nurses (**Wake, et al** <sup>(32)</sup>). Accordingly, our research results declared that more than three-quarters of participants had total satisfactory awareness regarding patients' safety, safety values, and safety patient identification, two-thirds had satisfactory awareness regarding the safety of medication administration and more than half had unsatisfactory awareness regarding safety preventive measures, safety facilities & safety communication. Our results disagree with **Biresaw, et al** <sup>(31)</sup> they discovered that less than half of respondents had good knowledge. This result was consistent with the study of **Oliveria, et al (2017)** reported that nurses' knowledge of patient safety was good, this difference might be related to different samples size, sitting, educational curricula, and facilities measures.

Regarding the commitment of nurses to patient safety, our study revealed that nearly half of the study participants had a high commitment level score, about one-third had a medium level score and only slightly more than ten percent had a low-level score, this result may be related to a majority of the participant had worked in the critical department that needs more attention to patients safety and or a majority of them had years of experience more than six years. This result was constant with **Rafiee** <sup>(45)</sup> who found that the mean score of professional commitment of nurses was  $85.65 \pm 15.04$ , with a significant relationship between professional commitment and patient safety culture ( $p < 0.001$ )

The current result confirmed that the height positive attitudes of studied nurses regarding patients safety measures were



regarding job satisfaction followed by preparing of management, safety climate, and teamwork climate with less than two-third having total positive attitudes. Moreover, three-quarters had a satisfactory total knowledge level. Similarly, **Wake, et al** <sup>(32)</sup> found that more than half of the nurses had good knowledge and positive attitude towards patient safety. Conversely, **Elmwafie, et al** <sup>(38)</sup> observed that about two-third of studied nurses had unsatisfactory total knowledge regarding the implementation of safety measures, and only 30% of them had satisfactory practice.

Our findings showed that just 13% of the nurses in the study gave missing nursing care a good evaluation and that fewer than half said that no missed care occurred. Similarly, **Hessels, et al** <sup>(46)</sup> reported that missed nursing care occurred at an occasional level of up to 30% & associated with falls.

The present research has found statistically significant differences between the socio-demographic characteristics of studied nurses and both years of experience and working hours per week. Correspondingly, **Mati** <sup>(47)</sup> clarified a highly statistically significant relationship between nurses' knowledge and their qualification and years of experience. Furthermore, **Nurumal, et al** <sup>(48)</sup> report that working hours per week tend to associate with the knowledge and attitude of nurses. However, our result hadn't found statistically significant differences between the socio-demographic characteristics of studied nurses and years of experience. This result is contrary to **Alsulami, et al** <sup>(49)</sup> whose findings revealed that education has a significant influence on the awareness level of patient safety culture. Such a judgment may emerge as a result of respondents with high educational backgrounds, having completed patient safety-related courses, experienced a lot, participated in many sittings with various nationalities, or both. Correspondingly, we found statistically significant differences between the studied nurses' attitudes and their working hours per week, and opinions about patient safety.

The current result demonstrated that there was a statistically significant positive correlation between the studied nurse's age with years of experience, missed nursing care and satisfactory knowledge, and their levels of

education with safety preventive measures. Additionally, a positive correlation likewise was found between their awareness of safety values and policies with training, facilities, safety practices, safety drugs administration, missed nursing care, safety commitment, positive attitudes & satisfactory knowledge. This finding suggests that nurses with more years of experience, a higher awareness of safety principles and policies, prior training, enough facilities, and appropriate knowledge were more committed to patients' safety measures and less likely to miss providing nursing care. Our results were constant with **Mukahana, et al** <sup>(50)</sup> reported that patient safety is consistently addressed, a positive influence of nurses' awareness, in the improvement of care and safety.

Additionally, **Al-Hamdan, et al** <sup>(22)</sup> found nurses' commitment was significantly and positively correlated with patient safety and influenced by gender, nursing experience & nurses' educational level. However, there was a statistically significant inverse relationship between the studied nurses' years of experience with safety values and policies, training, facilities, working hours and correctly identifying patients, missed nursing care, safety commitment, attitudes, and satisfactory knowledge, as well as between their prior training in a safe environment and satisfactory knowledge. Additionally, a negative correlation was found between safety drugs administration & safety practices.

#### **Conclusion:**

Based on the results, the current research results concluded that more than three-quarters of the studied nurses' perspectives regarding patients' safety measures were excellent. Additionally, the total nurses' awareness regarding patients' safety measures was satisfactory, especially regarding safety patients identification correctly. Moreover, the studied nurses' commitment level score was high. The total positive safety attitudes of the studied nurses were high. Nearly half of the studied nurses reported no missed nursing care. Furthermore, statistically, significant differences were founded between nurses' total knowledge and their years of experience. Besides, a statistically significant difference was detected between nurses' attitudes and their demographic characteristics (weekly

Working hours and opinions of them about patient safety). Finally, positive correlations were found between the socio-demographic characteristics of studied nurses and their knowledge level scores as well as with safety commitment, attitudes, and missed nursing care.

**Recommendation:**

Nurses have significant responsibilities in achieving and maintaining patient safety goals. Gaining confirmation regarding the level of knowledge, commitment, and

attitudes, toward patient safety measures are significant to undertake the essential strategies required to minimize the burden of health care, and its related effects. Therefore, the research recommended conducting further qualitative studies on a large sample in different settings.

**Table (1):** Frequency and Percentage Distribution of Demographic Characteristics to Studied Nurses (n=100).

Demographic Characteristics	No.	%
<b>Gender</b>		
Male	22	22.0
Female	78	78.0
<b>Age (year)</b>		
< 25	74	74.0
26-35	26	26.0
<b>Qualification</b>		
Institute	78	78.0
Bachelor's degree	22	22.0
<b>Years of experience</b>		
1-5	76	76.0
6-10	21	21.0
11-15	3	3.0
<b>Working hours per week</b>		
≤36 hours	34	34.0
>36 hours	66	66.0
<b>Working department</b>		
ICU	55	55.0
Dialysis unit	18	18.0
Medical chest unit	9	9.0
Emergency department	18	18.0
<b>Attending workshops about patient safety</b>		
<b>Yes</b>	49	49.0
<b>No</b>	51	51.0

**Table (2):** Frequency and Percentage Distribution of Total Studied Nurses' Perspectives regarding Patients Safety Measures (n=100)

Safety Item	Bad		Acceptable		Good		Excellent	
	No	%	No	%	No	%	No	%
- Safety values	0	0.0	0	0.0	21	21.0	79	<b>79.0</b>
- Safety policy	10	10.0	3	3.0	35	35.0	52	52.0
- Safety environment	0	0.0	7	7.0	28	28.0	65	<b>65.0</b>
-Safety attitudes	0	0.0	3	3.0	30	30.0	67	<b>67.0</b>
-Safety practices	15	15.0	9	9.0	47	47.0	29	29.0
- Safety facilities	22	22.0	33	33.0	30	30.0	15	15.0
- Safety training	23	23.0	5	5.0	42	42.0	30	30.0
-Safety communication	0	0.0	20	20.0	48	48.0	32	32.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>23</b>	<b>23.0</b>	<b>77</b>	<b>77.0</b>

**Table 3:** Frequency and Percentage Distribution of Studied Nurses Perspectives regarding Safety hazards ((n=100).

Variables	No.	%
<b>No of errors occurred to patients per year</b>		
≤3	68	68.0
>3	32	32.0
<b>No of errors occurred to staff per year</b>		
≤3	73	73.0
>3	27	27.0
<b>Reporting all errors</b>		
<b>Yes</b>	88	88.0
<b>No</b>	12	12.0
<b>Reality of patient safety</b>		
Excellent	20	20.0
Good	71	71.0
Need improvement	9	9.0

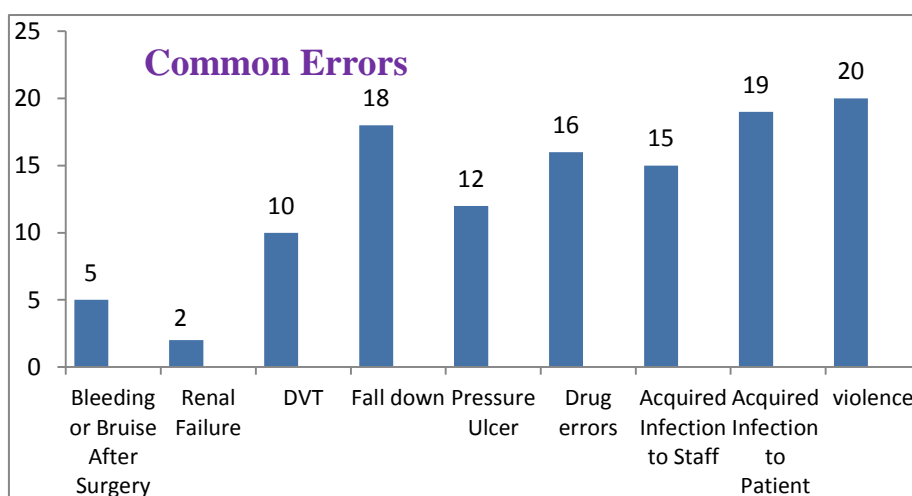


Figure 1: Percentage Distribution Nurses Report of Common Errors

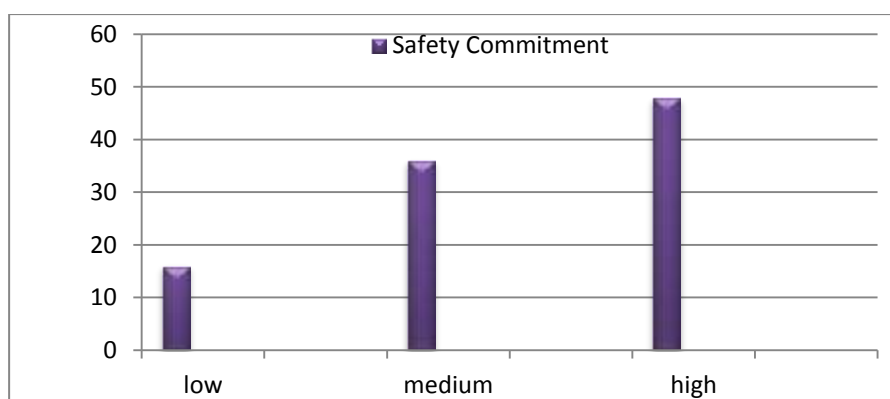
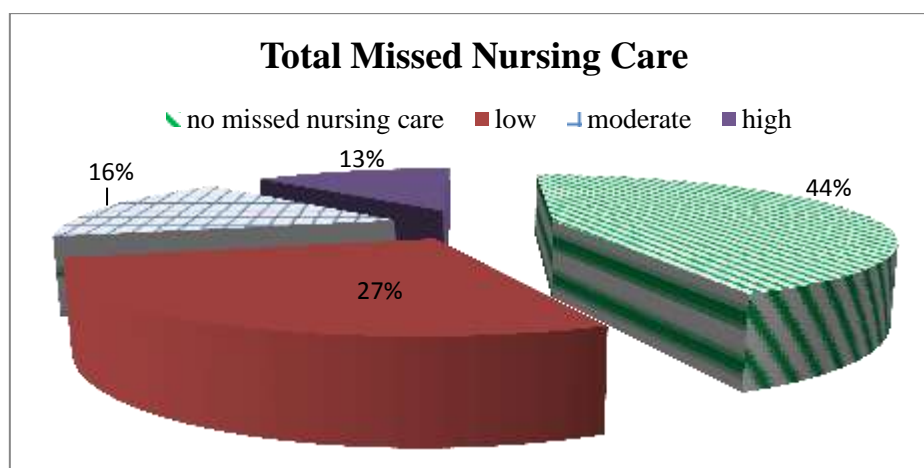


Figure 2: Percentage Distribution of Studied Nurses' Commitment to Patient Safety Measures

Table (4): Description of Positive Responses to Safety Attitudes Items among Studied Nurses (n=100).

Safety Attitudes Items	Positive responses (>70%)		Mean ± SD
	No	%	
Job satisfaction	81	81	20.70 ±1.6
Safety climate	72	72	16. ±0.92
Teamwork climate	69	69	21.87±2.34
Working condition	65	65	21.56±2.76
Preparation of management	73	73	18.32± 3.67
Stress recognition	53	53	17.56±0.45
<b>Total</b>	61	61	28.76±2.87



**Figure 3:** Percentage Distribution of Total Missed Nursing Care as Nurses reported.

**Table (5):** Relation between Studied nurses' Total Awareness and Demographic Characteristics (n=100).

Demographic Characteristics	Unsatisfactory (<75%) (n=23)		Satisfactory (>75%) (n=77)		χ <sup>2</sup>	P-value
	No	%	No	%		
<b>Scientific qualification</b>					FET	0.99
Nursing Institute	20	86.9	58	75.3		
Bachelor's degree	3	13.1	19	24.6		
<b>Years of experience</b>					10.50	0.001**
1-5	15	65.2	61	79.2		
6-10	5	21.7	16	20.8		
11-15	3	13.0	0	0.0		
<b>Working hours per week</b>					FET	0.001**
≤36 hours	17	73.9	17	22.1		
>36 hours	6	26.1	60	77.9		
<b>Opinions about patient safety</b>					7.860	0.020*
Very excellent	8	34.8	12	15.6		
Good	11	47.8	60	77.9		
Need improvement	4	17.4	5	6.5		

χ<sup>2</sup>: Chi square test, FET: Fisher exact test, \*: statistically significant (p<0.05), \*\*: statistically highly significant (p<0.001).

**Table (6):** Relation between Studied Nurses' Attitudes and Demographic Characteristics (n=100).

Items	Levels	Negative (≤70%) (n=39)		Positive (>70%) (n=61)		χ <sup>2</sup>	P-value
		No	%	No	%		
<b>Scientific qualification</b>	Institute	29	74.4	49	80.2	FET	0.519
	Bachelor's degree	10	25.6	12	19.8		
<b>Years of experience</b>	1-5	28	71.8	48	78.7	4.848	0.089
	6-10	8	20.5	13	21.3		
	11-15	3	7.7	0	0.0		
<b>Working hours per week</b>	≤36 hours	21	53.8	13	21.3	FET	0.001**
	>36 hours	18	46.2	48	78.7		
<b>Opinions about patient safety</b>	Very excellent	15	38.5	5	8.2	16.403	0.001**
	Good	19	48.7	52	85.2		
	Need improvement	5	12.8	4	6.6		

**Table (7):** Correlation Matrix between Studied Variables regarding to Patient Safety Measures

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
<b>Age</b>	1															
<b>Qualification</b>	r	-.085	1													
	p	.402														
<b>Experience\ year</b>	r	.629**	-.076	1												
	p	.000	.452													
<b>Working Hours</b>	r	-.185	.199*	-.007	1											
	p	.066	.047	.941												
<b>Training</b>	r	-.194	-.074	-.032	.148	1										
	p	.054	.466	.749	.141											
<b>Facilities</b>	r	-.040	.114	-.140	-.335**	-.041	1									
	p	.691	.258	.164	.001	.687										
<b>Safety Values &amp; Polices</b>	r	.053	.078	-.224	-.460**	-.010	.440**	1								
	p	.600	.440	.025	.000	.922	.000									
<b>Pt. identify</b>	r	.002	.155	-.254*	-.112	.066	-.044	.504**	1							
	p	.986	.124	.011	.268	.514	.667	.000								
<b>Preventive Measures</b>	r	-.046	.143	-.296**	-.253*	-.074	.144	.547**	.482**	1						
	p	.652	.156	.003	.011	.466	.154	.000	.000							
<b>Safety practices</b>	r	.091	.143	-.059	-.042	.025	-.267**	.214*	.803**	.400**	1					
	p	.367	.156	.559	.677	.808	.007	.033	.000	.000						
<b>Safety drugs</b>	r	.151	.158	-.006	-.013	-.022	-.225	.208	.738**	.302**	.663**	1				
	p	.133	.117	.953	.900	.826	.025	.038	.000	.002	.000					
<b>Safety environment</b>	r	-.020	.161	-.154	-.168	-.358**	.337**	.149	.233*	.201*	.322**	.089	1			
	p	.842	.109	.126	.094	.000	.001	.138	.020	.044	.001	.378				
<b>Missed Care</b>	r	.271**	.100	-.004	-.304**	-.160	.049	.324*	.306**	.574**	.489**	.250*	.279**	1		
	p	.006	.321	.970	.002	.111	.626	.001	.002	.000	.000	.012	.005			
<b>Commit.</b>	r	.196	.195	-.064	-.403**	-.136	.316**	.745**	.257**	.524**	.021	.074	.059	.198*	1	
	p	.051	.052	.526	.000	.176	.001	.000	.010	.000	.836	.466	.559	.048		
<b>Positive attitudes</b>	r	.135	.112	-.111	-.264**	-.102	.261**	.698**	.268**	.536**	.041	.211*	-.012	.152	.851**	1
	p	.180	.268	.270	.008	.312	.009	.000	.007	.000	.684	.035	.909	.132	.000	
<b>Sat. knowledge</b>	r	.306	.074	.129	-.459	-.216	.242	.477	.180	.221	.123	.318	.210	.317**	.291	.406
	p	.002	.466	.200	.000	.031	.015	.000	.073	.027	.224	.001	.036	.001	.003	.000

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