

## Nurses' Performance toward Quality Documentation for Patients in ICU: Suggested Guidelines

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### Abstract

**Background:** Nursing documentation is the recording, documenting or charting of nursing care that is planned or given to the patients in intensive care unit (ICU) by qualified nurses. It is any written or electronically generated information about a client that describes the care or service provided to that client. **The aims of this study were:** 1. Assessing nurses' performance toward quality documentation for patients in ICU. 2. Suggesting guidelines for quality documentation for patients in ICU. **Study design:** a descriptive study was used to achieve the aim of this study **Subject:** A convenient sample includes all registered nurses (50). **Setting:** This study was conducted in intensive care unit affiliated to Mansoura Emergency Hospital **Tools:** three tools were used for data collection; self-administered questionnaire, nurses' practice observational checklist and nurses' attitude likert scale. **Results and conclusion** the results of this study showed that, more than half of the studied nurses had got satisfactory level of knowledge, near three quarter of studied sample had got unsatisfactory level of practice, and more than three fifth had got negative attitude toward quality documentation for patients in ICU. **Recommendation** Training program including the suggested guidelines toward quality documentation for patients in ICU must be implemented for nurses based on their need assessment, and evaluate its effectiveness on their performance.

**Key words:** nursing performance, quality documentation, ICU, suggested guidelines

### Introduction

Documentation is promoting communication among health care providers and to promote good care. It informs other staff about the patient's health status and care provided. Moreover, documentation is used by the risk management department and quality assurance committees to evaluate patient care and to determine whether improvements should occur. Documentation also provides the database for planning future health care, and contributes to nursing education and knowledge base (Lillis, 2012).

Documentation is essential for nursing practice and it is an attempt to reflect the nursing process and to underpin the decision-making process. Systematic and purposeful documentation itself

produces evidence. Thus, as a result of nursing care documentation, valid and reliable evidence of caring is produced on a daily basis. It is not however, self-evident what kind of documentation and what documented items can be considered as proof or evidence (Erickson, 2011 and Karkkainen, 2011).

Nursing documentation is the recording, documenting or charting of nursing care that is planned or given to the patients in intensive care unit (ICU) by qualified nurses. It is any written or electronically generated information about a client that describes the care or service provided to that client. Health records might be paper documents or electronic documents, such as electronic medical records, faxes, e-mails, audio or video tapes and images (Perry & Potter, 2011).

Nursing documentation is a professional and legal responsibility of nurses. It serves for ensuring continuity of care through communication, evaluation of the quality, efficiency and effectiveness of patient care, and for providing evidence for legal, ethical, financial or quality-assurance purposes and research (Josef, 2011).

While the different methods of documentation systems might initially seem confusing, each of them is designed to achieve certain aims. Familiarity with a variety of systems allows nurses to adapt quickly when in different practice settings. These methods include; source oriented records, problem oriented records, Problem Intervention Evaluation (PIE) chart, Narrative chart, flow chart, focus charting, charting by exception and computerized documentation (Lynn, 2011).

Quality documentation is necessary to enhance efficient, safe, individualized patient care. Documentation systems must ensure the security and confidentiality of patients' information at all times. Quality documentation guidelines for patients' documents in ICU should fulfill the criteria of standardized charting which include: conciseness, accuracy, completeness, organization, confidentiality, legibility and timeline (Hall, 2011).

Nurse's notes should include the following: patient's identification and demographic data, admission data, assigned consent for treatment, health care provider's orders, medical history and physical examination, nurses, documentation of ongoing assessments, a plan of care, intervention, and evaluation, medication records, progress notes from health care providers such as physicians, advanced practice nurses, respiratory

#### Research question:

therapists and physical therapists, results of diagnostic and therapeutic tests, procedures, advance directives, as needed, and discharge plan (Hafernack, 2011).

The ICUs provide services for patients requiring specialized medical care for complex health conditions. These units offer a broad range of treatment types requiring nursing staff to provide high level care across multiple specialized fields. As such, nursing duties within these units are challenging and complex. Intensive care units have been indicated as high risk areas, where numerous errors may occur due to the complex nature of the environment (Boucher, Sargent, 2010).

At critical care environments, such as ICU and emergency departments, nursing deals with life-threatening problems that require continuous assessment and intense therapeutic measures and intervention. Failure to document any aspects of assessment and therapeutic procedures might threaten the continuity of care and patient safety. Therefore, nursing documentation is essential for ethical nursing practice and for protection of patients' rights (Inan & Dinc, 2013).

#### Aim of the study

This study aims to assess nurses' performance toward quality documentation for patients in ICU through:

1- Assessing nurses' performance toward quality documentation for patients in ICU.

2- Suggesting guidelines for quality documentation for patients in ICU.

This study is based on answering the following question:

1- What is the nurses' level of performance toward quality documentation for patients in ICU?

2- What are the suggested guidelines for quality nursing documentation for patients in ICU?

### **Subject and methodology**

#### **Research questions:**

**This study is based on answering the following questions:**

What is the nurses' level of performance toward quality documentation for patients in ICU?

What are the Suggested guidelines for quality documentation for patients in ICU?

#### **Operational definition**

##### **Nursing documentation: -**

It means written information about the care provided to the patients in ICU by assigned nurse in their documents namely nurses' notes charts

##### **Performance:-**

It means knowledge, practice and attitude of the nurses toward quality documentation for patients in ICU

##### **Quality documentation:-**

The degree to which patients' documents in ICU namely nurses' notes charts fulfill the quality guidelines including standardized charting criteria and quality documentation data related to nursing activities.

##### **ICU: -**

It is a designated area of a hospital facility that is dedicated to the care of patients who are seriously ill requiring immediate and continuous monitoring with special equipments and specially trained personnel.

#### **Suggested guidelines: -**

They are developed by the researcher after reviewing recent relevant literatures which cover standardized charting criteria and quality documentation data related to nursing activities that should be documented by assigned nurses caring for patients in ICU.

**This study was portrayed under the four main designs as the following:**

1. Technical design.
2. Operational design.
3. Administrative design.
4. Statistical design

##### **1) Technical design:**

The technical design includes setting, subjects and tools of data collection used in this study.

##### **Research Design:**

A descriptive study was used to achieve the aim of this study.

##### **Setting:**

This study was conducted in intensive care unit affiliated to Mansoura Emergency Hospital. The setting contained 24 beds. The selection of this setting resorted to increase number of patients admitted to ICU and increase number of nurses caring for patients in ICU as indicated from the statistical records mentioned in the significance of this study.

##### **Subjects:**

A convenient sample included all registered nurses (50) caring for patients in the previously mentioned setting and willing to participate in this study.

**Tools of data collection:**

Three tools were constructed by the investigator to collect data pertinent to this study, these tools are:

**I. Nurses' self-administered questionnaire:****I) Self-administered questionnaire:**

It was used to assess nurses' level of knowledge about quality documentation, it was developed by the researcher based on review of related literatures (Hall, 2017 and Duncan, 2014, NCLEX, 2011, Thede, 2010), and it included the following parts:-

**Part one:** demographic data of the nurses involved in study including; age, gender, level of education, years of experience and previous training courses.

**Part two:** nurses' knowledge toward quality documentation. It included 62 questions; (31) of them were M.C.Q & the other questions (31) true & false statements. The questions covered the following items; definition of nursing documentation, purposes of nursing documentation, methods of nursing documentation, component of patient's chart, standard charting criteria, quality documentation data related to nursing activities in ICU.

**Scoring system:**

Each correct answer was given one grade and zero for incorrect answer with total score of 62 grades, classified as the following:

$\geq 80\%$  ( $\geq 50$  grades) and above was considered satisfactory knowledge.

$>80\%$  ( $>50$  grades) are considered unsatisfactory knowledge.

**Part three:** Nurses' self-reporting practice questionnaire. It comprised the following items; accuracy, currency, other items including: confidentiality, conciseness, permanence, factuality, organization, and completeness, and signature

**Scoring system:**

The nurses self-reported their practice about documentation by using likert scale in which each answer was given score of 1-5 (5=always, 4=often, 3=sometimes, 2=rarely, 1=never). with total score of 42 grades, classified as the following:

$\geq 80\%$  ( $\geq 34$ grades) and above was considered satisfactory knowledge.

$>80\%$  ( $>34$ grades) are considered unsatisfactory knowledge

**II. Nurses' practice observational checklist (Appendix II):**

It was concerned with assessment of nurses' practice toward quality documentation and to analyze to what extent patient's document fulfills the guidelines that meet standardized charting criteria and quality documentation data related to nursing activities. It was developed by the investigator based on review of related literature (Jacob, 2014, Baumle, 2014, and AACN, 2013). It included two parts:

**Part 1: Nurses' practice toward standard charting criteria for patients in ICU:**

It comprised the following standard charting criteria items including; accuracy, currency, other items including; confidentiality, conciseness, permanence,

factuality, organization, and completeness, and signature.

#### Scoring system:

Each step that wasn't done or incorrectly done scored zero, while one grade was given for correctly done items with total score was (42) classified as the following:-

$\geq 80\%$  ( $\geq 34$ grades) was considered satisfactory practice.

$< 80\%$  ( $< 34$ grades) was considered unsatisfactory practice.

#### Part 2: Nurses' practice toward quality documentation data related to nursing activities for patients in ICU:

It will be used to observe the nurses' practice toward quality documentation data related to 13 nursing activities for patients in ICU including; assessment, intervention (hygienic measures, changing position, exercising, medication administration, nasogastric tube "insertion, feeding, and removal", indwelling urinary catheter "insertion, care, and removal", central venous catheter "insertion, care, central venous pressure measurement, and removal", intravenous catheter "insertion, care, and removal", chest tube "insertion, care, and removal", endotracheal tube "insertion, suctioning, care, and removal", mechanical ventilation "initiation, and weaning", and arterial puncture for blood gases analysis).

#### Scoring system:

Each step that wasn't done or incorrectly done scored zero, while one grade was given for correctly done items with total score was (231) classified as the following:-

$\geq 80\%$  ( $\geq 185$ grades) was considered satisfactory practice.

$< 80\%$  ( $< 185$ grades) was considered unsatisfactory practice.

#### III. Nurses' attitude Likert scale (Appendix III):

It was concerned with assessment of nurses' attitude toward quality nursing documentation for patients in ICU. It was developed by **Jasme** (2009) and translated into Arabic by the investigator. It consisted of (25) statements and answers were graded according to 5 likert scale (strongly agree, agree, neutral, disagree and strongly disagree).

#### Scoring system:

Scoring for each statements was as the following strongly disagree =0, disagree =1, neutral=2, agree=3 and strongly agree =4. For calculating the total score of this scale, it was taken into consideration that strongly or agree as positive attitude while strongly disagree, disagree or neutral as negative attitude. So the total score was classified as the following:

$\geq 80\%$  ( $\geq 20$  grades) was considered Positive attitude.

$< 80\%$  ( $< 20$  grades) was considered Negative attitude

#### Suggested guidelines for quality nursing documentation for patient in ICU:

The guidelines developed and translated into Arabic in a booklet developed by the investigator after reviewing recent relevant literatures (**Lockwood, 2014& Stockert, 2015&**

Ludwig, 2014& Duncan, 2014& Audrey, 2016& White, 2014& Livesay, 2016& Kawagoe, 2017& Santos, 2016& AACN, 2013& and Wiegand, 2016), which fulfill two components; standardized charting criteria and quality documentation data related to nursing activities that should be documented by assigned nurses caring for the patients in ICU in the relevant nurses' notes chart.

### **Operational design:**

The operational design includes preparatory phase, validity and reliability, pilot study and fieldwork.

### **Preparatory phase:**

It included reviewing of related literature, and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop tools for data collection. Permission for data collection and implementation of the study in Mansoura University Hospital ICU was obtained from the hospital administrative personals by the submission of a formal letter from the faculty of nursing, Ain Shams University. Meeting and discussions were held by the investigator and nurses to explain the aims, the nature and the objectives of the study.

### **Pilot study:**

A pilot study was carried out on 10% of nurses under study to test the applicability, clarity and efficiency of the tools. According to the results obtained from data analysis, minimal modifications were done so the nurses who included in the pilot study were included in the study subjects.

### **Tools validity and reliability:**

#### **Content validity:**

The tools were revised for content validity by a jury of seven experts in medical surgical nursing at faculty of nursing, ain shams university.

**Reliability** Cronbach's alpha test was developed to measure internal consistency of the 3 tools used in current study as follows;

□ Nurses' self-administered questionnaire is (0.883), nurses' attitude likert scale is (0.906), and nurses' practice observational checklist is (0.934).

#### **Field work**

□ An approval was obtained from Mansoura emergency hospital ICU directors and nursing staff.

□ Data collection started and was completed within 5 months from September 2018 to January 2019. The study sample was divided into 5 groups every group was consisting of 10 nurses. And every group was observed for 3 weeks.

□ The purpose of the study was simply explained to all nurses that were included and agreed to participate in the study prior to any data collection.

□ The selected setting was composed of 24 beds occupied almost all the time. The total number of the nurses in the ICU is 50 nurses divided to 26 nurses in the morning shift, 12 nurses in the afternoon shift, and 12 nurses in the night shift. So, the nurse: patient ratio is 1:1 in the morning shifts and 1:2 in the afternoon and night shifts.

□ For nurses' practice observational checklist, each nurse was observed three times while providing care to three different patients. So, a total of 150 patient's documents were observed and the mean scores were taken.

□ The selected setting was visited by the investigator three days per week in the morning and afternoon shift to observe each nurse

□ Nurses in the night shift was evaluated when they were shifted to the morning shift

□ The nurses' self-administered questionnaire was distributed by the investigator for all nurses included in the study. It took about 35 minutes to be fulfilled by each participant.

□ The nurses' attitude likert scale was distributed by the investigator for all nurses included in the study. It took about 15 minutes to be fulfilled by each participant.

#### **Administrative design:**

An official letter was sent from the faculty of nursing at Ain Shams University to the director of Mansura University Hospital ICU for permission to conduct this study.

#### **Ethical considerations:**

The research approval was obtained from the scientific ethical committee in faculty of nursing at Ain Shams University. The objective and aim of the study were clarified to the nurses included in the study by the investigator. The investigator assured maintaining anonymity and confidentiality of the subject data. And the nurses were informed about their rights to participate or withdraw from the study at any time.

#### **Statistical Design:**

#### **Data analysis:**

The collected data were organized, scored tabulated and analyzed using the

number and percentage, distribution. Statistics analyzed done by using the computer Statistical Package for Social Science (SPSS), version 21 and proper statistical tests were used to determine whether there significant difference or not. The following statistical analysis was used: number, percentage, mean, stander deviation, and proportion probability of error (P value).

Significance of results was described as follows:

Non-significant (NS)  $p > 0.05$

Significant (S)  $p \leq 0.05$

Highly significant (HS)  $p \leq 0.001$ .

#### **Results**

Table (1): Demonstrates that 70% of the nurses under study their age ranged between (30-<40) and 66% of them were females. 74 % of studied nurses were holding bachelor degree and 62% of them their general years of experience ranged between (1-<5) years. Also, 64% of nurses under study didn't attend training courses regarding quality documentation in ICU. Regarding presence of manual regarding quality documentation in ICU, no one (0%) of the studied nurses exhibited presence of manual regarding quality documentation in ICU

#### **Nurses' knowledge level about quality documentation for patients in ICU**

Figure (1): Shows that 78%, 77.5%, and 76% respectively of the studied nurses had got satisfactory level of knowledge toward overview about quality nursing documentation, quality documentation data related to nursing activities for patients in ICU, and self-reported practice toward standard charting criteria. While 24%, 22.5%, and 22% of them had got unsatisfactory level of knowledge toward previous mentioned items respectively.

Figure (2): Illustrates that 59.6% of the studied nurses had got satisfactory level of total knowledge toward quality documentation for patients in ICU. While, 40.4% of the studied nurses had got unsatisfactory level of knowledge.

Figure (3): Illustrates that 23%, and 67.5% respectively of the studied nurses had got satisfactory level of practice toward standard charting criteria items related to quality documentation for patients in ICU, and quality documentation data related to nursing activities for patients in ICU. While 77%, and 67.5% respectively of them had got unsatisfactory level of practice.

Figure (4): Illustrates that 29.8% of the studied nurses had got satisfactory level of practice toward quality documentation for patients in ICU. While, 70.2% of the studied nurses had got unsatisfactory level of total practice.

Figure (5): Demonstrates that 96.1% of the studied nurses had got negative attitude toward quality documentation for patient in ICU. While, 3.9% of the studied nurses had got positive attitude.

**Table (2):** Demonstrates that, there was statistically significant correlation between nurses' total level of observed practice and their total level of attitude ( $P \leq 0.05$ ). But, there was no statistically significant correlation between nurses' knowledge and attitude ( $p > 0.05$ ). Also, there was statistically insignificant correlation between nurses' observed practice and self-reported practice ( $p > 0.05$ ).

## Discussion

Nursing documentation is recognized globally as the core of nursing activities and one of the duties underscoring professional autonomy of a nurse. Improved documentation reflects improved practice. Good quality documentation improves quality of patient

care. Nurses are expected to ensure that their documentation practices meet high standards and should be a reflection of the care provided. Poor standards of documentation have been linked to adverse patient outcomes. Use of scientific models improves the structure of documentation (*Suzan, 2015*).

Regarding demographic characteristics, this study revealed that about more than two thirds of the studied nurses were at the age group (30>40 years). This might be due to nature of ICUs as area of specialty required young qualified nurses for better quality of nursing care provided and good ability to tolerate the work load. This result agreed with *El Fegi, (2013)*, who conducted a study titled "Assessment of nurses' performance caring for patients connected with oxygen therapy" and stated that more than half of nurses' ages in intensive care unit (ICU) were less than forty years old.

The present study showed that, about more than half of the nurses were females. It could be due to nursing schools that graduate large number of females than males. This finding is in the same line with *Blake, et al., (2013)*, who conducted a study titled "evaluation of registered nurses' knowledge and practice of documentation at Jamaican hospital" and found that the most of the nurses were females. But it is inconsistent with *Mohammed, (2016)*, who conducted a study about "Nursing Guidelines and Its Effects on Nurses' Knowledge and Patient Safety Regarding Nosocomial Infection Control Measures in Burn Unit" and found that more than half of their studied nurses were males.

Concerning qualifications, the present study indicated that, about more than two thirds of the studied nurses had got bachelor degree. It may be related to the need for highly qualified nurses to be able to deal with the patients with life threatening illness. This study finding was supported by with *Eskander, (2013)*, who

conducted a study titled "Intensive Care Nurses' Knowledge and Practices regarding Infection Control Standard Precautions at a Selected Egyptian Cancer Hospital" and found that; most of nurses had bachelor degree. But it is in contrast with **Borsato, (2011)**, who conducted a study titled "Assessment of quality of nursing documentation in University Hospital" and found that, most of the nurses were diploma nurses.

Concerning years of experience, the present study revealed that, about more than half of the studied nurses had less than 5 years of experience in ICU. This could be explained that the more experienced nurses perform administrative work. This study finding is supported by the findings of **Akbari, (2014)** that conducted a study titled "A survey on nursing process barriers from nurses' view in ICU" and found that, majority of nurses had less than 5 years of experience. Also this finding was in contrast with **Chapman, (2014)** who conducted a study titled "Assessment of nurses' performance regarding medication administration for patients in ICU" and found that majority of the studied nurses had experience more than 10 years.

Regarding attendance of training courses about quality documentation in ICU, the present study found that more than half of the studied nurses didn't attend training program regarding quality documentation in ICU. This may due to lack of in-service educational program inside the hospitals regarding this topic. This recent study finding was supported by **Ahmed, (2018)** who conducted a study titled "Nurses' Performance Regarding Patients' Safety after Cardiac Catheterization " and found that the majority of the studied nurses didn't attend any training program regarding patients' safety after cardiac Catheterization.

Regarding nurses' total knowledge level toward nursing documentation for patients in ICU, the current study revealed that more than half of nurses under study

had got satisfactory level. This might be related to high level of qualification of the nurses under study as more than two thirds of them had got bachelor degree. This finding agrees with **Yaseen and Ramadan, (2014)** who conducted a study entitled "Assessment of Nurses' knowledge about Nursing Documentation in ICU " and found that majority of the studied nurses had average level of knowledge about nursing documentation in ICU.

Concerning total nurses' knowledge level toward documentation data related to nursing activities for patients in ICU, this study revealed that more than two thirds of nurses under study had satisfactory level. This study agrees with **Hagag, (2018)** who conducted a study entitled " Nursing Procedures in University Hospital" and found that the majority of nurses got average level of knowledge regarding documentation of nursing procedures.

The above results were in contrast with **Hajir, Gerilyn, and Daisery, (2015)** who conducted a study entitled "Correlational Study on Nursing Process Self-Efficacy and personal attributes of Libyan nurses in ICU " and founded that the majority of the studied nurses had got low level of knowledge about documentation of nursing procedures.

But in the same line, **Sheikhpourkhani, (2013)** conducted a study entitled " Relationship between nurses' Knowledge and practice regarding principals of nursing documentation among nurses affiliated to Kerman Medical University Hospital" and reported that the majority of nurses had moderate knowledge about nursing documentation.

Concerning self -reported practice, more than half of the studied nurses reported satisfactory level of practice regarding quality of nursing documentation. This result agrees with **Lakdzaji, (2012)** who conducted a study entitled "Survey of Knowledge, and Practice of nurses towards nursing

documentation" and found that majority of the nurses reported their own performance as good.

As regards to nurses' attitude toward quality documentation for patients in ICU, the recent study revealed that, the majority of the studied nurses had got negative attitude towards nursing documentation in ICU. This might be due to increased work load in ICU and their feeling that documentation consumes their time, and more than half of them didn't attend any training about nursing documentation.

This study agrees with *Darmer, Ankersen, Geissler, and Landberger, (2014)* who conducted a study titled "The effect of a VIPS implementation program on nurses' knowledge and attitudes towards documentation" and found that the majority of nurses got low attitude towards nursing documentation. Meanwhile, this result was in contrast with (*Jasme, 2009*) who conducted a study titled "The quality of nursing documents in Tabriz medical surgical wards in educational hospitals in Tabriz Medical Sciences University" and found that the majority of nurses got positive attitude towards nursing documentation.

Regarding nurses' total observed practice level toward nursing documentation for patients in ICU, the recent study revealed that more than two thirds of the studied nurses got unsatisfactory level. This might be due to increased patients flow rate and increased work load leading to negligence of overall documentation practice in the ICU than other units. This result was in the same line with *Zakaria, (2011)* in the study titled "The effect of Communication program on the Performance of nursing in Surgical units at El-Mansoura University Hospital" and reported that most of the nurses got inadequate performance related to documentation.

Concerning nurses' observed practice toward standardized charting

criteria, the present study depicted that more than half of the studied nurses got unsatisfactory level. This might be due to absence of seniors' supervision on the documentation practice. This study in contrast with *Felix, (2011)* who conducted study entitled "Documentation practices of nurses in long-term care" and found that majority of nurses got high practice regarding quality documentation. But the study is agrees with *Billings & Rhyland, (2010)* who conducted study entitled "Evaluating the introduction of primary nursing: The use of a care plan audit" and found that the majority of nurses had bad practice regarding quality documentation.

As regard to nurses' practice toward quality documentation data related to nursing activities for patients in ICU, the recent study revealed that more three quarters of the studied nurses got unsatisfactory level. This might be due to their perception that the nursing documentation consumes the time that affect on the needed care for critical ill patients in ICU. This agrees with (*El Guindy, 2008*) in the study entitled "Developing Standard of Nursing Care for Nurses Working in the ICU" and reported that most of nurses had got bad practice regarding nursing procedures.

Regarding correlation between nurses' knowledge, practice, and attitude, the present study revealed that there was significant statistical correlation between nurses' attitude and observed practice. This was explained that the poor attitude affects the nurses' performance leading to unsatisfactory practice. (*Andualem, 2018*) supported that when reported that the attitude of nurses had significant association with nursing care documentation practice.

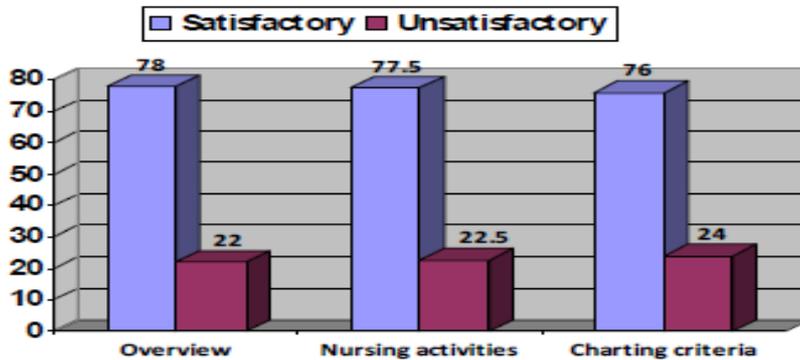
This result was in the same line with *Zytone, (2009)* who conducted a study titled "Effect of Training Program on Nurses Knowledge and Performance Related to Nursing Care of Post-Operative Open Heart Patients in ICU at Zagazig

University Hospital" and found that a statistical positive correlation was established between nurses' attitude and practice. But, it disagrees with *Khalf, (2017)* in the study titled" Factors affecting

nurses' performance for patients with acute respiratory failure on Mechanical Ventilator" who found that there was no statistically correlation between nurses' practice, and their attitude.

**Table (1): Percentage distribution of the studied nurses according to their demographic characteristics (n=50)**

Percentage %	No	Socio Demographic Data
<b>Age (years)</b>	<b>50</b>	
14%	7	20- < 30
70%	35	30- <40
16%	8	40-<50
0	0	>50
<b>Mean <math>\square</math> SD 32.00 <math>\square</math> 8.31</b>		
<b>Gender</b>		
34%	17	Male
66%	33	Female
<b>Qualification level</b>		
20%	10	Diploma
74%	37	Bachelor degree
6.0%	3	Post graduate
<b>years of experience</b>		
62%	31	1- <5 years.
22%	11	5- $\leq$ 10years.
16%	8	$\geq$ 10 years
<b>Attendance of training courses regarding quality documentation in ICU</b>		
36%	18	Yes



**Figure (1): Level of the studied nurses' knowledge ABOUT quality nursing documentation for patients in ICU.**

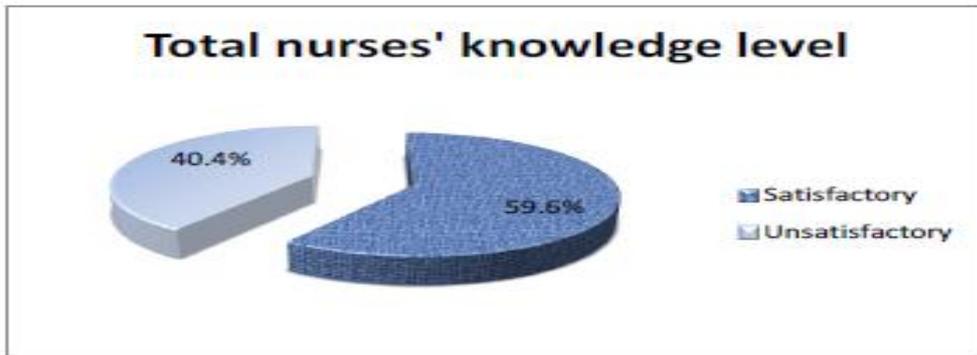


Figure (2): Total level of the studied nurses' knowledge level about quality documentation for patients in ICU:

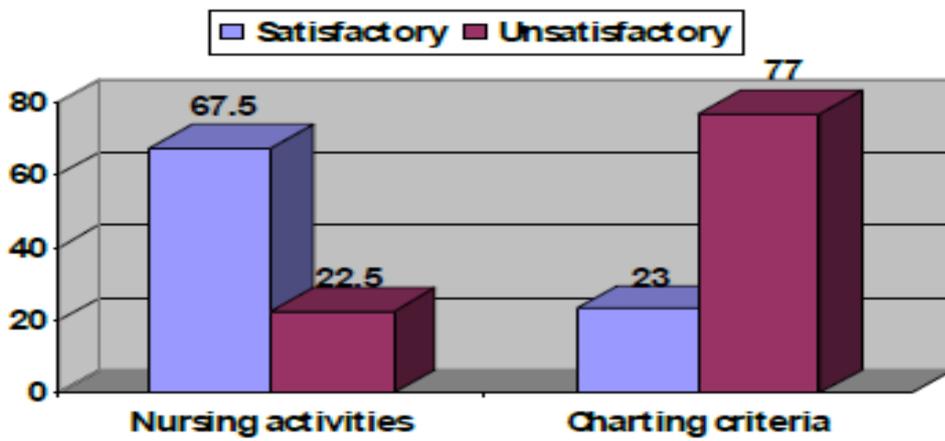


Figure (3): The studied nurses' practice toward quality nursing documentation for patients in ICU(n=50)



Figure (4): Total level of the studied nurses' practice level toward quality documentation for patients in ICU(n=50):

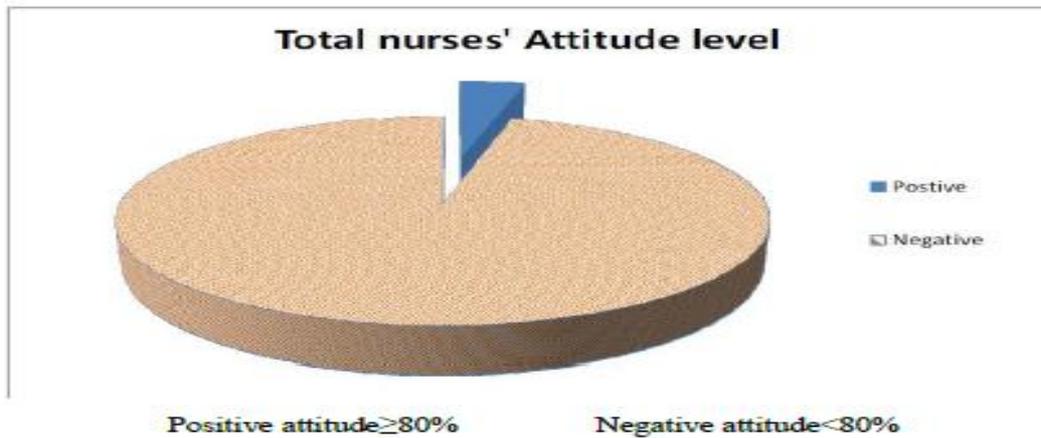


Figure (5): Percentage distribution of the studied nurses' according to their attitude toward quality documentation for patients in ICU (n=50)

Table (2): Correlation between total level of nurses' knowledge, practice, and attitude toward quality documentation for patients in ICU (n=57)

<b>Knowledge</b>	R 0.13	Observed practice	p-value 0.3 NS
<b>Self-reported practice</b>	R -0.11	Observed practice	p-value 0.39 NS
<b>Attitude</b>	R 0.29	Observed practice	p-value 0.02* S
<b>Attitude</b>	R 0.22	Knowledge	p-value 0.09 NS

NS:  $p > 0.05$  S\*:  $p \leq 0.05$  HS\*\*:  $p \leq 0.001$

**Conclusion**

Based on the findings of the current study, it can be concluded that: more than half of the studied nurses had got satisfactory level of knowledge regarding quality nursing documentation for the patients in ICU. Meanwhile, more than two thirds and majority of them had got

unsatisfactory level of practice and negative attitude toward quality nursing documentation for the patients in ICU. Based on the study results, the researcher suggested guidelines for quality nursing documentation for the patients in ICU.

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**Conflict of interest**

No

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