

# The Relationship between Nursing Knowledge about Documentation Skills and Retrospective Audit of Patient's Records

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**Abstract:** Documentation plays a vital role in the appropriate planning of nursing care services, the accurate recording of daily events, and the satisfaction and well-being of patients. Accurate, timely, thorough and concise documentation can be the deciding factor for whether a patient lives or dies. **Aim:** The study aimed to explore the relationship between nursing knowledge about documentation skills and retrospective audit of patient's records. **Design:** A descriptive correlational research design was used in this study. **Setting:** The study was conducted at Badr University Hospital. **Subject:** convenience sample (80) of nursing personnel. **Data collection:** Two tools were used in this study as 1st tool: Self-administered Questionnaire that consisted of two parts, part 1: Personal Characteristics data, part 2: Self administered sheet for nurses' knowledge about documentation skills. 2nd tool: Retrospective audit sheet of patient's records. **Results:** The majority of them had satisfactory level of nursing personnels' knowledge regarding total documentation dimensions and gained higher percentage of excellent level of performance for them. **Conclusion:** There was a highly statistically significant positive correlation between knowledge and performance regarding documentation skills among nursing personnel. **Recommendations:** This study recommended conduct in service training to increase nursing personnel awareness about documentation skills.

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**Keywords:** Auditing Retrospective, Documentation skills, & Nursing Knowledge.

## Introduction

Documentation plays a vital role in the appropriate planning of nursing care services, the accurate recording of daily events, and the satisfaction and well-being of patients (Ahmed & Rafiq, 2022). Accurate documentation is one of the best defenses for legal claims associated with nursing care. To limit nursing liability, documentation must clearly indicate that individualized, goal directed nursing care was provided to a patient based on a nursing assessment. Although, nursing care may have been excellent, in a court of law ,care not documented is care not provided (Gaber et al., 2019 and Søvik et al., 2021).

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. Additionally, it helps to organize the nursing care chain, smoothen decision making about patient care and safety, ensure professional accountability, and provide regulatory and observatory standards that facilitate evidence-based processes (Fouad et al., 2021 and Youssef et al., 2021). Nursing audit is a method of evaluating nursing practice by reviewing records that document the care provided to patients (Ahmed et al., 2020)

Nursing documentation is all written or electronically generated information about a patient that describes the care given to that patient and provides a precise account of what happened and when it happened (Tasew, et al. 2019). Documentation skill is one of the important activities in nursing that reflects the details of the nurse-patient interaction which a health record contains information that may be kept on paper or electronically, including audio or video files, faxes, e-mails, and electronic medical records. Although, Errors in documentation can lead to errors in patient care, increased length of hospitalization, and mortality due to medical error (Ghorbanian, 2022 and Bradshaw & Charlotte, 2023).

Clinical nursing documentation is essential in letting nurses continuously reflect on their choice of interventions for patients and the effects of their interventions (De Groot et al., 2022). Documentation is reported to take up to 50% of nurses' time per shift and serves several important functions, including promoting communication among health care providers and to promote good care. Also, documentation informs other staff about the patient's health status and care provided for continuity of care. Additionally, improve patient safety, research and quality assurance. Furthermore, nurses use documentation to communicate all interactions with patients, including interventions, evaluations, and treatment outcomes (Mosaad et al., 2020).

Finally, documentation is an important function of professional nursing practice. Furthermore, retrospective audit helps to examine what happened after the episode of care has been completed which are often more easily managed as the audit team can plan a time to sit down and collect data from case notes or other sources (Kaveri, 2020). Also, training nurses to improve knowledge, skills and documentation practices has been a widely used strategy (Youssef & Mohamed, 2021). Measuring nursing documentation using an audit instrument in combination with interventions improve nursing documentation. It must unequivocally state that tailored, goal-directed nursing care was given to a patient based on a nursing assessment to reduce nursing responsibility (Mosaad et al., 2020).

### Significance of the Study

The researcher observed that, weakness of nursing personnels' documentation in timing, dating, uses incorrect abbreviation, and incomplete document changes of patient's condition. Thus, this study was necessary to explore the relationship between nursing personnels' knowledge about documentation skills and retrospective audit of patient's records.

According to a survey done by WHO it has been shown that poor communication between health care professionals is one factor for medical errors (Tola, 2019). The actual time spent by nurses on documentation varies internationally. According to Canada nurses spend about 26% of their time on documentation, in Great Britain 17% and in the USA percentages vary from 25% to as much as 41%.

In the Netherlands, nursing staff reported spending an average of 10.5 hours a week on documentation, which means they spend about 40% of their time on documentation (De Groot et al., 2022).

Ineffective documentation considered as always an existing problems issues that required attention. Patient medical record is a legal document and in case of law suit, it's the record that serves as the description of exactly what happened to the patient if it is not document in patient record it didn't occur (Andualem et al., 2019). Nursing documentation is considered an important responsibility of nursing to ensure the continuity of effective patient care and improve patients' outcomes (Akhu-Zaheya et al., 2020).

### **Aim of the study**

The study aimed to explore the relationship nursing knowledge about documentation skills and retrospective audit of patient's records through the following objectives:

- 1- Assess nursing knowledge regarding documentation skills.
- 2- Determine nursing performance through auditing retrospective of patient's records.
- 3- Find out the relationship between nursing knowledge about documentation skills and retrospective audit of patient's records.

### **Research Question**

- 1- Is there a relationship between nursing knowledge about documentation skills and retrospective audit of patient's records?

### **Subjects and Method**

#### **Research design**

A descriptive correlational design was utilized to conduct this study.

#### **Study Setting**

The study was conducted at Badr University Hospital. It consisted of one building of two floors, the first floor consisting of optical binocular unit for the upper and lower gastrointestinal tract and respiratory binocular Emergency department and 2nd floor consists of operational department with bed capacity of 100 beds.

**Study Subjects:** The study subject included all the available nursing personnel (n= 80) in Badr University Hospital who was presented at the time of data collection

**Type of sampling :** Convenience sample was used to select the study subject.

#### **Tools of data collection**

**Two tools were used to collect necessary data:**

**1<sup>st</sup>tool: Self-administered Questionnaire sheet:** This tool was modified by the researcher based on the review of literatures (Saad, 2019 and Gabber et al., 2019) and consisted of two parts:

**Part 1: Personal Characteristics data:**

This part includes personal characteristics data as (gender, age, qualification in nursing education, job title, years of work experience, attending training program about documentation, daily working hours, time work and department).

**Part 2: Self administrated sheet for nurses' knowledge about documentation skills:**

This part used to assess nurses' knowledge about nursing documentation. It composed of seven main dimensions as demonstrated into the following: Communication (4 questions) ; Accuracy (7 questions) ; Consistency (3 questions) ; Signature (2 questions) ; Timing (4 questions) ; Confidentiality (2 questions) and Conciseness (3 questions)

**Scoring system:** This tool consisted of 25 questions with a total grade (25). One grade was given for each correct answer, zero grade given for incorrect answer.

- **Satisfied knowledge assessment level: > 60%**
- **Unsatisfied Knowledge assessment level: ≤ 60%**

**2<sup>nd</sup> tool: Retrospective audit sheet of patient's records:**

It consisted of two parts:

**Part 1: This part was intended to collect data regarding nursing personnel.** It contains the following items: code number and unit.

**Part 2: Retrospective audit checklist of patient's records:**

It was modified by the researcher after reviewing related literature (**Gabber et al., 2019 ; Mosaad et al., 2020 and Perry et al., 2021** ).This tool was used to assess performance of nursing personnel regarding documentation. It filled by the researcher. It was intended to collect data about the nursing personnel's documentation performance retrospective review checklist was contain (11) dimensions involved 77 items representing documentation skills.It consists of eight dimensions as the following: Accuracy (16 items);Timing(6 items); Signature (6 items); (Confidentiality, Conciseness & Permanence) (5items); Vital signs chart (4 items); Medication Chart (8items); Nurses'notes sheet (7items); Incident report form (6items); Handover SBAR tool (3items); Nursing admission form (11items) and Nursing care plan (5 items) **Scoring system:** This tool consisted of 77 items with a total grade (154). Two grade was given for each correct complete answer, one grade for correct incomplete and answer zero grade given for incorrect answer.

- **Poor level < 60% → (0-92)**
- **Good level ≥ 60 to <75 → (93-115)**
- **Excellent level ≥ 75% → (116-154)**

### **Validity**

Validity of the tools was done namely face validity and content validity. The tools were translated into Arabic and tested by a group of five experts specialized in nursing administration from different four universities; Helwan University (one professor); Ain Shams University (one professor); Cairo university (one professor); Bani- suief (one professor) and BUE (one professor) through an opinionative sheet to measure validity of the tools and the necessary modifications were done accordingly.

### **Reliability of the tools**

Reliability for the utilized tools was tested to determine the extent to which the items of the tools are inter-correlated to each other. The Cronbach's alpha model is one of the most popular reliability statistics in use today and considered as a model of internal consistency that used to estimate of reliability of test scores. Reliability of knowledge questionnaire regarding documentation by Cronbach's alpha was (0.820). While Reliability of Retrospective audit checklist of patient's records by Cronbach's alpha test was (0.981).

### **Ethical considerations**

The research approval was obtained from Faculty of Nursing ethical committee of Helwan University before starting the study, an approval was obtained from the director of Badr University Hospital. Participants in the study (nursing personnel) were informed about the purpose and process of the study and that the study is harmless and their participation is voluntary and they have the right to withdrawal from the study at any time without reason. They also were assured that, anonymity and confidentiality will be guaranteed, as well as gathered data will be used for the research purpose only. Ethics, values, culture and believes was respected.

### **Pilot study**

The pilot study was carried out on (10%) of the total sample size (8 nursing personnel) to test applicability and clarity of tools and time needed to complete it. Total time needed to complete both tools was ranged between (35:55) minutes. No modifications were done so participants in the pilot study were included in the study sample.

### **Field Work**

The purpose of the study was simply explained to the participants who agree to participate in the study prior to any data collection. Field work started actually at the beginning of March 2022 to the end of November 2022 lasted for nine months. After securing the official approval from the hospital for conducting the study, the researcher met the nursing director of the hospital to determine the suitable time for data collection.

The researcher attended the hospital two days per week, collected data by researcher through interviewing nursing personnel and was presented at all time during fulfilling the questionnaire forms to answer any questions. Also the researcher checked the completeness of each filled sheet to ensure

the absence of any missing data. Assessment of patients' records started from beginning of March 2022 to end of April 2022 (2 months).

### Statistical design

Data entry and analysis were performed using SPSS statistical package version 25. Categorical variables were expressed as number and percentage while continuous variables were expressed as (mean ±SD). Chi-Square (x<sup>2</sup>) was used to test the association between row and column variable of qualitative data. Pearson correlation was done to measure correlation between quantitative variables.

For all tests, p-value ≤ 0.05 was considered statistically significant, P-value ≤ 0.01 was considered highly statistically significant. While p-value > 0.05 was considered not significant.

### Results

**Table (1): Personal characteristics of the studied nursing personnel (n=80)**

Personal characteristics		No.	%
▪ Age (year)	▪ ≤25 years old	55	68.8
	▪ >25≤35 years old	18	22.4
	▪ >35<45 years old	7	8.8
	▪ <b>Mean± SD</b>	<b>26.82 ± 6.54</b>	
▪ Gender	▪ Male	37	46.3
	▪ Female	43	53.7
	▪ <b>Male to female ratio</b>	<b>0.9:1</b>	
▪ Qualifications in nursing education	▪ Bachelor	17	21.2
	▪ Technical nursing institute	52	65.0
	▪ Diploma nurse	11	13.8
Personal characteristics		No.	%
▪ Job title	▪ Staff nurse	68	85.0
	▪ Charge nurse	7	8.8
	▪ Head nurse	3	3.8
	▪ Nursing supervisor	1	1.2
	▪ Director	1	1.2

<ul style="list-style-type: none"> <li>Department</li> </ul>	<ul style="list-style-type: none"> <li>In- patient</li> </ul>	20	25.0
	<ul style="list-style-type: none"> <li>ICU</li> </ul>	23	28.7
	<ul style="list-style-type: none"> <li>ER</li> </ul>	35	43.8
	<ul style="list-style-type: none"> <li>Nursing office</li> </ul>	2	2.5
<ul style="list-style-type: none"> <li>Attending training program about documentation</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>	33	41.2
	<ul style="list-style-type: none"> <li>No</li> </ul>	47	58.8
<ul style="list-style-type: none"> <li>Years of work experience in hospital</li> </ul>	<ul style="list-style-type: none"> <li>≤ 1</li> </ul>	36	45.0
	<ul style="list-style-type: none"> <li>&lt; 1 ≤ 3</li> </ul>	27	33.8
	<ul style="list-style-type: none"> <li>&gt; 3 &lt; 5</li> </ul>	17	21.2
	<ul style="list-style-type: none"> <li><b>Mean± SD</b></li> </ul>	<b>1.97 ± 1.14</b>	
<ul style="list-style-type: none"> <li>Daily working hours</li> </ul>	<ul style="list-style-type: none"> <li>≤ 8 hours</li> </ul>	30	37.5
	<ul style="list-style-type: none"> <li>&lt;8 ≤12</li> </ul>	37	46.3
	<ul style="list-style-type: none"> <li>&lt;12 hours</li> </ul>	13	16.2
	<ul style="list-style-type: none"> <li><b>Mean± SD</b></li> </ul>	<b>12.45 ± 5.43</b>	
<ul style="list-style-type: none"> <li>Time work</li> </ul>	<ul style="list-style-type: none"> <li>Full time</li> </ul>	80	100.0

**Table (1):** shows the personal characteristics of studied nursing personnel, more than two thirds (68.8%) had equal to less than 25 years old, while the minority (8.8%) of them had more than 35 years to less than 45 years old, with a mean age of (26.82 ± 6.54). Pertaining to gender, more than half (53.7%) of them were females with a male to female ratio is 0.9:1. Regarding qualification in nursing education, about two thirds (65%) of them graduated of Technical Nursing Institute while, only (13.8%) of them had Diploma degree. According to their job title, the majority (85%) of them were staff nurses, while, only (1.2%) of them were nursing supervisors, also (1.2%) of them were nursing director. As regards departments, more than two fifth (43.8%) of them from emergency (ER), while, only (2.5%) of them from nursing office. As concerning, attended training course. More than half (58.8%) of them no previous attending training program about documentation.

As regards years of work experience among the studied nursing personnel, less than half (45%) of them had an experience lasting for less than or equal to one year and less than half (46.3%) of them had daily working hours from more than eight hours to less than twelve hours with a mean of (1.97 ± 1.14 and 12.45 ± 5.43) respectively. Moreover, the majority of them (80%) had full time according to time work.

**Table (2): Mean scores and Standard Deviation of nursing personnels' knowledge regarding documentation Subscales among the Studied Nursing personnel (n=80)**

Subscales	Number of items	Mean ± SD
Accuracy	7	3.17 ± 1.32
Communication	4	1.99 + 0.987
Timing	4	1.40 ± 0.686
Consistency	3	1.31 ± 0.851
Conciseness	3	1.31 ± 0.894
Confidentiality	2	0.74 ±0.725
Signature	2	0.65 ± 0.638
<b>Total documentation knowledge</b>	<b>25</b>	<b>17.11±5.61</b>

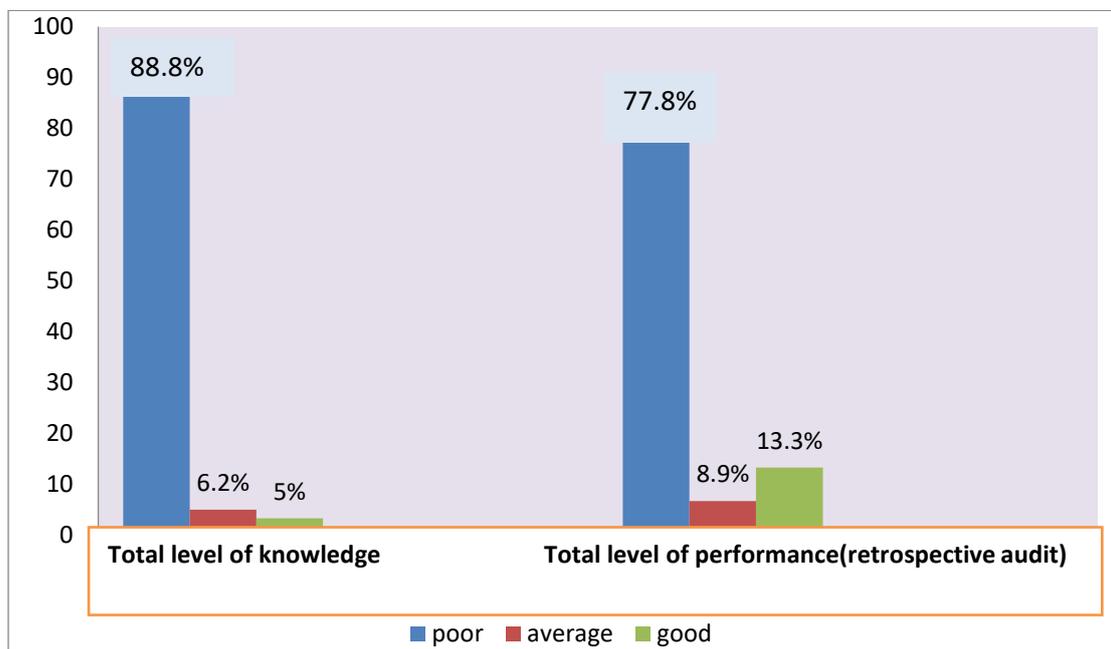
**Table (2):** reveals mean scores and standard deviation of nursing personnels' knowledge regarding documentation subscales among the studied nursing personnel, it denotes that nursing personnels' knowledge regarding documentation subscales were scaled from the highest to lowest mean value as following: Accuracy, Communication, Timing, Consistency, Conciseness , Confidentiality and Signature with means and standard deviations (3.17 ± 1.32, 1.99 + 0.987, 1.40 ± 0.686, 1.31 ± 0.851, 1.31 ± 0.894, 0.74 ±0.725, and 0.65 ± 0.638 respectively).

**Table (3): Mean scores and standard deviation of nursing personnels' performance (retrospective audit) regarding documentation among the studied nursing personnel (n=80)**

Subscales	Number of items	Mean± SD
Accuracy	16	14.40 ± 10.3
Documentation in medication chart	8	7.40 ± 6.10
Timing	6	5.69 ± 4.13
Signature	6	5.64 ± 4.27
Incident report form	6	5.60 ± 3.48
Nursing admission form	11	5.42 ± 8.76
Nurses' notes sheet	7	5.38 ± 4.40
Confidentiality and Conciseness	5	5.16 ± 3.52
Documentation in vital sign chart	4	4.09 ± 2.98
Nursing care plan sheet	5	2.67 ± 2.94
Handover SBAR tool	3	2.27 ± 2.17
<b>Total performance (retrospective audit)</b>	<b>77</b>	<b>115.5± 49.9</b>

**Table (3):** indicates means and standard deviation of nursing personnels' performance (auditing retrospective) regarding documentation among the studied nursing personnel, it denotes that nursing personnel's performance subscales were scaled from the highest to lowest mean value as following: Accuracy, Documentation in medication chart, Timing, Signature, Incident report form, Nursing admission form, Nurses' notes sheet, Confidentiality and Conciseness, Documentation in vital sign chart ,Nursing care plan sheet and Handover SBAR tool with means and standard deviations ( $14.40 \pm 10.3$ ,  $7.40 \pm 6.10$ ,  $5.69 \pm 4.13$ ,  $5.64 \pm 4.27$ ,  $5.60 \pm 3.48$ ,  $5.42 \pm 8.76$ ,  $5.38 \pm 4.40$ ,  $5.16 \pm 3.52$ ,  $4.09 \pm 2.98$ ,  $2.67 \pm 2.94$  and  $2.27 \pm 2.17$  respectively).

**Figure (1): Percentage distribution of nursing Knowledge and performance regarding documentation among nursing personnel (n=80)**



**Figure (1):** shows that most of the studied nursing personnel (88.8%) had poor knowledge regarding documentation, and only 6.2% of them demonstrate average knowledge management. While most of the studied nursing personnel (77.8 %) had poor performance and 13.3% of them had good performance.

**Table (4): Relation between cumulative level of knowledge regarding documentation and personal characteristics among the studied nursing personnel (n=80)**

Personal characteristics		Cumulative knowledge	Test	P-Value
		$\bar{x} \pm SD$		
Age (year)	▪ $\leq 25$ years old	$49.31 \pm 5.57$	F Test = 18.6	0.000**
	▪ $>25 < 35$ years old	$54.39 \pm 0.91$		
	▪ $>35 < 45$ years old	$59.43 \pm 3.30$		



<b>Gender</b>	▪ Male	47.78 ± 6.25	<b>T Test =</b> 6.24	0.007**
	▪ Female	54.40 ± 2.80		

Personal characteristics		Cumulative knowledge	Test	P-Value
		$\bar{x} \pm SD$		
Qualification	▪ Bachelor	56.82 ± 3.06	F Test 66.6=	0.000**
	▪ Technical institute	51.69 ± 1.38		
	▪ Diploma nurse	41.18 ± 8.41		
Department	▪ In- patient	52.0 ± 5.65	F Test = 2.68	0.052*
	▪ ICU	52.2 ± 2.58		
	▪ ER	49.8 ± 6.79		
	▪ Nursing office	60.0 ± 5.65		
Years of experience	▪ ≤ 1	47.67 ± 6.30	F Test = 26.25	0.000**
	▪ > 1 ≤ 3	52.78 ± 0.751		
	▪ ≥ 3 < 5	56.82 ± 3.06		

\*Highly significant  $p < 0.01$

**Table (4):** reveals that, there was a highly statistically significant relation between personal characteristics data (age, gender, qualification, working department & years of experience) and nursing personnels' knowledge, at  $P = 0.000$ .

**Table (5):** Relation between cumulative nursing personnel performance regarding documentation through auditing retrospective of patients' records and personal characteristics among the studied nursing personnel (n=45)

Personal characteristics		cumulative audit	Test	P-Value
		$\bar{x} \pm SD$		
Age (year)	▪ ≤25 years old	318.83 ± 92.9	F Test = 5.43	0.008**
	▪ >25<35 years old	390.78 ± 44.32		
	▪ ≥35<45 years old	419.17 ± 51.88		
Gender	▪ Male	304.04 ± 93.51	T Test = 3.70	0.001**
	▪ Female	391.09 ± 59.44		
Qualification	▪ Bachelor	405.0 ± 51.10	F Test = 7.95	0.001**
	▪ Technical institute	35.72 ± 77.89		
	▪ Diploma nurse	255.13 ± 97.80		

Personal characteristics		cumulative audit $\bar{x} \pm SD$	Test	P-Value
Department	▪ In- patient	335.75 ± 103.4	F Test = 0.957	0.422
	▪ ICU	364.20 ± 65.34		
	▪ ER	331.94 ± 97.24		
	▪ Nursing office	462.0 ± 0.0		
Years of experience	▪ ≤ 1	304.0 ± 93.5	F Test = <b>6.96</b>	0.002**
	▪ > 1 < 3	383.14 ± 64.14		
	▪ ≥ 3 < 5	405.0 ± 51.10		

Statistically Significant  $p \leq 0.05$  \*\* Statistically Highly significant  $p \leq 0.01$  F: ANOVA Test T Test: Independent T test

**Table (5):** indicates that, there was a highly statistically significant relation between personal characteristics (age, gender, qualification & years of experience) and cumulative staff nurses' performance regarding documentation, at  $P \leq 0.01$ .

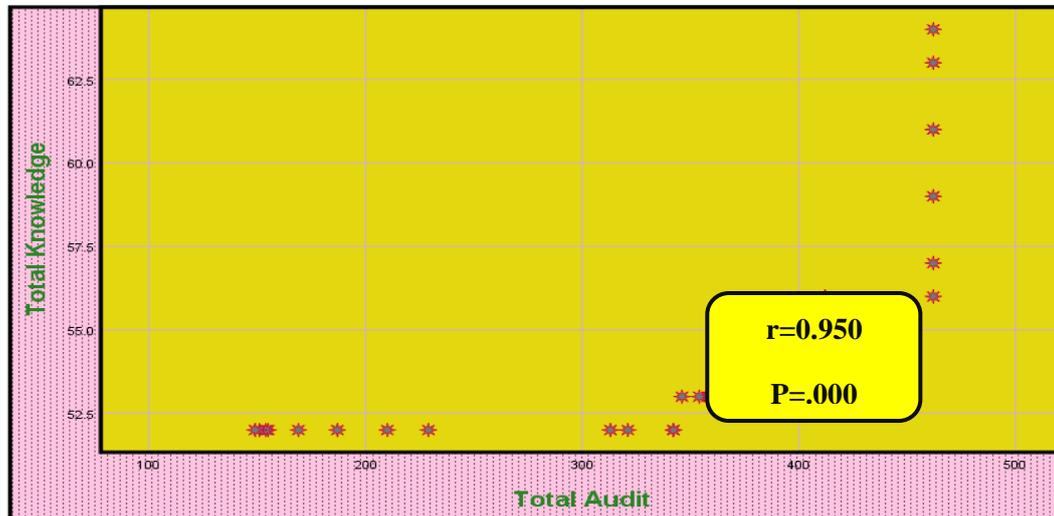
**Table (6):** Correlation matrix between cumulative knowledge among the studied nursing personnel and nursing personnel performance regarding documentation auditing retrospective of patients' records

Items		Cumulative	
		Total Knowledge regarding documentation	Total documentation performance (Auditing retrospective)
Total knowledge regarding documentation	R		0.686
	p-value		0.000**
Total documentation performance (auditing retrospective)	R	0.686	
	p-value	0.000**	

Statistically Significant  $p \leq 0.05$  \*\*Highly Statistically Significant  $p \leq 0.01$  r-Pearson Correlation Coefficient.

Table (6). Illustrates that there was a high statistically significant positive correlation between cumulative knowledge among the studied nursing personnel and total nursing personnels' performance regarding documentation through auditing retrospective of patients' records at ( $r= 0.686$  &  $P= 0.000$ ).

**Figure (2): Scatter dot correlation between correlation matrix between cumulative nursing personnel's knowledge and total nursing personnel's performance regarding documentation through auditing retrospective of patient's records)**



**Figure (2):** represents that, there was a high statistically significant positive correlation between cumulative total knowledge among the studied nursing personnel and total nursing personnel' performance regarding documentation through auditing retrospective of patients' records at ( $r= 0.686$  &  $P= 0.000$ ).

### Discussion

Regarding personal data of the studied subjects, the study results showed that more than two thirds had equal to less than 25 years old. From the researcher point of view this may be due to study sample including about two third of them new graduated from Technical Nursing Institute which hiring new in the hospital. Pertaining to gender, more than half of them were females. This may be due to nursing profession still receive females more than males despite of increasing flow of males to the profession.

As regards qualification in nursing education, about two third of them graduated of Technical Nursing Institute while, only of them had Diploma degree. According to their job title, the majority of them were staff nurses. As regards years of work experience among the studied nursing personnel, less than half of them had an experience lasting for less than or equal to one year. The present study indicated that there were high statistical significances differences between studied nursing personnel at pre, post and follow up intervention related to the knowledge and audit scores ( $p<0.001$ ).

The current study results were supported by **Saker et al.(2020)** who studied "Training as a Means for Improving Staff Nurses' Documentation Skills" they revealed that, there is a highly statistically significant improvement in nursing personnels' knowledge and performance as regard documentation skills at immediately post-program and follow up intervention when compared with pre-program intervention. This result contrast with the results of **Youssef & Mohamed (2021)** who studied "Impact of Documentation Practice Training Program for Nurses: On The Job versus Off The Job" and stated that, about a third of the study sample aged from 25 to less than 35- year-old, about two-third of them married and have diploma of nursing school, slightly less than half of them their experience from 15 to less than 25 years, and also,



agree with the study results which founded that the majority of them were females, most of them reported no previous training program attended to documentation .

So, that reflects improvement nursing personnels' knowledge of documentation skills and their performance after training program intervention. This result disagrees with the results of **Tasew et al. (2020)** who studied "Nursing documentation practice and associated factors among nurses in public hospitals" and revealed that despite its non-significant an association, knowledge has shown association with documentation practice in other studies. These inconsistencies might be related to socio-demographic variability of the study participants or difference in familiarity to the documentation guideline.

Regarding nursing personnels' Performance levels of documentation throughout intervention phases present study findings stated that majority of nursing personnel had low total performance level. The current study result was matched with **Moldskred et al., (2021)** who studied "Improving the quality of nursing documentation at a residential care home: a clinical audit" and stated that the findings showed a significant score increase in nursing documentation directly after the intervention.

The current study result was congruent with **Azzolini et al., (2019)** who studied "Quality improvement of medical records through internal auditing: a comparative analysis " and showed that the documentation of nursing increased in quality, as compared with the audit .Also, these supported by **Bail et al., (2021)** who found a satisfactory improvement level in medical and surgical departments, as well as in special units after the implementation of the self-learning package, compared to pre-intervention period. On the same line, **Leoni Scheiber et al., (2019)** who studied "Documenting patient risk and nursing interventions: record audit" and mentioned that intervention has demonstrated positive results in improving knowledge and attitudes to documentation and nursing process. This finding was consistent with the finding of **Saker et al., (2021)** who studied "Training as a Means for Improving Staff Nurses' Documentation Skills" and indicated that, limitations in nursing personnels' knowledge, skill level, and understanding important of documentation is reasons noted to explain incomplete and deficient documentation for skilled nurses. Nurses are the solution to address this problem, but they require training and development in clinical documentation to comply with the documentation guidelines.

The result of the current study revealed that, knowledge scores had a high statistically positive correlation with their audit scores. The current study was supported by **Youssef & Mohamed (2021)**. Who studied "Impact of Documentation Practice Training Program for Nurses: On The Job versus Off The Job " and stated that there was a statistically significant high positive correlation with their audit scores of the nursing personnels' documentation immediately after training program.

The Additionally, The current study result was in disagreement with **Youssef & Mohamed (2021)** stated that knowledge scores had statistically significant weak negative correlations with their experience years. This result may be due to nursing personnel with low experiences didn't have abilities to evaluate and determine responsible for accurate documentation and they must protect the patient from adverse events. These findings are in agreement with the study

conducted by **Huber, (2019)** Who studied "Leadership and nursing care management" and reported that when making decisions nurses know that they are responsible for accurate documentation and that they must protect the patient from adverse events; however, they must also protect themselves by showing fully what actions they took in response to a change in the patient's status.

Finally, the documentation should be saved for an appropriate length of time and should be concise and clear; complete, accurate, and up-to-date documentation which will protect a nurse in a court of law. Correct documentation may encourage a nurse to establish continuity between the diagnosis, intervention, progress, and evaluation of the outcome.

## Conclusion

In the light of the current study results; concluded that the majority of nursing personnel have a low level of knowledge regarding documentation skills and also low nursing personnels' performance level through retrospective auditing of patient's records. Moreover, there was a highly statistically significant positive correlation between knowledge among the studied nursing personnel and total nursing personnels' performance regarding documentation through auditing retrospective of patients' records.

## Recommendations

Based on the previous findings, the following recommendations suggested:

1. Conduct in service training to increase nursing personnel awareness about documentation skills.
2. Conduct an orientation program for all newly nursing personnel
3. Continuous training programs or sessions must emphasize on all aspects of nursing documentation.
4. Periodic audit of nursing documentation should be done, with constructive feedback to nurses on their performance in the documentation

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