

# Nursing Interventions in the Clinical Settings and Implications of the Documentations

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**Abstract**—This study investigated the implications of documentation of nursing interventions in the clinical settings. Documented nursing actions for 264 clients in the medical, surgical and maternity units of six health care facilities were obtained for the study using purposive and simple random sampling techniques. One research question and four null hypotheses guided the study. Checklist on nursing documentations in the clinical setting was used for data collection. Descriptive statistics of frequency, means and standard deviation (SD) were used to summarize the variables. Pearson Product moment correlation was used to answer the research question, while analyses of variance (ANOVA) was used to test the null hypotheses at 0.05 level of significance. The result showed that the core principles of nursing documentation significantly apply to all nursing documentations. In addition, significant differences existed across the units of the health care institutions with regard to the legal implications and the impacts of nursing documentation on quality assurance and science of nursing.

**Keywords**—Nursing interventions, Nursing documentations, Implications, Clinical settings.

## I. INTRODUCTION

Tools are needed to support the continuous and efficient shared understanding of a patient's care history that simultaneously aids sound intra and inter-disciplinary communication and decision-making about the patient's future care[1]. Such tools are vital to ensure that continuity, safety and quality of care endure across the multiple handovers made by the many clinicians involved in patient care. Generally, tools are implements held in the hands, which in the healthcare setting refer to documentation. Documentation is anything written or electronically generated that describes the status of a client or the care or services given to that client[2]. Nursing documentation refers to written or electronically generated client information obtained through the nursing process[3]. Nursing documentation is a vital component of safe, ethical and effective nursing practice regardless of the context of practice or whether the documentation is paper based or electronic, it is an integral part of nursing practice

and professional patient care rather than something that takes away from patient care, and it is not optional. Nursing documentation must provide an accurate and honest account of what and when events occurred, as well as identify who provided the care[2]. The documentation should be factual, accurate, complete, current (timely), organized and compliant with standards (Professional and Institutional). These core principles of nursing documentation apply to every type of documentation in every practice setting[2].

Documentation in nursing covers a wide variety of issues, topics and systems[4][5][6][7]. Such areas of coverage include all aspects of nursing process, plan of care, admission, transfer, transport, discharge information, client education, risk taking behaviours, incident reports, medication administration, verbal orders, telephone orders, collaboration with other health care professionals, date and time of any event as well as signature and designation of the recorder.

The primary purpose of documentation is to facilitate information flow that supports the continuity, quality and safety of care. Researchers[2] noted that data from documentation allow for communications and continuity of care, quality improvement/ assurance and risk management, establish professional accountability, make provision for legal coverage, funding and resource management, and also expand the science of nursing. Studies have also shown that clear, complete and accurate health records serve many purposes for the clients, families, registered nurses and other health care providers[2]. Documentation is the professional responsibility of all health care practitioners, and it provides written evidence of the practitioner's accountability to the client, the institution, the profession and the society[8].

Literature has revealed that the tensions surrounding nursing documentation include the amount of time spent in documenting, the number of errors in the records, the need for legal accountability, the desire to make nursing work visible, and the necessity of making nursing notes understandable to the other disciplines[9][10][11][12]. This study therefore intends to

investigate the implications of documentations of nursing of interventions in the clinical settings.

#### Research Question:

- What is the relationship between documented nursing actions and the core principles of nursing documentation?

#### Hypotheses:

- Preciseness of documented nursing actions differ significantly across the Medical, Surgical and Maternity units of Health care institutions.
- The legal implications of documented nursing actions differ significantly across the medical, surgical and Maternity units of Health care institutions.
- The impact of documented nursing actions on quality assurance does not significantly differ across the medical, surgical and maternity units of Health care institutions.
- There is no significant difference across the medical, surgical, and maternity units of Health care institutions with regard to the impact of documented nursing actions on Nursing Science.

## II. MATERIALS AND METHODS

### Design and Sampling:

The study was a retrospective research design. Judgmental sampling technique was adopted in selecting one teaching Hospital and one specialist Hospital (tertiary Health Institutions) in Anambra State of Nigeria. Simple random sampling was used to select two General Hospitals (secondary Health institutions) and two comprehensive Health centres (Primary Health Institutions) out of the 24 General Hospitals and 10 comprehensive Health Centres in Anambra State. This was to give all the primary and secondary health institutions equal chance of being selected for the study[13].

Nursing documentations on Clients were obtained from three units (medical, surgical and maternity units) of each of the selected institutions. Other units (e.g. Emergency unit, Out-patient Department, and other special units) were excluded in the study. Documented nursing actions for 96 clients were obtained from the selected tertiary health institutions, 72 were obtained from the secondary health institutions and 96 from the primary health institutions. On the whole, nursing documentations for 264 clients were used for the study. Ethical approvals were obtained from the six institutions used for the study. Informed consent was also obtained from the clients whose records were used. Confidentiality was ensured by not including the names of the health institutions in the data collection. Alphabetical Codes were used to represent the selected

health Institutions while numerical codes were used for the patients whose records were obtained for the study.

### Instrument:

The instrument used for data collection in the study was checklist titled Checklist on Nursing Documentation in the clinical setting (CNDCS). Section A of the instrument provided general information of the health institution (eg level of the health institution, clinical specialty, form of documentation, client clinical diagnosis, demonstration of accountability). Section B of the instrument was made up of eight sub-sections designed to measure documented nursing actions (eg admissions, transfers, discharges, plan of care, client education, medication, incident reports, vital signs, etc), extent of ensuring core principles in the documentation (eg whether factual, accurate, complete, timely, organized and compliant with standards), ensuring promotion of interdisciplinary communication (eg name(s) of the people involved in the collaboration, date and time of the contact, information provided to or by healthcare provider, responses from healthcare provider, etc), timeliness of the documentation (eg how timely, chronological and frequency), preciseness of the documentation (eg objectivity, unbiased, legibility, clear and concise, etc), legal implications (eg use of authorized abbreviations, informed consent, advanced directive, etc), impact on quality assurance/ improvement (eg facilitates quality improvement initiative, facilitates risk management, and used to evaluate appropriateness of care), and impact on the science of nursing (eg provides data for nursing/health research, used to assess nursing intervention and client outcomes, etc). The instrument was designed in a 4 – point scale ranging from 1 to 4 with poor/many omissions having 1 point, 2 points for fair/incomplete with few omissions, 3 points for good/almost complete, and 4 points for very good/complete.

The instrument was subjected to reliability test by collecting data from nursing documentations for 15 patients from three levels of health institutions (primary, secondary and tertiary) in another State of Nigeria that was not used for the study. The instrument test/ retest reliability was 0.65.

### Data Analysis:

Standard descriptive statistics of frequency, means and standard deviation were used to summarize the variables. Mean score, standard deviation and Pearson product moment correlation (r) were used to answer the research question while Analysis of variance (ANOVA) was adopted in testing the null hypotheses at 0.05 level of significance. SPSS version 21 was used in the data analysis.

### III. RESULTS

Table.1: General Information of the Health Institutions used for the study.

Variable	Frequency	Percentage
Level of Health Institution:		
Primary	96	36.4
Secondary	72	27.3
Tertiary	96	36.4
Clinical Specialty:		
Medical unit	97	36.7
Surgical unit	63	23.9
Maternity unit	104	39.4
Form of Documentation:		
Written documentation	262	99.2
Electronic documentation	2	0.8
Client Diagnoses:		
Obstetric condition	105	39.8
Medical condition	93	35.2
Surgical condition	61	23.1
Sepsis/Infection	5	1.9
Demonstration of Accountability:		
Primary provider	247	93.6
Secondary provider	15	5.7
Third party provider	2	0.8

Total N = 264

Table 1 shows the general information of the health institutions used for the study. Primary Health Centre constituted 36.4% of the Health institutions, 27.3% constituted secondary level while tertiary health institution constituted 36.4%. The clinical specialties of the health institutions that were used for the study were medical unit 36.7%, surgical unit 23.9% and maternity unit which formed 39.4%. Out of the forms of nursing documentations, 99.2% was written documentation while

electronic documentation formed 0.8%; 39.8% was obstetric conditions, medical conditions 35.2%, surgical conditions 23.1% while documented infective conditions constituted 1.9%. For demonstration of accountability in the documented nursing actions, 93.6% was done by primary providers, 5.7% by secondary providers while third party providers accounted for 0.8% of the documentations. Total number of each variable was 264.

Table.2: Descriptive Statistics of the Measured Variables.

Variables	N	Minimum	Maximum	Mean	SD
Nursing Action Documentation	264	23.00	76.00	54.6402	9.86811
Core principles of Documentation	264	11.00	24.00	19.2462	2.38101
Promotion of interdisciplinary communication	264	9.00	36.00	30.8485	5.61433
Timeliness of Documentation	264	6.00	12.00	9.5568	1.32703
Preciseness of Documentation	264	18.00	40.00	31.9470	3.30299
Legal implication	264	11.00	24.00	19.6439	2.47153
Impact on quality assurance	264	4.00	12.00	9.6250	1.63129
Impact on Nursing science	264	4.00	16.00	13.7462	2.43860
Valid N (Listwise)	264				

Table 2 shows the descriptive statistics of the measured variables. Out of the 264 documented nursing actions, the mean was 54.6402 and the standard deviation (SD) was 9.86811. Mean for the core principles of the

documentation 19.2462 with SD of 2.38101. For promotion of interdisciplinary communication, the mean was 30.8485 with SD of 5.61433. Timeliness of documentation had a mean of 9.5568 with SD of 1.32703.

Mean for preciseness of the documentation was 31.9470 with SD of 3.30299. For legal implications, the mean was 19.6439 with SD of 2.47153. Impact of the

documentation on quality assurance had a mean of 9.6250 with SD of 1.63129, while impact on Nursing Science had a mean of 13.7462 with SD of 2.43860.

Table.3: Relationship between nursing action documentation and the core principles of the documentation

Variables	N	$\bar{X}$	SD	r	Critical value	Level of significance
Nursing action documentation	264	54.6402	9.86811	** 0.670	0.000	0.01
Core principles of documentation	264	19.2462	2.38101			

\*\* Correlation was significant at 0.01 level (2 – tailed).

In table 3,r correlational value between nursing documentation and the core principles of documentation was 0.670. It was significant at 0.01 level.

Table.4:ANOVA showing comparison of nursing action documentations in the medical, surgical and maternity units with regard to preciseness, legal implication and impacts of the documentations on quality assurance and nursing science.

Variable	Units in the Health Intuition	N	$\bar{X}$	SD	Source	Sum of squares	df	Mean squares	F-cal	F-crit (Sig)
Preciseness of Documentation	Medical	97	31.0412	3.65410	Between Group	142.763	2	71.382	6.833	0.000
	Surgical	63	32.0635	2.97773						
	Maternity	104	32.7212	2.94762	Within Group	2726.495	261	10.446		
	Total	264	31.9470	3.30299		2869.258	263			
Legal Implication	Medical	97	18.7835	2.95179	Between Groups	117.798	2	58.899	10.326	0.000
	Surgical	63	20.3492	2.54101						
	Maternity	104	20.0192	1.56404	Within Groups	1488.733	261	5.704		
	Total	264	19.6439	2.47153		1606.530	263			
Impact on Quality Assurance	Medical	97	9.0722	1.61534	Between Groups	53.893	2	26.946	10.887	0.000
	Surgical	63	9.6825	1.64440						
	Maternity	104	10.1058	1.48728	Within Groups	645.982	261	2.475		
	Total	264	9.6250	1.63129		699.875	263			
Impact on Nursing Science	Medical	97	13.1649	2.67192	Between Groups	52.083	2	26.042	4.496	0.012
	Surgical	63	14.0317	2.36212						
	Maternity	104	14.1154	2.16013	Within Groups	1511.913	261	5.793		
	Total	264	13.7462	2.43860		1563.996	263			

Probability: 0.05 level of significance

Table 4shows that across the medical, surgical and maternity units of health institutions, the calculated F-

ratios were 6.833 for preciseness of documentation, 10.326 for legal implications of nursing documentation, 10.887

and 4.496 for the impacts of documentations on quality assurance and nursing science respectively. These results were more than the critical values. Hence the null hypotheses are rejected. Scheffe Post-Hoc[14] tests of

multiple comparison of means were used to determine the order of significant differences across the medical, surgical and maternity units of the Health Institutions.

Table.5: Scheffe Post-Hoc test of multiple comparison of the means of preciseness, legal implications, impacts of nursing documentations on quality assurance and nursing science across the units of Health institutions.

Dependent variable	(I) Units in Health Institution	(J) Units in Health Institution	Mean Difference (I – J)	Standard Error	Sig (F – Crit)
Preciseness of Documentation	Medical	Surgical Maternity	-1.02225 -1.67992*	0.52298 0.45622	0.052 0.000
	Surgical	Medical Maternity	1.02225 -0.65766	0.52298 0.51600	0.052 0.204
	Maternity	Medical Surgical	1.67992* 0.65766	0.45622 0.51600	0.000 0.204
Legal Implication	Medical	Surgical Maternity	-1.56570* -1.23573*	0.38645 0.33712	0.000 0.000
	Surgical	Medical Maternity	1.56570* 0.32998*	0.38645 0.38129	0.000 0.388
	Maternity	Medical Surgical	1.23573* -0.32998	0.33712 0.38129	0.000 0.388
Impact on Quality Assurance	Medical	Surgical Maternity	-0.61037* -1.03360*	0.25456 0.22207	0.017 0.000
	Surgical	Medical Maternity	0.61037* -0.42323	0.25456 0.25117	0.017 0.093
	Maternity	Medical Surgical	1.03360* 0.42323	0.22207 0.25117	0.000 0.093
Impact on Nursing Science	Medical	Surgical Maternity	-0.86680* -0.95044	0.38945 0.33973	0.027 0.006
	Surgical	Medical Maternity	0.86680* -0.08364	0.38945 0.38425	0.027 0.828
	Maternity	Medical Surgical	0.95044* 0.08364	0.33973 0.38425	0.006 0.828

Key: \*The mean difference is significant at 0.05 level

In table 5, for preciseness of nursing document, the mean difference of 1.02225 between medical and surgical units was in favour of surgical unit, mean difference of 1.67992 between medical and maternity units was in favour of maternity unit, for legal implications, the mean difference of 1.56570 between medical and surgical units was in favour of surgical unit, while the mean difference of 1.23573 between medical and maternity units was in favour of maternity unit. For the impact on quality assurance, the mean difference of 0.61037 between medical and surgical units was in favour of surgical unit, and the mean difference of 1.03360 between medical and maternity units was in favour of maternity unit. For the impact on nursing science, mean differences of 0.86680 and 0.95044 were all in favour of surgical and maternity

units respectively against medical unit. These mean differences were significant at 0.05 level.

#### IV. DISCUSSION

Findings from the study indicate significant correlation ( $r=0.670$ ) between nursing documentation and the core principles of documentation (table 3). Nursing documentation must include the components of the core principles to ensure completeness of the documentation. Studies have indicated increased completeness of documentation particularly in the proportion of discharge planning notes[15]. Studies have shown that completeness of a record may have an impact on the quality of care, but only if it reflects completeness of the right content[16][17]. The significant differences observed across the medical, surgical and maternity units of the

health care institutions with respect to preciseness, legal implications and impacts on quality assurance and nursing science (tables 4 and 5) is in the line with other studies. It has been observed that documentation requirement differ depending on the setting within the facility (eg emergency room, peri-operative, medical-surgical unit) and with specific client population (e.g obstetric, paediatrics, geriatrics), and that nursing notes must be logical, focused and relevant to care[18].

## V. CONCLUSION

The study indicate that the core principles of nursing documentation should apply to documentation in every nursing practice, and that significant differences exist across the units of health care institutions with regard to preciseness of nursing documentation, the legal implications and impacts of the documentation on quality assurance and nursing science.

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