Nursing Interventions in the Clinical Settings and Implications of the Documentations

Edith N. Chiejina

Department of Nursing Science, Faculty of Health Sciences and Technology, Nnamdi Azikiwe University, Nnewi Campus, Nigeria.

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 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 (e.g. 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 (e.g. admissions, transfers, discharges, plan of care, client education, medication, incident reports, vital signs, etc), extent of ensuring core principles in the documentation (e.g. whether factual, accurate, complete, timely, organized and compliant with standards), ensuring promotion of interdisciplinary communication (e.g. 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 (e.g. how timely, chronological and frequency), preciseness of the documentation (e.g. objectivity, unbiased, legibility, clear and concise, etc), legal implications (e.g. use of authorized abbreviations, informed consent, advanced directive, etc), impact on quality assurance/improvement (e.g. facilitates quality improvement initiative, facilitates risk management, and used to evaluate appropriateness of care), and impact on the science of nursing (e.g. provides data for nursing/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  | X    | SD     | r     | Critical value | Level of significance |
|-----------------------------------|----|------|--------|-------|----------------|-----------------------|
| Nursing documentation             | 264| 54.6402 | 9.86811 | **   | 0.000         | 0.01                  |
| Core principles of documentation  | 264| 19.2462 | 2.38101 |      |               |                       |

**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  | 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 | Between Group | 117.798 | 2 | 58.899       | 10.326 | 0.000       |
|                                   | 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 | Between Groups | 1488.733 | 261 | 5.704       |               |             |
|                                   | Maternity                    | 104| 20.0192 | 1.56404 | Within Group | 1606.530 | 263 |              |               |             |
|                                   | 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 | Between Groups | 645.982 | 261 | 2.475       |               |             |
|                                   | Maternity                    | 104| 10.1058 | 1.48728 | Within Groups | 699.875 | 263 |              |               |             |
|                                   | 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 | Between Groups | 1511.913 | 261 | 5.793       |               |             |
|                                   | Maternity                    | 104| 14.1154 | 2.16013 | Within Groups | 1563.996 | 263 |              |               |             |
|                                   | Total                        | 264| 13.7462 | 2.43860 |        | 1563.996      | 263 |              |               |             |

Probability: 0.05 level of significance

Table 4 shows 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 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 | (1) Units in Health Institution | (J) Units in Health Institution | Mean Difference (1 – J) | Standard Error | Sig (F – Crit) |
|--------------------|---------------------------------|---------------------------------|-------------------------|----------------|---------------|
| Preciseness of Documentation | Medical | Surgical Maternity | -1.02225 | 0.52298 | 0.45622 | 0.052 | 0.000 |
| | Surgical | Medical Maternity | 1.02225 | 0.52298 | 0.51600 | 0.052 | 0.204 |
| | Maternity | Medical Surgical | 1.67992* | 0.45622 | 0.51600 | 0.000 | 0.204 |
| Legal Implication | Medical | Surgical Maternity | -1.56570* | 0.38645 | 0.33712 | 0.000 | 0.000 |
| | Surgical | Medical Maternity | 1.56570* | 0.38645 | 0.38129 | 0.000 | 0.388 |
| | Maternity | Medical Surgical | 1.23573* | 0.33712 | 0.38129 | 0.000 | 0.388 |
| Impact on Quality Assurance | Medical | Surgical Maternity | -0.61037* | 0.25456 | 0.22207 | 0.017 | 0.000 |
| | Surgical | Medical Maternity | 0.61037* | 0.25456 | 0.25117 | 0.017 | 0.093 |
| | Maternity | Medical Surgical | 1.03360* | 0.22207 | 0.25117 | 0.000 | 0.093 |
| Impact on Nursing Science | Medical | Surgical Maternity | -0.86680* | 0.38945 | 0.33973 | 0.027 | 0.006 |
| | Surgical | Medical Maternity | 0.86680* | 0.38945 | 0.38425 | 0.027 | 0.828 |
| | Maternity | Medical Surgical | 0.95044* | 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 means deference 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 Institutions.
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.

REFERENCES
[1] Joint Commission on the Accreditation of Healthcare Organisations. (2005). Hospital accreditation Standards, Oakbrook Terrace II: Joint Commission Resources.
[2] Potter PA, Perry AG. (2010). Canadian Fundamentals of nursing. Toronto, ON: Elsevier Canada.
[3] Association of Registered Nurses of Newfoundland and Labrador (ARNNL). (2010). Documentation Standards for registered nurses. St. John’s NL: Author.
[4] Yocum R. (2002). Documenting for quality patient care. Nursing. 32,8, 58 – 63.
[5] Huffman M. (2004). Redefine care delivery and documentation. Nursing Management, 35(2), 34 – 38.
[6] Lindsay PM, Kelloway L, McConnel H. (2005). Research to practice nursing Stroke assessment guideline link to clinical performance indicators. AXON, 26 (4) 22-27.
[7] Johnson K, Hallsey D, Meredith RL, et al. (2006). A nurse-driven system for improving patient quality outcomes. Journal of Nursing Care Quality, 21, (2), 168 – 175.
[8] DeLaune SC, Ladner PK. (2002). Fundamentals of Nursing: Standards & Practice (2nd ed.). New York: Delmar Thomson Learning.
[9] Sprague A, Trepanier MJ. (1999). Charting in record time. AWHON Lifeline, 3(5), 25 – 30.
[10] Castledine G. (1998). The blunders found in nursing documentation. British Journal of Nursing, 7, 1218.
[11] Dimond B. (2005). Exploring the legal status of healthcare documentation in UK. British Journal of Nursing, 14, 517 – 518.
[12] Pearson A. (2003). The role of documentation in making nursing work visible. International Journal of Nursing Practice, 9, 271.
[13] Nworgu BG. (1991). Educational Research: Basic Issues and Methodology. Owerri: Wisdom Publishers Limited.
[14] Akuezuilo EO, Agu N. (2004). Research and Statistics In Education & Social Sciences: Methods and Applications. Awka: Nuel Centi Publishers and Academic Press Ltd.
[15] Bjorvell C, Wredling R, Thorell-Ekstrand I. (2002). Long term increase in quality of nursing documentation: effects of a comprehensive intervention. Scandinavian Journal of Caring Science., 16 (1), 34 – 42.
[16] Stokke TA, Kalfoss MH. (1999). Structure and content in Norwegian nursing care documentation. Scandinavian Journal of Caring Science, 13(1), 18 – 25.
[17] Croke EM (2003). Nurses, negligence and malpractice. American Journal of Nursing, 103 (9), 54-63.
[18] Lyer PW, Camp NH. (1999). Nursing documentation: A nursing process approach (3rd ed.). St. Louise, MO: Mosby.