

PROJECT REPORT ON ASSESSMENT OF NURSING DOCUMENTATION PRACTICES IN FIVE HOSPITALS IN TAMALE METROPOLIS: A RETROSPECTIVE RECORDS REVIEW

5/31/2018



**NURSES' AND MIDWIVES' TRAINING COLLEGE, TAMALE
PROJECT 2018**

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FOREWORD

Academic institutions all over the world are driving concrete changes in policies and professional practices through research. Research is shaping every facet of life through novel research findings that help managers of various institutions and governments to initiate and address the growing needs of society.

Many professions and disciplines are working together to assure quality. For instance, in the health sector, collaborative and independent health research can assure the provision of comprehensive range of high-quality services. Nurses, as the largest group of healthcare professionals, deliver majority of the health care in Ghana and the world over. Their practices and presence define the differences in the attainment of the desired positive patient outcomes.

Nurses' and Midwives' Training College- Tamale, as an academic and professional institution, is determined to change the frontiers of nursing in Ghana through concrete and policy changing research. The College is well-positioned to sponsor and coordinate collaborative and independent research activities of her faculty in the areas of nursing and other social sciences. Our present society is growing in diversity and health institutions must be responsive to the complexities involved in caring for people from varied socio-political backgrounds. The main aim is to develop a research label for the College and by extension develop the research competences of trainee nurses and midwives.

The present project is the maiden research of the college conducted by selected faculty. The project was centred on examining nursing practices within the major catchment areas of the College. Admittedly, the inevitable increasing socio-political and cultural diversity in society and in the healthcare environments is both challenging and exciting. The readiness of nurses and the nursing profession in Ghana and the world over, must be positioned to meet the standards.

I am excited faculty did a wonderful job and provide management of the various institutions included in the study credible information on the nursing documentation practices of the nurses/midwives. I am confident this document will influence policy and guide nurse managers in the region and beyond in the assessment of nursing standards. I highly commend this project report to all health authorities and nurses/midwives.

.....

Abdulai Abdul-Malik

Principal (2018-)

EXECUTIVE SUMMARY

Documentation of nursing care is a pivotal activity in the nursing profession and is one of the key roles of a nurse. There are practical and legal implications in the documentation of the nursing care rendered to patients. The ability of nurses to make documentation in clear, succinct, legible and legally cautious manner can reduce the chance of misinterpretation and adverse patient outcomes resulting from poor communication. This study assessed the current nursing documentation practices of nurses in five hospitals in the Tamale Metropolis.

Five hundred (500) patient care records (folders) were reviewed using an adapted pre-coded audit tool. Extracted data were entered into SPSSv20 for analysis.

Generally, the documentation practices of nurses in the five hospitals reviewed were very poor. The prevalence of nursing documentation errors was 99.8% and the common error was failure of nurses to sign each entry in the nurses' notes. The common nursing procedures that were recorded in the nurses' notes were monitoring of vital signs and administration of medications. The evidence suggests nurses hardly document other specific procedures that are peculiar to defined medical conditions. There were evidence of irregular charting and documentation of vital signs.

The majority of key nursing documentation standards were not met in all the records reviewed. Nurses' notes did not follow any known nursing standards such as the nursing process. Assessment of patients during admission were poorly recorded, nursing goals for individual patients were not set and there were no evidence of planning or evaluation of nursing care.

The findings of this project are very serious and need management's immediate attention. The documentation practices of nurses are very poor and this exposes the facility to questionable quality of nursing care and legal liabilities. Details of the findings of the project are found in the main report.

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Our sincerest gratitude goes to Almighty God for the gifts of life and to the management of all the facilities that granted the team permission to conduct this study. The Project team is also grateful to all the records officers who spent extended times to retrieve patient care records for review.

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BACKGROUND OF THE PROJECT

Documentation of nursing care is a pivotal activity in the nursing profession and is one of the key roles of a nurse. There are practical and legal implications in the documentation of the nursing care rendered to patients. Quality documentation and rightful report of nursing care are essential to enhance efficiency in patient care (Blair & Smith, 2012). Documentation of nursing care of a patient, irrespective of the format used, is a legal record that specifies the care and progress of the patient (Machudo & Mohidin, 2015).

The introduction of the National Health Insurance Scheme in Ghana since 2005 has led to increased utilisation of health services in the country (Witter & Garshong, 2009). This results in a strain on both the health infrastructure and health workers due to the inadequate health infrastructure and personnel in the country (Turkson, 2009). Fundamentally, a rise in health care demand without a corresponding increase in staff levels could overwhelm the health personnel, especially nurses, and probably affect the quality of healthcare and documentation practices of the staff. However, in an era where patients and patient relatives are well informed about their rights to quality health care, accurate nursing documentation cannot be underestimated. In times of legal or disciplinary enquiry in relation to nursing care rendered to a patient or nurses' conduct, documentation become one of the relevant reference records for decision making. Hence, the ability of nurses to make documentation in clear, succinct, legible and legally cautious manner can reduce the chance of misinterpretation and adverse patient outcomes resulting from poor communication (Yeung, Lapinsky, Granton, Doran, & Cafazzo, 2012). It is therefore imperative for administrators and nurse managers to ensure that documentation of the nursing care rendered to patients are appropriately done.

Nursing documentation refers to any written account by the nurse on the health status of a patient, the care or services rendered to that patient (Machudo & Mohidin, 2015). According to the College of Registered Nurses of British Columbia(CRNBC), (2012) documentation

refers to any electronic or written information or data about patient interaction or care events that meet both legal and professional standards. It is an integral part of the nursing profession. Research suggests that accurate nursing documentation improves the clinical outcome of patients, processes of care and professional practices (CRNBC, 2012). Many studies allude to variations and lack of uniformed standard of documentation even within one hospital (Chevakasemsook, Chapman, Francis & Davies, 2006; Currell & Urquhart, 2003). While some units in a hospital may adopt a narrative form of documentation, others may use focused charting method or problem-orientated medical documentation method (Keenan, Yakel, Tschannen & Mandeville, 2006).

Nursing documentation could also be paper-based, electronic documentation or a combination of both. With a growing computer literate working class in developing countries, electronic documentation in health care can be a focus area. In developed countries, technology is rapidly gaining prominence as the model for health information services and electronic health record (EHR) is becoming the standard (Arlene, n.d.) A Health Canada Infoway study conducted by Canadian Nurses Protective Society (CNPS) approximated that 75% of nurses use information technology in practice and 50% use a combination of paper-based and electronic documentation (Canadian Nurses Protective Society, 2014). Indeed, research suggests mixed findings when comparing paper-based documentation systems and the electronic systems (Kurtney-Lee & Kelly, 2011). Electronic systems are known to address some of the challenges encountered in the use of the paper-based records. For instance, electronic systems automatically capture the caregiver's credentials and the date and time of entry. Drop-down menus of EHR may also be used by the caregiver to enter assessment data and other vital patient notes although there are concerns of possible misinterpretations of drop-down menus by caregivers and the associated potential patient safety issues (CNPS, 2014). Obviously, if a care giver is a computer literate, electronic documentation would speed up the time needed to

document and increase the accuracy and legibility of documentation (Arlene, n.d.). Unlike the paper-based system, most electronic system supports in the ‘standardization of care using the nursing process and provides specific pathways to enter patient events’ (Arlene, n.d, p.4). Mandatory reporting fields in an EHR also ensure that important data is not omitted (CNPS, 2014). However, electronic documentation poses a number of challenges to healthcare settings with limited resources. Generally, they are costly to design, implement and maintain (CNPS, 2014). Consequently, at present, electronic documentation is considered to be efficient but may be an unfeasible alternative to the paper-based documentation system being implemented in relatively deprived settings such as Northern Ghana. It is imperative to find ways to improve the quality of the paper-based nursing documentation which is used in documenting nursing care rendered in the facilities.

Previous research has found that a lot of healthcare documentation fails permissible and professional standards (Paans, Sermeus , Nieweg & van der Schan, 2010). Although many care givers believe their documentation practices are adequate considering the challenging environment under which they work in. There are several documentation deficiencies that care givers commit or observe in the documentation of care rendered to patients. These include illegible handwriting; a printed signature or failure to sign an entry; failure to record relevant health or medication information; failure to note nursing actions; failure to document medication given or indicate medications that have been withdrawn and failure to record medication reactions (Arlene, n.d.). Other deficiencies include inadequate documentation of details of patient’s responses to care; incorrect transcription of orders or transcribing wrong orders, incomplete records, etc. (Arlene, n.d.).

In Ghana, a patient care record is a confidential record used by only care providers. However, it can be accessed by attorneys of a plaintiff during a legal suit to re-enact events in the case of patient death or injury. Accreditation bodies that have key interests in patient safety can also

review patient records and coroners also preview patient care records for evidence leading to an unexpected death of a patient (College of Licensed Practical Nurses of Nova Scotia, n.d.). Assessing the accuracy of nursing documentation therefore enables authorities to monitor their facility risk and the quality of the provided care because of the serious consequences of inappropriate documentation. For instance, an inadequate documentation could lead to severe injury or death of a patient. A care giver could lose an employment or licence to practice culminating in possible personal stress, loss of income and/or legal expenses (CLPNNS, n.d.). Ghana is witnessing rising numbers of legal suit brought against hospitals, health professionals and state institutions for various medical offenses. It is therefore relevant to assess the loopholes in documentation and find measures to address them so as to avoid any of the challenges discussed above.

Several barriers to nursing documentation encountered by nurses have been discussed broadly in previous studies. For instance, a study conducted in Eastern region of Ghana on nursing documentation of inpatient care found that time constraints, discrepancies between staffing resources and workload, lack of clear guidelines for completing documentation, uncertainty towards documentation and institutional policies and bureaucracies were often associated with keeping accurate documentation (Asamani, Amenorpe, Babanawo, & Ansah Ofei, 2015). Another research suggests nurses working in acute care, for example, could spend 25% to 50% of their shift time on documentation (Blair, & Smith, 2012). These barriers may also be encountered by nurses in hospitals in the Tamale Metropolis but there is no record that have evaluated the documentation errors that are made in the line of duties of nurses in the metropolis. Assessing the nurses' reports in the patient records become very helpful for improving the accuracy of nursing documentation and safeguards the facilities and nurses from potential legal issues. Asamani, *et al.*'s study is the only study, to the best of our knowledge, that evaluated nursing documentation practices in Ghana. The study was, however, limited in

scope and did not assess the documentation practices of nurses in other hospital settings aside those in state owned hospitals. This limited the generalizability of the findings of Asamani, *et al's* study. This study therefore assessed the current nursing documentation practices of nurses in five varied hospitals in the Tamale Metropolis. The study specifically:

1. Assessed the accuracy of nursing documentation recorded in the records of patients discharged in the past one month.
2. Compared the nursing documentation practices between nurses in the private, mission and government hospitals.
3. Identified the common errors of nursing care documentation in the hospitals.

METHODOLOGY

STUDY DESIGN: A descriptive retrospective cross-sectional quantitative design was used to examine the nursing documentation of nurses in the selected hospitals using an adapted audit tool. Audits allow a methodical, independent and standard process of evaluation through which one can objectively determine whether the audit criteria are met (Domingues, Sampaio & Arezes, 2011). The study was conducted from 14th November to 15th December, 2017.

STUDY SETTING: The study was conducted at five hospitals located in the northern regional capital of Ghana, Tamale. The hospitals included three government hospitals (hospitals A, B, & C), one mission hospital (hospital D) and one private hospital (hospital E). Hospital A is a 420 bed capacity facility. It is the biggest and only teaching and referral hospital for the three regions of northern Ghana and some portions of the Brong-Ahafo and Volta regions. Hospital B and C are 186 bed capacity and 126 bed capacity facilities respectively. Hospital D is the only mission hospital within the Metropolis with a bed capacity of 60 beds. Hospital E is one of oldest prominent private hospitals in the Metropolis with a bed capacity of 40 beds. It admits patients with varying illnesses for more than 24 hours and therefore included in our study.

STUDY POPULATION, SAMPLE SIZE AND SAMPLING TECHNIQUE

Five units' records at the hospitals were reviewed. The units included: Medical, Surgical, Obstetrics and Gynaecology unit, Paediatric unit and Emergency unit. Patient care records of patients admitted into the five purposely selected hospitals in the Metropolis within the month of October, 2017. Multistage sampling method was used to select records for the review. Although patients' population varied from one hospital to another, a quota sample of one hundred (100) records were systematically selected from each hospital. For each hospital, a proportionate division of the sample size was done among units. In each unit, patients' care record numbers of patients admitted and discharged or died in the month of October, 2017 were systematically selected from the Admission and Discharge Register (A & D book). The month; October, 2017; was chosen to enable an assessment of the current prevailing documentation practices of the nurses in the hospitals. The total admissions in each unit for the past month was divided by the required sample for that unit to get the sample interval (Gordor, Akar & Howard, 2006). The first record number was randomly selected, followed by the rest of the records using the sample interval until the desired sample size was attained. The care records were retrieved from the hospitals' records departments using the selected record numbers.

INCLUSION/EXCLUSION CRITERIA

The inclusion criteria included records of patients admitted in the hospitals between 1st October and 31st October, 2017 for more than 24 hours. Records of patients who died or who were admitted in the hospitals for less than one day were excluded from the audit since there may not be adequate documentation for assessment. All patient records with missing nursing documentation sheets were excluded from the study.

DATA COLLECTION TOOL AND DATA COLLECTION TECHNIQUE

The researchers adapted the data collection tool used in the Asamani, *et al.*'s study. The tool was developed based on best practice guidelines and suits the current study's settings as well. The adapted tool had four sections. The first section contained six (6) demographic data such

as the hospital, the type of ward, age of patient, diagnosis, length of stay and patient outcome. The second section comprised questions on documentation care rendered; summary of nursing procedures carried out on the patients and the completeness of documentation of those procedures. The third section consisted of a checklist of eighteen (18) standards of nursing documentation stipulated by United Kingdom's Nursing and Midwifery Council, NMC (2010). The fourth section contained a checklist of seven (7) common errors of documentation and the nursing shift under which identified documentation errors occurred.

CB and OA independently extracted data from 10 records and the results were compared. The data were entered into an excel worksheet (MS Excel, 2010) and the mean Cohen's (1960) Kappa statistic computed to assess the inter-rater reliability between the researchers. The inter-rater reliability was satisfactory (mean kappa statistic, $k=0.72$). All disagreements were addressed amicably. Nine (9) final year General Nursing (RGN) students were trained by CB and OA as research assistants to assist in the data extraction. Research assistants were paired with CB and OA to extract data from five (5) randomly selected patient records. Any inconsistencies were addressed before the actual data collection, which span one month, began.

DATA MANAGEMENT AND ANALYSIS

All patient records included in the study, as well as the data extraction forms, were code labelled. Data completeness was assessed and entered into SPSS (version 20) for analysis by CB. Chi-square analysis at 0.05 alpha level of significance was run to compare the prevalence of nursing documentation errors in relation to the hospitals, wards, or nursing shift. Binomial logistic regression was run to predict the association between hospitals and prevalence of documentation of errors with hospital A being the reference point because it has more professional nurses than the other hospitals.

ETHICAL CONSIDERATION

This study was preceded by a written permission from the management of all the hospitals included in the study. Ethical clearance was obtained from Tamale Teaching Hospital (Ref. No.TTH/R&D/SR/117) and the Northern Regional Health Directorate (Ref. No. GHS/NR/18-0/310). All identifiable patient labels on the patient records (e.g. name and record number) were excluded during the data collection. All data extracted from the patient records were kept confidential and saved on a password-protected computer. All data extracted from the records have been reported fairly and accurately. No part of the study was shared with a third party without the consent of the various hospitals' management.

RESULTS OF THE PROJECT

The project reviewed a total of five hundred (500) patient care records (folders). One hundred (100) records were reviewed from each of the hospitals. Two hospitals (hospitals D & E) did not have well defined wards for their patients and this has influenced the distribution of patients according to admission wards. As shown in Table 1, majority (37.8%) of the records were from medical ward while the least number of records (10.2%) were from the paediatric ward.

CHARACTERISTICS OF PATIENTS' RECORDS REVIEWED

A review of the records revealed a younger patient age group with majority of the patients (71.5%) being 30 years or younger. As shown in Table 1, about a quarter (28.4%) of the patients aged above 30 years. Records of patients who were admitted for more than one day were reviewed and the results showed that more than two third (81.6%) of the patients were admitted for a duration of between 2 to 5 days. The majority (56.4%) were admitted for between 2 to 3 days and only a tenth were admitted for 8days and above. The common diagnosis was severe malaria (20.2%) followed by simple malaria (9%). Table 1 presents details of the characteristics of the records reviewed.

Table 1: Frequency distribution of characteristics of patients' records reviewed (n=500)

	Variables	Frequency (n)	Percent (%)
Wards	Medical	189	37.8
	Surgical	51	10.2
	O&G	57	11.4
	Paediatric	136	27.2
	Emergency	67	13.4
Patient's Age(yrs.)	<10	174	34.9
	10-20	62	12.4
	20-30	121	24.2
	30-40	64	12.8
	>40	78	15.6
Duration of admission (days)	2-3	282	56.4
	4-5	126	25.2
	6-7	42	8.4
	8 and above	50	10.0
Outcome of admission	Discharged	465	93.2
	Died	14	2.8
	Transferred	10	2.0
	Absconded	3	0.6
	DAMA	7	1.4

Source: Field data, 2017; DAMA = Discharge Against Medical Advice; O & G: Obstetrics and gynaecology

DOCUMENTATION OF CARE

Key nursing procedures that nurses carried out on the patient and documented in patient records were assessed. The number of the procedures that were recorded on the charts and on the nurses' notes were noted. The review showed that very few nursing interventions were documented in the records. As shown in table 2, the most common nursing procedure nurses

record on the charts was administration of medications representing 98.4% followed by monitoring of vital signs (97%).

Table 2: Frequency distribution of common nursing procedures recorded on charts (n=500)

Procedure	Frequency (%)		
	Yes (%)	No (%)	N/A (%)
Administration of medication	492(98.4)	8(1.6)	0(0)
Monitoring of vital signs	485(97.0)	15(3.0)	0(0)
Blood Transfusion	44(8.8)	18(3.6)	438(87.6)
Administration of IV fluids	151(30.3)	330(66.1)	18(3.6)
Fetal heart monitoring	0(0)	7(1.4)	493(98.6)
Tepid sponging	3(0.6)	12(2.4)	485(97)
Oxygen administration	5(1.0)	6(1.2)	489(97.8)
RBS monitoring	2(0.4)	32(6.4)	466(93.2)

Source: Field data; 2017; N/A = Not Applicable (Nursing procedures that were not related to defined medical diagnosis)

The review also showed a decline in the number of procedures that were documented in the nurses' notes including instances whereby the procedure was documented on a chart but not recorded in the notes. The common nursing procedure that was recorded in the nurses notes was monitoring of vital signs (89.4%) followed by administration of medications (85.2%). Table 3 presents frequency distribution of the nursing procedures as captured in the nurses' notes. As shown in figure 1, nurses' notes, in many instances, were only about the vital signs assessed and the medications administered.

Table 3: Frequency distribution of the common nursing procedures recorded in nurses' notes

Procedure	Frequency (n [%])		
	Yes (%)	No (%)	N/A (%)
Administration of medication	426(85.2)	73(14.6)	1(0.2)
Monitoring of vital signs	447(89.4)	15(3.0)	0(0)
Blood Transfusion	38(7.6)	19(3.8)	443(88.6)
Administration of IV fluids	81(16.2)	394(79.0)	24(4.8)
Foetal heart monitoring	3(0.6)	4(0.8)	493(98.6)
Tepid sponging	12(2.4)	4(0.8)	484(96.8)
Oxygen administration	9(1.8)	3(0.6)	478(95.6)
RBS monitoring	5(1.0)	29(5.8)	466(93.2)
Reassuring patient during admission	306(61.2)	194(38.5)	0(0)
NG tube feeding	5(1.0)	4(0.8)	491(98.2)
Wound dressing	13(2.6)	24(4.8)	463(92.6)
Last offices	3(0.6)	11(2.2)	489(98.0)
Urinary catheterization	6(1.2)	16(3.2)	478(95.6)
Patient education	4(0.8)	496(99.2)	0

Source: Field data; 2017; N/A = Not Applicable (Nursing procedures that were not related to the defined medical diagnosis); n = frequency

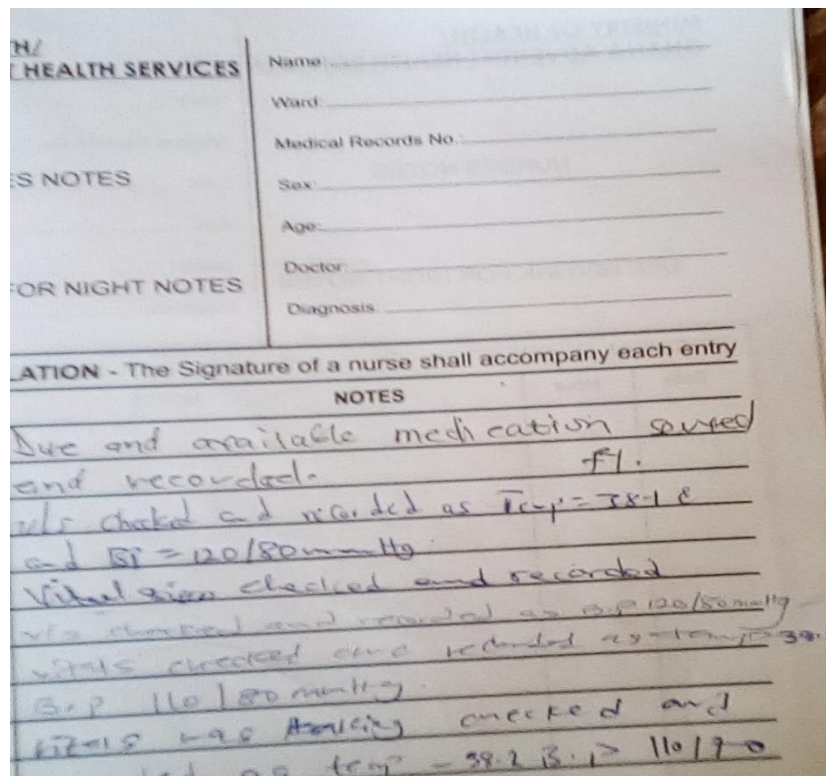


Figure 1: Sample of documentation record indicating only vital signs assessed and medications administered

DOCUMENTATION OF VITAL SIGNS AND VITAL SIGNS IRREGULARITIES

Review of the patients' records showed that almost two-thirds (65.2%) of patient's records revealed irregular checking of vital signs (temperature, pulse, respiration and blood pressure).

Only 174 records (34.8%) had evidence of patients' vital signs being regularly charted. As shown in Table 4, 343 vital signs documentation irregularities (68.6%) were detected during the review. The common vital signs irregularity was no pulse and respiration charted (49.3%) followed by temperature, pulse and respiration being charted irregularly. Only a few records (0.9%) had no documentation of vital signs in them. Figure 2 is an example of the irregular assessment of vital signs: in this case, only the temperature and blood pressure of the patient was checked in an irregular fashion. Patients' pulse and respiration were not checked or recorded.

Table 4: Frequency distribution of the vital signs documentation irregularities (n=343)

Documentation Irregularity	Frequency(n)	Percent (%)
No pulse and respiration checked	169	49.3
TPR checked irregularly	139	40.5
No Temperature & Respiration checked	6	1.7
No vital signs checked	3	0.9
Vital signs not charted properly	26	7.6
Total	343	100

Source: Field data; 2017; TPR = Temperature Pulse and Respiration

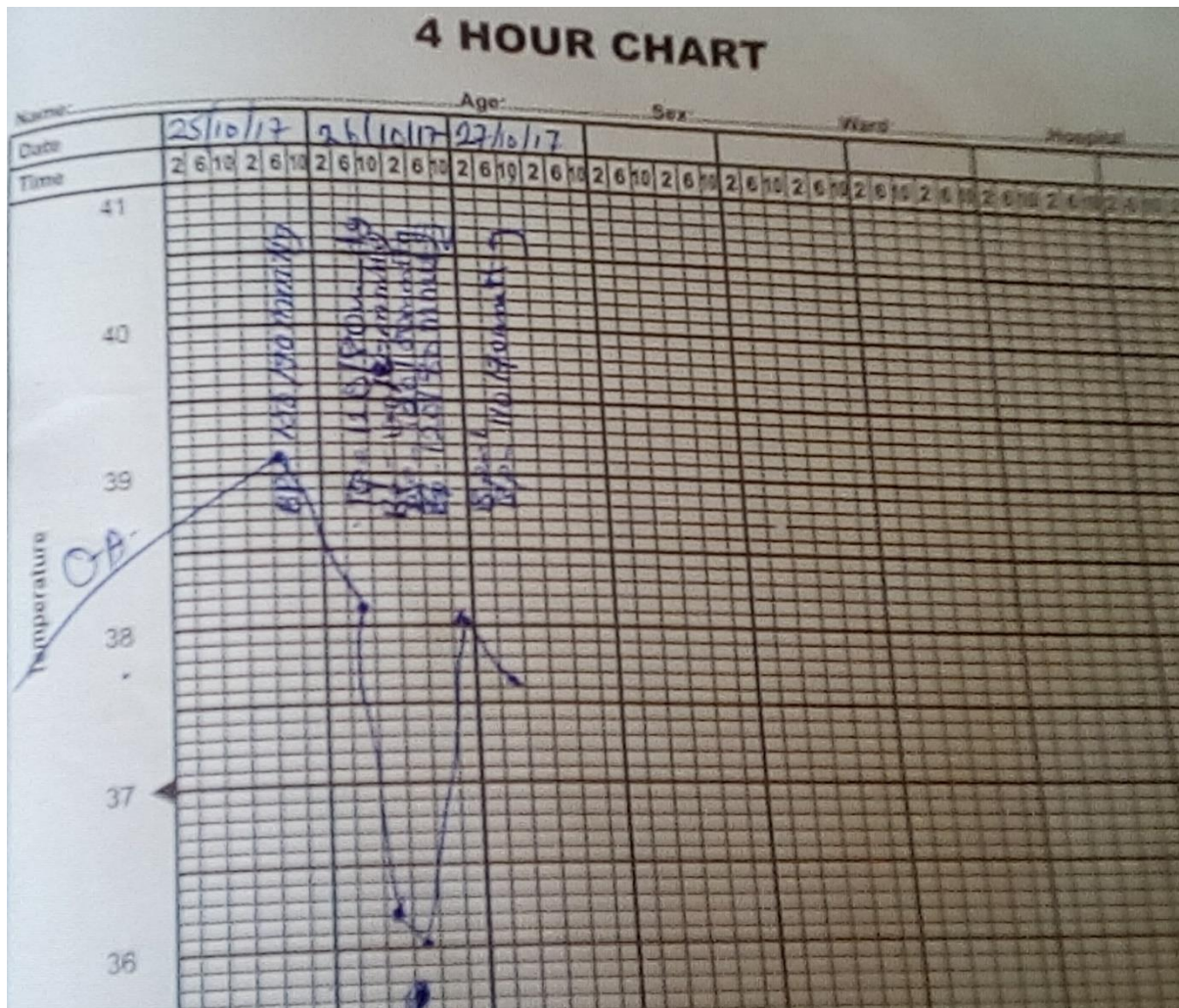


Figure 2: Sample of irregular and improper vital signs assessment

In a cross-tabulation of the hospitals and the types of irregularities in vital signs documented in the records, Hospital D records showed more evidence (80.2%) of no pulse and respiration checked; hospital A had more evidence (72.1%) of temperature, pulse and respiration (TPR) checked irregularly; hospital E had more evidence (3.2%) of no temperature and respiration checked.

Table 5: Cross-tabulation of hospitals and the types of vital signs irregularities recorded in records (N=365)

Hospital		Types of Vital signs irregularities					Total
		No pulse and respiration checked	TPR checked irregularly	No Temperature & Resp checked	No vital signs checked	Vital signs not charted properly	
Hospital A	Count	10	31	0	2	0	43
	% within Hospitals	23.3%	72.1%	0.0%	4.7%	0.0%	100%
Hospital B	Count	24	39	1	0	1	65
	% within Hospitals	36.9%	60.0%	1.5%	0.0%	1.5%	100%
Hospital C	Count	14	36	0	0	8	58
	% within Hospitals	24.1%	62.1%	0.0%	0.0%	13.8%	100%
Hospital D	Count	65	9	2	0	5	81
	% within Hospitals	80.2%	11.1%	2.5%	0.0%	6.2%	100%
Hospital E	Count	55	24	3	1	12	95
	% within Hospitals	57.9%	25.3%	3.2%	1.1%	12.6%	100%
Total	Count	168	139	6	3	26	342
	% within Hospitals	49.1%	40.6%	1.8%	0.9%	7.6%	100%

TTH: Tamale Teaching Hospital; SDA: Seventh Day Adventist; KABSAD Hosp: KABSAD Scientific Hospital; TPR: Temperature, Pulse and Respiration; Resp: Respiration

DOCUMENTATION STANDARDS

As shown in table 5, majority of key nursing documentation standards were not met in all the records reviewed. The common nursing documentation standards that were complied with included documentation of the date of writing the nursing notes, time of writing nursing notes and writing of notes on the first day of admission representing 96.6%, 97.4% and 86% respectively. However, there was no evidence of any nursing documentation standard being applied in the documentation processes; for example, nursing process being followed by nurses in their record of care rendered to patients. In almost two-thirds (65.6%) of the records, there was no indication of the time an event or intervention occurred. The nature of a procedure, patient complain or response following an intervention were never indicated or were not clearly stated in almost all (91%) the records reviewed.

In stances of documentation errors evidenced by cancellation or use of tippers in the record, majority (92.3%) of all cases of such documentation errors were not properly corrected or endorsed. For instance, it is best practice that all documentation errors need to be crossed out clearly and countersigned with the credentials of the officer who committed the error.

Further assessment of the nursing notes in the records showed, in many instances, very poor documentation standards. The notes written were not clear about the patient's chief complains (90.4%), patient's present history (90.8%), past patient's medical history (98.6%), specific nursing interventions rendered to the client (89.8%) and the response of the patient to such nursing interventions (97.8%). As shown in figure 3, nurses' report on new patients admitted to the wards concentrated on the patient's diagnosis, vital signs assessed and the medications that were prescribed and administered. Special interventions such as blood transfusion, paracentesis abdominis, urinary catheterization, etc. are reported in the notes but no indication of the response of patients to nursing interventions are clearly documented.

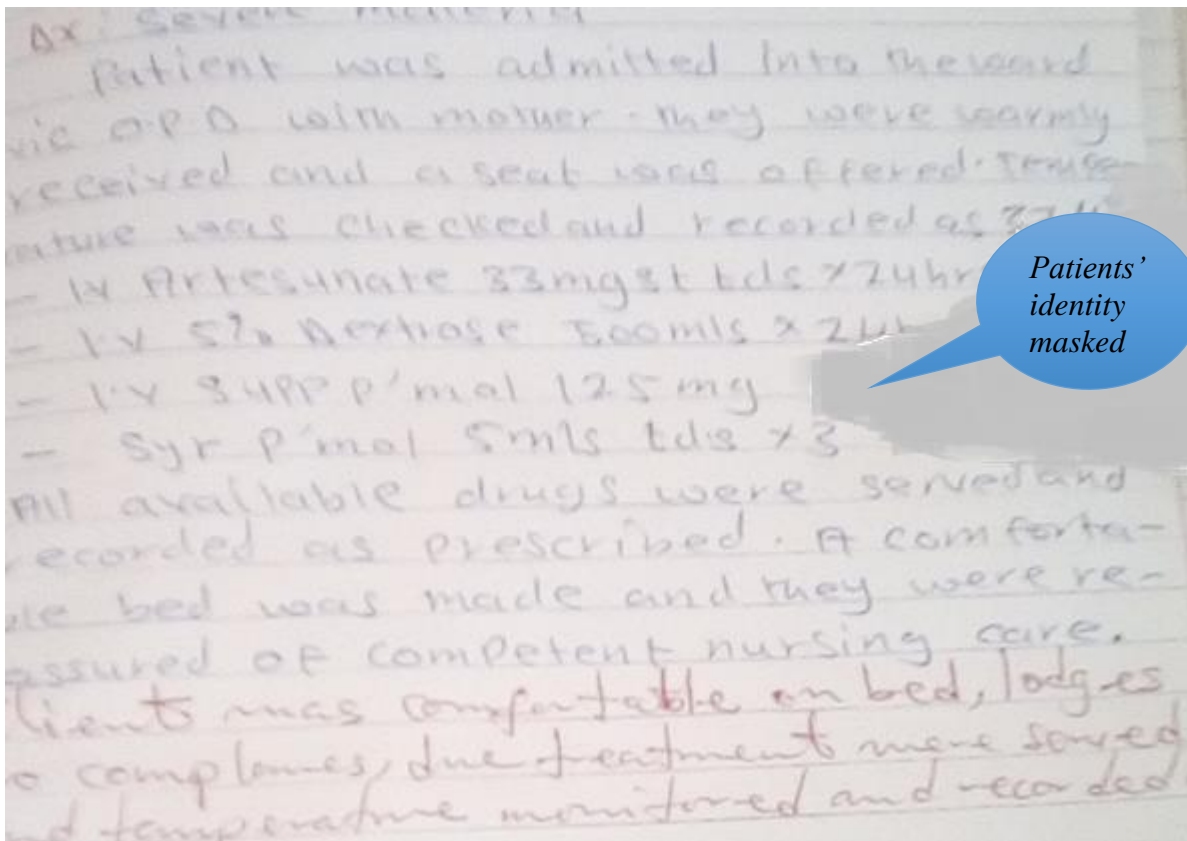


Figure 3: Sample of poor documentation of patient's complains and nursing interventions

Nearly all the notes (94.6%) were not signed with the name and credentials of the writer. In all the records reviewed, with the exception of one, there was no evidence of nursing goals set for individual patients or evidence of nursing evaluation of care rendered. No notes also indicated the nursing diagnoses formulated based on the identified health problems. Only a few documentations (14.8%) added the nursing assessment findings in the first nurses' notes and many cases the nursing assessment meant vital signs assessment only. Table 5 presents the detailed frequency distribution of the documentation standards of the records reviewed.

Table 6: Frequency distribution of documentation standards maintained in records reviewed (n=500)

Documentation Standard Assessed	Frequency (%)		
	Yes	No	N/A
1. Date of writing the notes	483(96.6)	17(3.4)	0
2. Time of writing the notes	487(97.4)	13(2.6)	0
3. Time the procedure/intervention was or event occurred	172(34.4)	328(65.6)	0
4. Nature of procedure, patient complain or response clear in the notes	45(9.0)	455(91.0)	0
5. Handwritings were legible	373(74.6)	127(25.4)	0
6. Documentation errors were properly corrected and endorsed	29(5.8)	346(69.2)	125(25)
7. Notes were clear about patient's chief complains	48(9.6)	452(90.4)	0
8. Notes clear about patient's present history	46(9.2)	454(90.8)	0
9. Notes clear about patient's past history	7(1.4)	493(98.6)	0
10. Notes were clear and specific about nursing interventions or actions	51(10.2)	449(89.8)	0
11. Notes were clear about patient's response to the nursing actions	11(2.2)	489(97.8)	0
12. Notes were signed with the name and credential of the writer	27(5.4)	472(94.6)	0
13. Nursing goals for individual patients were set	1(0.2)	499(99.8)	0
14. Nursing diagnoses were set based on identified health problems	0	500(100)	0
15. Was there nurses' assessment findings included in the first nurses notes?	74(14.8)	426(85.4)	0
16. Was the first notes written on the day of admission?	429(86.0)	70(14.2)	0
17. Presence of patient education and discharge planning	2(0.4)	497(99.6)	0
18. Evidence of nursing evaluation	1(0.2)	499(99.8)	0

Source: Field data, 2017; N/A = Not Applicable

PREVALENCE OF DOCUMENTATION ERRORS

There was 99.8% prevalence of documentation errors in all the records reviewed. The commonest documentation error was failure of nurses to sign each documentation entry in the nurses' notes (91.2%). Only night supervisors who superintend nursing activities during night shifts consistently sign in the nurses' report books to close nursing reports of each night shift.

See figure 4 below.

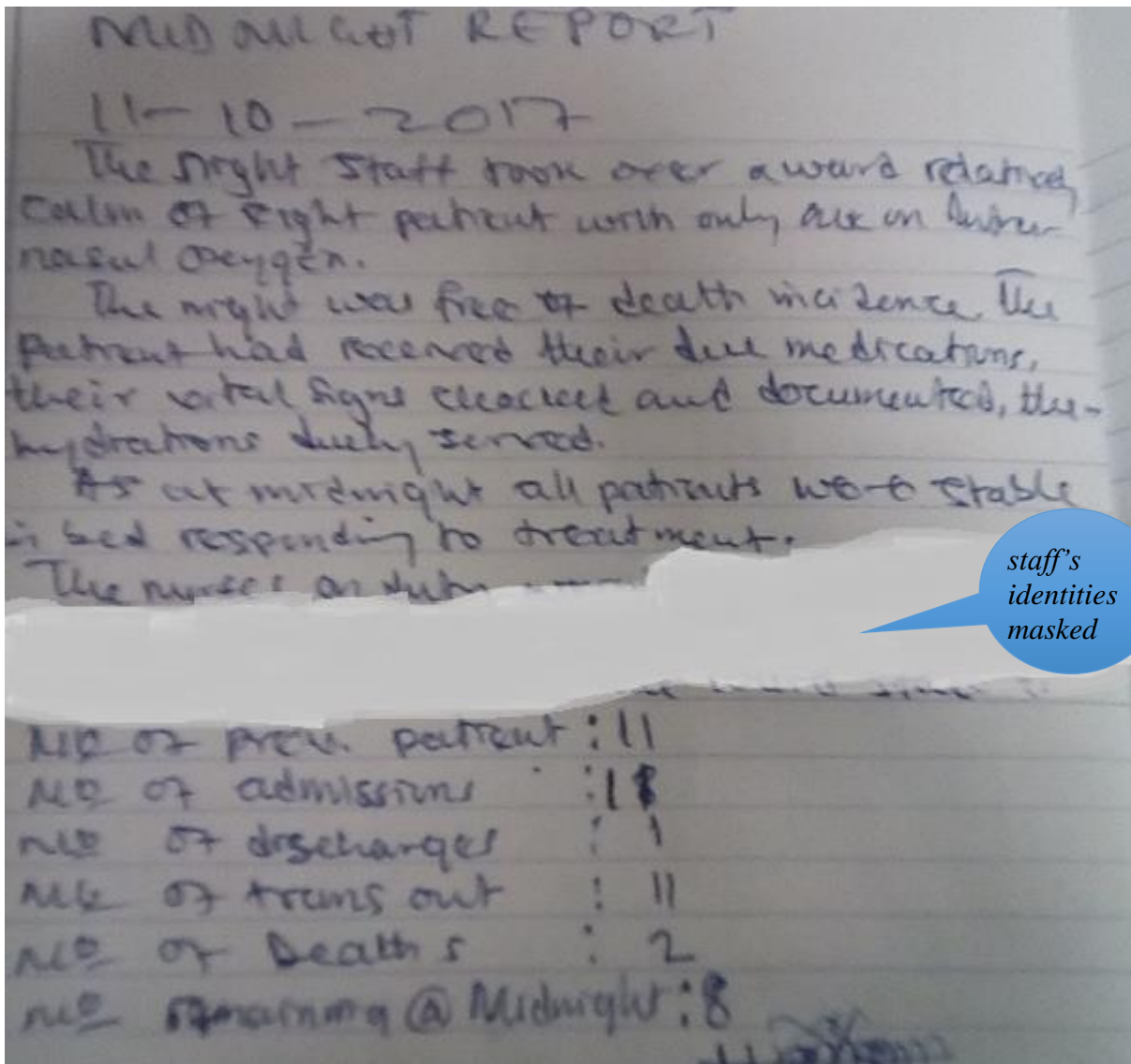


Figure 4: Sample of nursing documentation signed by night in-charges

Other common errors that were found in more than half of records reviewed included the use of unapproved abbreviations and shorthand such as ‘v/s’ to denote ‘vital signs’ (75.6%); improper charting of patient’s vital signs (56.2%), failure to write daily nursing notes about a patient’s condition (55.2%) and cancellation not endorsed (51.3%). Figure 5 presents details of the percentage distribution of the documentation errors.

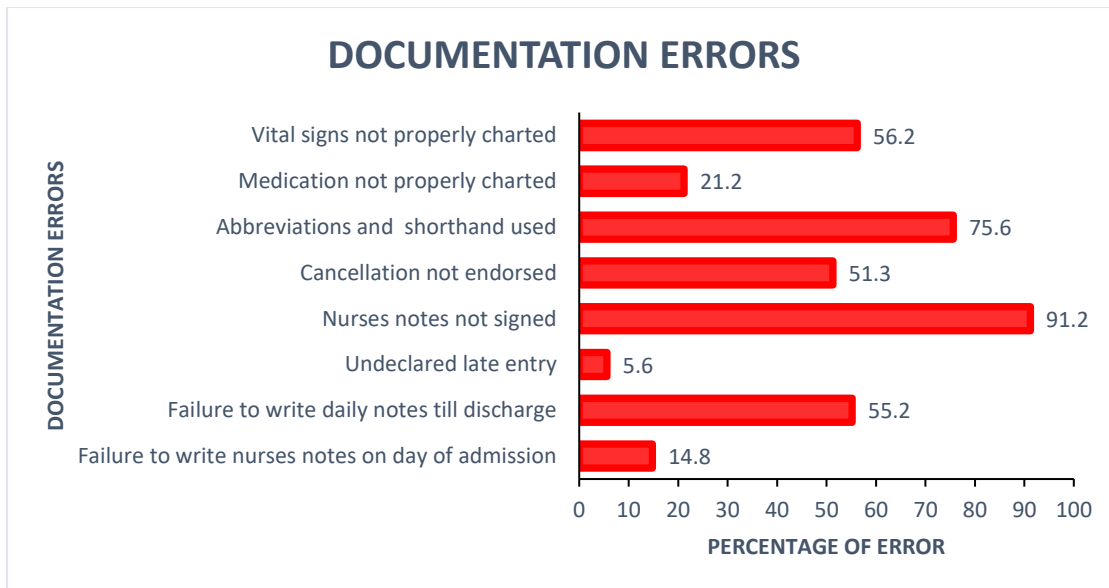


Figure 5: Percentage of documentation errors (n=500)

Detailed review to determine the nursing shifts during which observed documentation errors do take place showed that failure to write first day admission notes were common during afternoon shifts (2pm to 8pm) (32.4%). Failure to write daily nurses' notes on the patient's condition till discharge (93.7%), failure to sign the notes (90.9%), cancellation not endorsed (29.1%), medications not properly charted (48.1%) and vital signs not properly charted (77.7%) were common during all nursing shifts. A common observation was the inability of nurses to enter fully the biographic data of patients in patients' records. As shown in figure 1 & 2, nearly half (49.6%) of the records reviewed had no biographic data of the patient entered in the documentation records like treatment sheet, nurses notes and other observatory records.

Further, to test whether failure to write nurses' notes on day admission was different in the ward, we used chi-square (χ^2) test of independence with alpha equal to 0.05 criterion for significance. The analysis showed a statistically significant association between the hospital ward and failure to write nurses notes on the first day of admission $\chi^2(4, N=500) = 10.19, p=0.03$. There was a higher likelihood (22.1%) of failure to write first day's nurses' notes in the paediatric ward than the other wards. As shown in figure 5 nurses fail to write individual

patient's reports for all new admissions in the paediatric ward. The reports were found to have been written on only patients in critical condition or those receiving special interventions such as blood transfusion. All other patients admitted in the paediatric unit are listed in the report book in the format of patient's name, sex, age, and diagnoses (see figure 5).

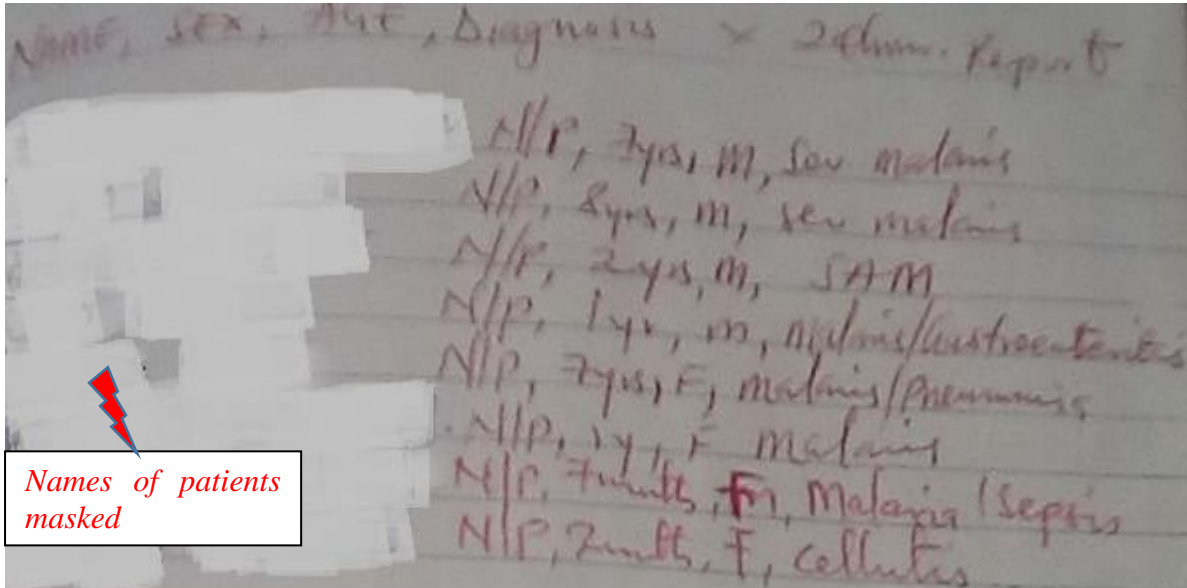


Figure 6: Sample of poor nursing report evidenced by few details of newly admitted patients compiled together. N/P: New patient; M: Male; F: female; SAM: Severe Acute malnutrition

The unit with least cases (9%) of failure to write notes on the first day of admission was the emergency unit. Table 7 presents a cross tabulation of the ward and failure to write nurses' notes on day of admission.

Table 7: Cross tabulation of association between ward and failure to write notes on admission day (n=500)

Wards	Failure to write nurses notes on day of admission		Total
	No (%)	Yes (%)	
Medical	167(88.4)	22(11.6)	189
Surgical	46(90.2)	5(9.8)	51
O&G	46(80.7)	11(19.3)	57
Paediatric	106(77.9)	30(22.1)	136
Emergency	61(91.0)	6(9.0)	67
Total	426 (85.2)	74(14.8)	500 (100)

O & G=obstetrics and gynaecology

Failure to write daily notes on patients' conditions till they were discharged was common in the obstetrics and gynaecology ward (64.9%). However, the observed proportionate differences between wards regarding inability to write daily notes on patients till discharge were not statistically significant at the 0.05 level of significance ($p=0.04$). The error of nurses notes not signed was also highest in the obstetrics and gynaecology ward than the other wards $\chi^2 (4, N=500) = 20.1, p<0.001$).

Additionally, paediatric ward had a higher prevalence of improper charting of medication administered $\chi^2 (4, N=500) = 12.2, p= 0.02$ and improper charting of vital signs $\chi^2 (4, N=500) = 19.4, p= 0.001$). In the cross-tabulation of the error of failure of nurses to write nursing notes on patients on their first day of admission against the five hospitals included in the review, hospital D had a higher chance (39%) of nurses failing to write nursing notes on their patients on the first day of admission than the other hospitals. The prevalence of failure to write to notes on the first day of admission was lowest (9%) among records retrieved from hospital A. The observed differences were statistically significant at the 0.05 level of significance ($\chi^2 (4, N=500)$

= 62.2, $p < 0.001$). Table 8 presents a detailed tabulation of the cross-tabulation of the hospitals and failure to write nurses notes on admission day.

Table 8: Cross tabulation of the distribution of failure of write nurses notes on day of admission and the hospital

Hospital		Failure to write nurses notes on day of admission		Total
		No	Yes	
Hospital A	Count	91	9	100
	% within Hospitals	91.0%	9.0%	100%
Hospital B	Count	97	3	100
	% within Hospitals	97.0%	3.0%	100%
Hospital C	Count	87	13	100
	% within Hospitals	87.0%	13.0%	100%
Hospital D	Count	61	39	100
	% within Hospitals	61.0%	39.0%	100%
Hospital E	Count	90	10	100
	% within Hospitals	90.0%	10.0%	100%
Total	Count	426	74	500
	% within Hospitals	85.2%	14.8%	100%

However, in the cross-tabulation of the hospitals and the error of failing to write daily nurses notes on the patients till patients were discharged, there was a higher chance (69%) of ‘nurses’ at hospital E failing to write daily notes on their patients on admission till discharge than in other hospitals. Hospital B had the least error (41%) of failure to write daily notes on patients till discharge. The observed proportionate differences were statistically significant at the 0.05 level of significance ($\chi^2(4, N=500) = 21.7, p < 0.001$). Table 9 presents details of the cross-tabulation of the hospitals and failure to write daily patients’ care notes till discharge.

Table 9: Cross-tabulation of hospitals and failure to write daily notes till discharge (N=500)

Hospital		Failure to write daily notes till discharge		Total
		No	Yes	
Hospital A	Count	36	64	100
	% within Hospitals	36.0%	64.0%	100%
Hospital B	Count	59	41	100
	% within Hospitals	59.0%	41.0%	100%
Hospital C	Count	45	55	100
	% within Hospitals	45.0%	55.0%	100%
Hospital D	Count	53	47	100
	% within Hospitals	53.0%	47.0%	100%
Hospital E	Count	31	69	100
	% within Hospitals	31.0%	69.0%	100%
Total	Count	224	276	500
	% within Hospitals	44.8%	55.2%	100%

In terms of errors in charting medicines administered to patients, the Hospital E had the highest evidence (31.3%) of medication administered being improperly charted compared to the other hospitals. Hospital A had the least error (11.1%) of improper medication documentation compared to the other hospitals. In a chi-square analysis, the observed proportionate analysis were statistically significant at the 0.05 level of significance ($\chi^2(4, N=500) = 17.4, p=0.02$). Table 10 is a detailed presentation of the cross-tabulation of the hospitals and improper charting of medications administered.

Table 10: Cross-tabulation of hospitals and error of improper charting medication administered (N=498)

Hospital		Medication not properly charted		Total
		No	Yes	
Hospital A	Count	88	11	99
	% within Hospitals	88.9%	11.1%	100%
Hospital B	Count	83	17	100
	% within Hospitals	83.0%	17.0%	100%
Hospital C	Count	71	29	100
	% within Hospitals	71.0%	29.0%	100%
Hospital D	Count	68	31	99
	% within Hospitals	68.7%	31.3%	100%
Hospital E	Count	82	18	100
	% within Hospitals	82.0%	18.0%	100%
Total	Count	392	106	498
	% within Hospitals	78.7%	21.3%	100%

In relation to the error of improperly charting of vital signs, a cross-tabulation of the hospitals and the frequency of documents that had improper charting of the vital signs revealed that hospital E had the highest prevalence (68%) whilst hospital A had the lowest prevalence (39%) of improper charting of vital signs. The observed proportionate differences between the hospitals was statistically significant ($\chi^2(4, N=499) = 22.9, p < 0.001$). Details of the differential frequencies of improper charting of the vital signs at the hospitals are presented in table 11.

Table 11: Cross-tabulation of hospitals and improper charting of vital signs (N=499)

Hospital		Vital signs not properly charted		Total
		No	Yes	
Hospital A	Count	60	39	99
	% within Hospitals	60.6%	39.4%	100%
Hospital B	Count	49	51	100
	% within Hospitals	49.0%	51.0%	100%
Hospital C	Count	44	56	100
	% within Hospitals	44.0%	56.0%	100%
Hospital D	Count	33	67	100
	% within Hospitals	33.0%	67.0%	100%
Hospital E	Count	32	68	100
	% within Hospitals	32.0%	68.0%	100%
Total	Count	218	281	499
	% within Hospitals	43.7%	56.3%	100%

DISCUSSION

SUMMARY OF FINDINGS

We discuss key findings of the review here. Generally, the documentation practices of nurses in the five hospitals reviewed was very poor. The review showed that very few nursing interventions were documented in the records. The common nursing procedures that were recorded in the nurses' notes were monitoring of vital signs and administration of medications. The evidence suggests nurses hardly document other specific procedures that are peculiar to defined medical conditions. For instance, blood transfusion, random blood sugar assessment, oxygen administration, monitoring of foetal heart sounds are hardly charted on the requisite charts or documented in the nurses' notes as and whenever appropriate.

The review also showed that only a few records showed regular charting of vital signs. Almost two-thirds of patient's vital signs were not charted regularly in the patient's records. In majority of cases too, pulse and respiration of patients were not documented. The regular 4 hourly assessment of patients' vital signs were not being followed in majority of the records reviewed in all the hospitals.

The majority of key nursing documentation standards were not met in all the records reviewed. The common nursing documentation standards that were complied with included documentation of the date of writing the nursing notes, time of writing nursing notes and writing of notes on the first day of admission. In majority of the records, nurses did not write daily progress notes on individual patients till discharge. Nurses' notes did not follow any known nursing standards such as the nursing process. Assessment of patients during admission were poorly done, nursing goals for individual patients were not set and there were no evidence of planning or evaluation of nursing care. No nursing diagnoses were formulated based on any health problems. There were few indications of the time an event or intervention occurred, the nature of a procedure, patient complain or response following an intervention were never indicated or were not clearly indicated in almost all the records reviewed. The notes written were not clear about the patient's chief complains, patient's present history, past patient's medical history, specific nursing interventions rendered to the patient and the response of the patient to such nursing interventions. Almost all records did not reflect patient teaching. Additionally, almost all the notes were not signed with the name and credentials of the writer.

The prevalence of nursing documentation error was 99.8% and the commonest documentation error was failure of nurses to sign each documentation entry in the nurses' notes. The errors were common during all the shifts. A common observation was the inability of nurses to enter fully the biographic data of patients in patients' records.

DOCUMENTATION OF NURSING CARE

The findings of this study are not strange. Our findings support previous studies which found that many health care documentation do not meet legal and professional standards (Paans, Sermeus, Nieweg & van der Schan, 2010). Nursing documentation reflect the most critical part of the medical record. A clear, concise and accurate documentation supports quality medical care. It can also refute information found elsewhere in the chart when questions of malpractice or negligence arise. Nursing documentation reflects a continuous record of the signs, symptoms, complaints and the patient's response to physician's orders, treatments and interventions. The project findings suggest a very poor attitude of nurses towards documentation. The commonality of administration and checking of vital signs seems to suggest nurses focus on doctors' orders or interventions (e.g. medications) that could be obvious if left undone. Based on the findings, it could be concluded that the quality of nursing care patients receive at the hospitals is poor because in the legal system, undocumented care implies that it was not done (Lindo, *et al.*, 2016).

Additionally, the poor documentation reflect inadequate supervision and monitoring and a lack of understanding of the purposes of documentation by facilities' nurse managers. Not only does documentation reflect the quality of care, it also serves the purposes of quality assurance, legal matters, health planning, nursing development and research (Urquhart, *et al.*, 2009; Wang, *et al.*, 2011). There is the need for management to institute measures to address the poor documentation standards.

The findings of this study confirmed earlier nursing documentation review conducted in Eastern region of Ghana by Asamani, *et al.* (2014) and is similar to reviews in other developing countries (Blake-Mowatt, *et al.* 2013; Lindo, *et al.*, 2016). The prevalence of errors were almost similar in all the categories of hospitals. A recent reviews of nursing documentations in public hospitals in Jamaica showed that documentation were dated and timed but had inadequate

patient education and discharge planning and deficiencies in the use of nursing process (Blake-Mowatt, et al. 2013; Lindo, et al., 2016). The failure of nurses to adequately reflect the application of nursing process in their documentation was also notable in Yildirim and Ozkahraman's study of nursing documentation (Yildirim & Ozkahraman, 2011). This suggests majority of nurses may not be conversant with the application of the nursing process in their line of duty.

Nursing documentation must include appropriate structure and specific formatting. It should bear evidence of the use of the nursing process (*assessment, diagnosis or identification of problem, goal, interventions and evaluation*). The documentation must reflect valid and reliable information and comply with established standards (Lindo, et al., 2016). Most of the records evaluated did not comply with most documentation standards. This contradicts the practices of nurses in other developing countries. Lindo, et al.'s study revealed adherence to majority of the standards of documentation by nurses in Jamaica and high rates of documentation of patient's physical examination within 24 hours of admission (Lindo, et al., 2016). Johnson (2011) study also reveal that initial stages of nursing care and intervention are adequately recorded, but that nursing diagnosis, planning, evaluation of care and discharge summaries are given less attention; arguments that are supported by this study's findings. The absence of evidence on nursing diagnosis and evaluations in the records has implication for quality of care(Lindo, Jascinth L. M.; Anderson-Johnson, Pauline; Waugh-Brown, Veronica H.; Bunnaman, Donna Marie; Stennett, Rosain N.; Stephenson-Wilson, 2017). In Ghana, nursing documentation is completed, predominantly, by registered nurses and fewer nurse assistants. This study was a retrospective study and we could not verify the category of nurses that document care provided. There is need for extreme caution in the interpretation of the findings.

The findings of the study also support the reviews of Lindo, *et al.* (2016) which found that less than 15% of records reflected patient teaching or discharge planning. This lack of patient centeredness in nurses' documentation is worrisome. It is has been labelled in the handover documents of Swedish patients diagnosed with chronic conditions as deliberate absence of information regarding patients achieving a shared understanding or agreement about their treatment (Flink, *et al.*,2015).

POOR DOCUMENTATION AND THE LEGAL RISK

Documented care is just as important as the actual care. The legal system assumes care was not done if it has not been documented. Failure to document care implies failure to provide care (Lippincott, Williams & Willkins, 2009). According to Crawford and Whelan (Osgoode Law School, 2013), regarding the justice system, "good notes will save you and no notes can destroy you". Therefore, the documentation practices can make the difference between positive and negative legal outcomes.

The documentation policies of hospitals help formulate the scope of nursing practice and the level of responsibility the nurse is held to in legal action. Any legal suit against a nurse require evidence of a nurse-patient interaction which confirms a duty to the patient. The nursing documentation is required as an evidence that the nurse deviated from standard practice in her line of duty. The findings of this project show many errors of documentation that do not meet legal standards and confirms Paans, *et al's* assertion that many health documentations do not meet legal standards. In majority of the instances, the documentation suggest some wilful failure of nurses to follow facility policies. For instance, all the facilities' records clearly indicate that all entries on the patient progress notes' sheet should be followed by the signature of the writer but that was rarely done. The improper cancellation of documentation errors, irregular assessment of vital signs, improper charting of medication administered, failure to document patient's responses to medication or nursing interventions, lack of evaluation of care,

etc. expose the facilities to major legal risks if immediate steps are not taken to address the situation. These findings are supported by Lindo, *et al.*'s study which also found that documentation errors were improperly corrected in almost half of the records. It might be the case that nurses in developing countries have little appreciation of the legal implications of their documentation practices. Consequently, more health facilities risk increased legal losses in law suits challenging the quality of care of patients.

Many records audited were not completed. In times of legal challenge, the patient record is inspected to see that the care was competent, safe and appropriate, as well as completed. Biographic data of patients were not filled and these errors have legal implications. Missing details have often been cited in lawsuits as inadequate or incorrect care. It is necessary to document in the appropriate place in the client's record all the care nurses did for the patient. In a legal challenge, the plaintiff's lawyer looks for lapses in charting, errors, amendments, deletions, inconsistencies and vague entries in order to draw inferences or conclusions of sub-standard practices (Arlene, n.d).

Nevertheless, the challenges nurses in under-staffed facilities in the setting under study face may have influenced some of the deficiencies observed in this study. Warren and Creech Tart (2008) discussed that care provider fatigue contributes to deficiencies in documentation. Many care providers work long hours and have demanding client assignments. They may not have clear thinking processes required for documentation. You may think about what needs to be documented, but often do not write it down. This is especially challenging when a patient has numerous health problems and requires immediate attention. However, being too busy in a healthcare setting is not an excuse for lack of or inappropriate documentation.

LIMITATIONS OF THE PROJECT

The retrospective nature of the project opens it up for some data biases. The quality of nursing documentation entries was not assessed based on the descriptive style of this study.

Additionally, nurses views of the documentation were not assessed and could be the case that care was given but not documented. The qualification of nurses working in the five hospitals vary and this could influence the observed differences in the level of documentation errors in the records. We would therefore urge reader caution in the interpretation or comparison of the findings of the project.

IMPLICATIONS FOR NURSING

1. Nurses in the health facilities need continuing in-service training to ensure that all nurses are knowledgeable about standard documentation practices.
2. Nursing and Midwifery Council, in collaboration with Ministry of Health, need to develop and publish standardized documentation policy document for all nurses in Ghana
3. Continuing monitoring of nursing documentation for quality assurance purposes.
4. Most hospitals in northern Ghana serve as centres for clinical practicum of nursing students and therefore appropriate standards must be maintained to ensure training of competent and professional nursing graduates.

FUTURE RESEARCH

1. To assess the knowledge and perception of nurses and midwives on the significance of standard documentation.
2. To investigate the extent to which nursing documentation in a patient record mirror reality.

CONCLUSION

The findings of this project are very serious and need facility management's immediate attention. The documentation practices of nurses are very poor and this exposes the facility legal dangers.

RECOMMENDATIONS

1. Management of hospitals need to urgently organise in-service training services for all nurses in their units to curtail any unforeseen future challenges
2. Management should conduct regular in prompt assessment of documentation practices of the nurses in order to consolidate and instil adherence to proper documentation standards
3. All newly employed nurses and midwives should be orientated on the institutional polices on proper documentation and the potential consequences associated with its poor practices.
4. Ghana Nursing and Midwifery Council should also prepare a policy document on the standards of documentation and organise frequent workshops on professional legal issues.

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APPENDIX

AUDIT TOOL

CODE: RE17.....

NURSING CARE DOCUMENTATION ASSESSMENT TOOL

PART I – PATIENT DEMOGRAPHIC DATA

1. Hospital: Hosp A⁰ [] Hosp B¹ [] Hosp C² [] Hosp D³ [] Hosp E⁴ []
2. Ward : Medical¹ [] Surgical² [] O&G³ [] Paed⁴ [] Emergency⁵ []
3. Age of patient: <10 yrs¹ [] 10-20² [] 20-30³ [] 30-40⁴ [] >40yrs⁵ []
4. Duration of Admission: 2-3 days¹ [] 4-5 days² [] 6-7 days³ [] ≥8 days⁴ []
5. Outcome of admission: Full recovery¹[] Died²[] Transferred³ [] Absconded⁴ [] DAMA⁵[]
6. Medical Diagnoses:

PART II – DOCUMENTATION OF CARE

[1] Please, list in the table below as from the records the key nursing procedures carried out on patient.

Date	Time of Procedure	Nature of Procedure	Written on Charts		Written on Nurses Note	
			Yes ¹	No ⁰	Yes ¹	No ⁰

- [2] Were all nursing activities recorded in the nurses’ progress notes? Yes¹ [] No⁰ []
- [3] Were all drugs prescribed entered in the treatment sheet? Yes¹ [] No⁰ []
- [4] Were all drugs given charted in the Medication Administration Record? Yes¹[]No⁰ []
- [5] Were all vital signs checked and charted at regular intervals? Yes¹ [] No⁰ []
If No, describe the irregularities:

PART III - DOCUMENTATION STANDARDS

Please, tick [] to show how the following were met in the nurses progress notes.

S/N	Statement	Response		
		Yes ²	No ¹	N/A ⁰
1	Date of writing the notes			
2	Time of writing the notes			
3	Time the procedure/intervention was or event occurred			
4	Nature of procedure, patient complain or response clear in the notes			
5	Handwritings were legible			
6	Documentation errors were properly corrected and endorsed			
7	Notes were clear about patient's chief complains			
8	Notes clear about patient's present history			
9	Notes clear about patient's past history			
10	Notes were clear and specific about nursing interventions or actions			
11	Notes were clear about patient's response to the nursing actions			
12	Notes were signed with the name and credential of the writer			
13	Nursing goals for individual patients were set			
14	Nursing diagnoses were set based on identified health problems			
15	Was there nurses' assessment findings included in the first nurses notes?			
16	Was the first notes written on the day of admission?			
17	Presence of patient education and discharge planning			
18	Evidence of nursing evaluation			

PART IV – COMMON ERRORS

Tick the errors that were identified in the patient's folder and indicate the nursing shift (morning [M], Afternoon [A] and night [N] shifts) the error was identified.

1. Failure to write nurses note on day of admission Yes¹ [] No⁰ [] M¹[] A²[] N³[]
2. Failure to write daily nurses' notes till discharge Yes¹ [] No⁰ [] M¹[] A²[] N³[]
3. Undeclared late entry Yes¹ [] No⁰ [] M¹[] A²[] N³[]
4. Nurses notes not signed Yes¹ [] No⁰ [] M¹[] A²[] N³[]
5. Cancellations not endorsed Yes¹ [] No⁰ [] M¹[] A²[] N³[]
6. Abbreviations and shorthand used Yes¹ [] No⁰ [] M¹[] A²[] N³[]
7. Medications not properly charted Yes¹ [] No⁰ [] M¹[] A²[] N³[]
8. Vital signs not properly charted Yes¹ [] No⁰ [] M¹[] A²[] N³[]
9. Others. Please, list.....
Any other comment or interesting quote from the nurses note:.....