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NURSES USE OF GLASGOW COMA SCALE IN NEUROLOGICAL ASSESSMENT OF PATIENTS IN UNIVERSITY OF BENIN TEACHING HOSPITAL, BENIN CITY EDO STATE , NIGERIA.

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ABSTRACT
Glasgow Coma Scale (GCS) is a reliable tool in assessing patients' level of consciousness. This study assessed nurses' use of GCS for neurological assessment of patients in a tertiary health facility in Edo state. Descriptive, cross-sectional study of all nurses (226) working in wards/units where unconscious patients are nursed. Data were collected using researchers' developed and pre-tested questionnaire and an observational check-list. Data were summarized using proportions and means. Hypotheses were tested using ANOVA at P = 0.05 level of significance. Only 23.4% of the respondents have used the GCS, with significant (p > 0.05) differences in usage between the wards/units. Nurses working in A&E had the highest usage (66.7%); while those in neurological ward and ICU expressed more confidence in usage. Lack of continuing clinical education/updates on GCS, and lack of enforcement of GCS use in assessment were the major factors contributing to non-use of GCS by nurses.

INTRODUCTION

Glasgow Coma Scale (GCS) is a neurological scale which gives a reliable and objective way of describing and recording the conscious state of a person, for initial as well as subsequent assessment [1]. Assessing the level of consciousness is considered a primary function of doctors and nurses who care for patients with neurological or neurosurgical problems. The assessment helps to identify the patients' neurological problems and evaluate health interventions .It can be an indicator for intervention or treatment in emergency conditions [2]. The Glasgow coma scale (GCS), first- presented by Teasdale and Jennet in 1974, is one of the most effective and reliable tools to assess the depth and duration of impaired consciousness, especially for patients with head injuries [3]. The high level of validity and reliability of GCS ensures its assessment accuracy in comparison with other earlier scoring systems such as the anatomical, physiological scoring systems and the revised trauma score [4] [5]. Since GCS was developed, it has been used world-wide because it enhances communication among health care practitioners through a common reporting language. Over the years, its use has been extended to the assessment of consciousness in other clinical specialties and research projects. It has been validated as a reliable tool in grading severity and predicting outcome in conditions like acute stroke, subarachnoid haemorrhage, acute poisoning and other critical illnesses [2].

KEYWORDS: Glasgow coma scale, Unconscious patients, Neurological assessment,

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In Nigeria, there has been increasing cases of head injury and other neurological conditions that required the use of GCS in monitoring such patients. For example, a total of 1055 neurosurgical and neurological cases were attended to in one of Nigeria centre of neurosurgery from 21st April, 2006 to 20th October, 2008 out of which 658 (88%) were cases of head injury, 61 (8.1%) cases of spinal injury, and 29 (3.9%) concomitant head and spinal injuries [6]. In another study [7] on traumatic brain injury in the Accident and Emergency Department of a Tertiary Hospital in Nigeria, the researchers reported that a total of 9,444 patients with neurological and neurosurgical cases were attended to in 24 months which translated to a rate of 5.3 cases per week and an incidence rate of 2,710 per 100,000 per year. Nurses play an important role in providing care to head injury patients and those with other neurological conditions beginning from the assessment which includes assessment of the level of consciousness with the help of Glasgow Coma Scale, monitoring of vital signs and signs of increased ICP, assessing the motor functions and various other aspects. Therefore health care professionals especially nurses should be thoroughly equipped in both knowledge and skill and ensure continuous use of GCS in assessing these patients. However, a descriptive study of knowledge and use of GCS among 60 nursing personnel working in selected areas of a tertiary care hospital in India revealed that majority (70%) of the personnel use GCS to assess their patient hourly and discussed the content in the E(eye),V(verbal) and M(motor) responses during hand over to the nurses of next shift and the same percentage (70%) expresses confidence in using the GCS, although the study was silent on how skillful and accurate the assessment scores of these nurses were [15]. A descriptive correlational study of nurses' self-confidence and attitude in using the GCS in one acute care hospital in Singapore revealed that there are differences in attitude and self-confidence in using the GCS between nurses of different ward settings and that these attitudes and confidences are influenced by a variety of factors [16]. These include the type of clinical discipline, seniority in nursing and a higher attitude scores towards the GCS were significant factors determining a nurse's confidence in using the GCS. Also, a longer length of time working in a neuroscience setting was significant factor determining a nurse's attitude towards the use of GCS [16]. Despite the increasing incidence and prevalence of neurological and neurosurgical cases, literature from Nigeria and other parts of the world report that practicing physicians' working knowledge of the GCS is inadequate [8][9][10]. Similar report of inadequate knowledge of GCS was also noted among nurses working in neuro-surgical wards in other parts of the world such as Baghdad, Vietnam, Singapore and Nigeria [11][12][13][14]. Besides, there is paucity of empirical studies on GCS use from Nigeria; the only documented empirical study evaluated clinical nurses' use of GCS in a teaching hospital in Osun State, Nigeria. The result revealed that although 83% of the nurses had good knowledge of the reasons for neurological assessment and 97% knew the lowest and the highest scores, yet this was not usually done in practice. The two major factors identified as hindering effective use of the GCS among the respondents were shortage of staff and lack of in-service training on the use of the GCS [14]. This single institutional data is considered inadequate to evaluate nurses' use of the GCS in Nigeria. Anecdotal reports from student nurses on clinical experience in University of Benin Teaching Hospital (UBTH), Benin City were inconsistent on GCS use in assessment of unconscious patients among clinical nurses expected to mentor them. Therefore, this study will make a significant contribution in elucidating

further nurses' usage of GCS in clinical practice and factors affecting utilization among nurses in University of Benin Teaching Hospital, (UBTH) Benin. The results will add to knowledge about nurses use of GCS and inform hospital management, nurse educators, policy makers and other stakeholders on strategies to employ to ensure that GCS is effectively and accurately used to assess patients; consciousness in clinical practice.

The specific objectives of this study were to;

1. Assess the nurses' use of the GCS in monitoring in-patients with impaired consciousness in the UBTH.
2. Examine the nurses' perception of the factors that affect the use of GCS among nurses in the UBTH. .
3. Determine the differences in nurses' usage of GCS among the various ward settings.

STUDY DESIGN/ METHODS

This is a descriptive survey involving all 226 nurses working in selected wards/units of UBTH, that manage patients that either came in unconscious or as a result of their medical or surgical conditions can relapse into unconsciousness. Data collection utilized two instruments: First a self- developed 24- items questionnaire made up of closed and open ended questions which were in three sections: Section A: elicited demographic data, B: had 8 questions on the use of GCS, while section C had 8 items on a 4- point Likert scaled response pattern that assessed the nurses' perceptions of the factors that affect their usage of GCS in UBTH. The Likert scaled response questions were analyzed using strongly agree (4point), agree (3), disagree (2), strongly disagree (1) with the average mean item score of 2.5. Item mean score below 2.5 suggests that the perceived factor does not have effect on the use of GCS in UBTH, while score of 2.5 and above were regarded as having effect on the usage of GCS in UBTH. The second instrument was an observational checklist to validate the responses made by the respondents. The unconscious patient's clinical records in all the wards/units of study were audited to elicit documented data on GCS assessment of patient. Face and content validity of the instrument were done by two senior clinicians who are consultants in neurology. Reliability of the questionnaire instrument was established in a pilot study with 20 respondents from similar selected ward/unit in Enugu State University Teaching hospital (ESUTH) using split half reliability test. The Cronbachs alpha correlation coefficient was 0.892.

Ethical approval/clearance for the study was obtained from the UBTH Research and Ethics Committee. Administrative permit was also obtained from the Nursing Services Department of UBTH. Informed verbal consent of each of the respondents was obtained and confidentiality of information obtained were assured. Three (3) research assistants were recruited and trained on how to administer the questionnaires. The questionnaire was self-administered and immediately collected back from the nurses after completion or on a repeat visit. Using the checklist, each unconscious patient's clinical record was audited to elicit documented evidence of nurses' GCS scores. Data generated were statistically analysed using proportions, percentage means and standard deviation. Statistical hypotheses were tested using ANOVA at 5% level of significance. IBM SPSS version 19 was employed in all the analyses.

RESULTS

The result from the study as seen in Table 1 showed that, 148(67.8%) of the respondents were females, 146(66.9%) had only a diploma certificate. The age range was 21-50 with a mean age of 33.9 ±6.41. Senior Nursing Officers (SNOs) had the highest frequency (40.4%). More than 90% of the nurses have worked for more than 2 years and none of them have received further training on GCS after leaving school. 51(23.4%) have used the GCS either in their current ward or previous ward and were confident in using the GCS, 76.4% did not use it routinely. In addition, only 13.7% have used the GCS recently (days ago) and only 9.8% use it routinely (every shift). 21(41.2%) respondents found the eye opening component most difficult to score and 98(45.0%) respondents said the GCS score were documented in nursing process sheet and hand over note book (Table 2). The results of audit of patient's clinical records in the selected ward/units using the observational checklist were presented on Table 3. Total number of unconscious patients were 18, total number of patients records that contains GCS data 14, records with old entries as long as months ago (9) and records with new entries days ago (5). Neuro ward, accident and emergency units made use of the GCS recently and documented their scores in the nursing process proforma and handover notebooks which were appropriate, ICU had a previous documentation in a special GCS score sheet. Even though there were unconscious patients who were not intubated as at the time of this observation there were no recent documentations. No documentation was found in any other wards/units.

Respondents responses to perceived factors affecting the use of GCS were presented in Table 4, it shows that five out of the eight items had mean scores $\geq$ 2.5, which means respondents agreed with these statements as the major limiting factors to the use of GCS. These were lack of continuous training and update courses on GCS (3.71), lack of enforcement of its use by the Nursing Services department (3.48) and inadequate knowledge and skill (3.17).

Furthermore, Table 5 showed the differences in nurses' usage of GCS. Accident and Emergency (A&E) had the highest usage of the GCS as 66.7% of the respondents have used it in their current ward followed by Intensive Care Unit (ICU) (64%) and Neurological ward which had (26.8%). Result from the study also showed that there were significant mean differences in all items related to nurses' usage of the GCS across the various wards/units ($p = 0.000$- $p < 0.05$), (Table 6).

Table 1: Socio demographic characteristics of the respondents (n=218)

Socio demographic variables		Frequency	Percent
Sex	Female	148	67.8
	Male	70	32.1
Age range category	21-25yrs	18	8.2
	26-30yrs	26	11.9
	31-35yrs	87	39.9
	36-40yrs	54	24.7
	41yrs and above	31	14.2
	Mean ± SD(std deviation)	39.9± 6.41	
Academic Qualification	Diploma	146	66.9
	First degree	52	23.8
	Higher degree	20	9.2
Job status	NOII(Nursing officer II)	33	15.1
	NO 1(Nursing officer I)	68	31.2
	SNO(Senior nursing officer)	88	40.4
	PNO (Principal nursing officer)	17	8.7
	ACNO(Assistant Chief nursing officer	3	1.4
	CNO(Chief nursing officer	9	4.2
Years of experience	1-5years	142	65.1
	6-10years	54	24.8
	10 years and above	22	10.0
Other training received on GCS		Nil	nil

Table 2: Respondents use of GCS in monitoring in-patient with impaired consciousness.

Items	frequency	percentage
1.Used GCS to rate patients in Current ward (n=218)		
No	167	76.6
Yes	51	23.4
2.Used GCS to rate patients in Previous ward (n=218)		
No	167	76.6
Yes	51	23.4
3.self confident in rating patients with the GCS (n=218)		
Yes	51	23.4
No	167	76.6
4.Self rating of proficiency in using the GCS (n=51)		
Fair	42	82.4
Average	9	17.6
Good	0	0.0
Very good	0	0.0
5. Frequency of performance of GCS (n=51)		
Every shift	5	9.8
Once a day	12	23.5
Once a week	3	5.8
Sometimes	31	60.8
6. When last did you use the GCS in assessing patient with impaired consciousness (n=51)		
A long time ago	44	86.3
A month ago	0	0.0
A week ago	0	0.0
Days ago	7	13.7
7. Components of the GCS found difficult to assess (n=51)		
Eye opening	21	41.2
Motor response	15	29.4
Verbal response	15	29.4
8. Lowest score ever obtained (n=51)		
1	2	3.91
2	10	19.6
3	22	43.1
4	1	1.96
5	4	7.84
7	1	1.96
8	1	1.96
I can't remember	10	19.6
9. Documentation sites (n=218)		
The GCS score sheet attached to the patient folder	93	42.7
Both the nursing process assessment sheet and in the hand over ward notebook	98	45.0
Only the hand over notebook	4	1.8
Communicated verbally to the ward manager and nurses during handing over	4	1.8
Others	19	8.7

Table 3: Validation of respondent's use of GCS and documentation sites.

Ward/ units	No of unconscious patient as at the time of observation	No of case files with GCS data	Documentation sites	Domains documented	Remarks
MMW	1	Nil	Nil	Eye opening	X
				Best verbal response	X
				Best motor response	X
				pupilairy reaction to light	X
FMW	1	Nil	Nil	Eye opening	X
				Best verbal response	X
				Best motor response	X
				pupilairy reaction to light	X
MSW	0	Nil	Nil	nil	
FSW	0	Nil	Nil	nil	
N W	6	6(4 old entries > a month ago, 2 recent entries days ago)	Nursing process & hand over notebook	Eye opening	√
				Best verbal response	√
				Best motor response	√
				pupilairy reaction to light	X
ICU	5	5(all old entries > months ago)	GCS score sheet& hand over note book	Eye opening	√
				Best verbal response	√
				Best motor response	√
				pupilairy reaction to light	X
A&E	3	3(all recent days ago)	Nursing process & hand over notebook	Eye opening	√
				Best verbal response	√
				Best motor response	√
				pupilairy reaction to light	X
RR	2	Nil	Nil	Eye opening	X
				Best verbal response	X
				Best motor response	X
				pupilairy reaction to light	X

NB: None of the patients were intubated.

KEY: X= Variable not found in the patients nursing process profoma, hand over note book and GCS score sheet, √= Variable present in the patients nursing process, hand over note book and GCS score sheet MMW= Male medical ward, FMW= Female medical ward, RM= Recovery room, NW= Neuro ward, A&E= Accident and Emergency, ICU= Intensive care unit, MSW= Male surgical ward, FSW= Female surgical ward.

Table 4: Respondents responses to perceived factors affecting the use of GCS (n=218)

Perception of factors affecting nurses usage of GCS	Ratings by the nurses				Mean(SD)
	SD=1 Freq (%)	D=2 Freq (%)	A=3 Freq (%)	SA=4 Freq (%)	2.50
1. The nursing services department don't enforce it.	7(3.2)	9(4.1)	73(33.5)	129(59.2)	3.48(0.73)
2. It is not nurses procedures to assess the GCS of the patients	144(66.1)	43(19.7)	23(10.6)	8(3.7)	1.52(0.83)
3. We don't normally have patients with impaired consciousness in my ward	84(38.5)	95(43.6)	26(11.9)	13(6.0)	1.85(0.85)
4. The hospital policy does not allow nurses to assess patient with GCS	33(15.1)	123(56.4)	38(17.4)	24(11.0)	2.24(0.84)
5. They don't make the assessment tools available for nurses	11(5.0)	27(12.4)	74(33.9)	106(48.6)	3.26(0.86)
6. Too much work load with few nurses on duty prevent nurses from using the GCS	9(4.1)	20(9.2)	132(60.6)	57(26.1)	3.09(0.72)
7 I feel nurses do not have adequate knowledge and skill in using the GCS	11(5.0)	26(11.9)	96(44.0)	85(39.0)	3.17(0.83)
8. I feel I need continuous training and update to be able to use the GCS	3(1.4)	3(1.4)	48(22.0)	164(75.2)	3.71(0.56)

Table 5 : Respondents differences in usage of GCS among the various ward/units.

	Units								Total (%)
	Neuro n=41 F (%)	A and E n=27 F (%)	ICU n=25 F (%)	MMW n=20 F (%)	FMW n=18 F (%)	MSW n=13 F (%)	FSW n=35 F (%)	Theatre n=39 F (%)	
Usage category									
1.Have you made use of the GCS in Current ward n=218									
No	30(73.2)	9(33.3)	9(36.0)	15(75.0)	17(94.4)	12(92.3)	33(94.3)	38(97.4)	163(74.8)
Yes	11(26.8)	18(66.7)	16(64.0)	5(25.0)	1(5.6)	1(7.7)	2(5.7)	1(2.6)	55(25.2)
2.Use to rate patient in Previous ward n=218									
No	25(61.0)	22(81.5)	21(84.0)	14(70.0)	9(50.0)	8(61.5)	22(62.9)	38(97.4)	159(72.9)
Yes	16(39.0)	5(18.5)	4(16.0)	6(30.0)	9(50.0)	5(38.5)	13(37.1)	1(2.6)	59(27.1)
3.Self confident in rating patients with the GCS n=218									
No	18(43.9)	20(74.1)	15(60.0)	17(75.0)	13(72.2)	10(76.9)	35(100)	39(100)	167(76.6)
Yes	23(56.1)	7(25.9)	10(40.0)	3(25.0)	5(27.7)	3(23.0)	0(0)	0(0)	51(23.4)
4.Frequency of performance n=51									
Every shift	1(7.6)	1(9.0)	3(37.5)	0(0)	0(0)	0(0)	0(0)	0(0)	5(9.8)
Once a day	10(76.9)	0(0)	1(12.5)	0(0)	1(14.3)	0(0)	0(0)	0(0)	12(23.5)
Once a week	0(0)	1(9.0)	0(0)	0(0)	0(0)	1(16.6)	1(25.0)	0(0)	3(5.8)
Sometimes	2(15.4)	9(81.8)	4(50.0)	3(100)	6(85.7)	5(83.3)	2(50.0)	0(0)	31(60.8)
5.Self rating of proficiency n=51									
Fair	9(69.2)	6(75.0)	4(80.0)	5(83.3)	4(80.0)	5(83.3)	9(100)	0(0)	42(82.3)
Average	4(30.8)	2(25.0)	1(20.0)	1(16.7)	1(20.0)	1(16.7)	0(0)	0(0)	9(17.6)
Good	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)
6.When last did you use the GCS n=51									
A long ago	10(66.7)	8(80.0)	6(100)	4(100)	5(100)	3(100)	8(100)	0(0)	44(86.3)
A month ago	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)
A week ago	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)
Days ago	5(33.3)	2(20.0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	7(13.7)

Table 6: Significance means difference in nurses' usage of GCS across the various ward/unit. (n=218)

Usage category	Between Groups	12.837	7	1.834	13.615	.000
Current ward	Within Groups	28.286	210	.135		
	Total	41.124	217			
Previous ward	Between Groups	4.919	7	.703	3.872	.001
	Within Groups	38.113	210	.181		
	Total	43.032	217			
Confident in using the GCS	Between Groups	5.058	7	.723	4.462	.000
	Within Groups	34.011	210	.162		
	Total	39.069	217			
How often do you use	Between Groups	7.110	7	1.016	3.772	.001
	Within Groups	56.546	210	.269		
	Total	63.656	217			
Rate your proficiency	Between Groups	16.022	7	2.289	2.512	.018
	Within Groups	146.676	161	.911		
	Total	162.698	168			
When last did you use the GCS	Between Groups	21.847	7	3.121	4.445	.000
	Within Groups	117.261	167	.702		
	Total	139.109	174			

DISCUSSIONS

The study revealed that 76.6% have not used and had no confidence in using the GCS. This differs greatly from that reported in India where (70%) of the nursing personnel use GCS to assess their patient hourly as prescribed and even discussed the content in the eye (E), verbal (V), motor (M) responses during hand over to the nurses of next shift [15]. This wide gap in the usage between these two studies could be due to strict enforcement of the use of the GCS among the nursing personnel in India as stated in their finding. This type of enforcement is lacking in UBTH. Strict enforcement by the nursing services department will be of great help in ensuring that nurses are committed to the use of GCS for monitoring every unconscious patients been nursed. The study revealed that 23.4% of the respondents felt confident in rating GCS which is far lower than that reported from India (70%) [15]. This difference can be attributed to the fact that the respondents in India make use of the GCS more often in neurological assessment of their patients and these continuous exposure makes them confident in using the GCS as against respondents of this present study who seldom uses the GCS and lack continuous exposure to it as the study has revealed that majority of them (86.3%) used it long time ago and among those that uses it, only 9.8% uses it every shift. This might also be the case with the nurses in Vietnam who demonstrated acceptable accuracy rates for each component of GCS, but due to lack of usage are not able to integrate their GCS knowledge when subjected to actual practice of measuring accurately the GCS scoring, making them lacking in confidence in the use of the GCS [13]. As reported in the study in India, the nursing personnel were committed to using the GCS every shift and it is mandatory that they discuss their findings in the three components of the GCS to the next shift nurses. No doubt this continuous usage, documentation and subsequent discussion of findings make the respondents confident. In a similar study, it was reported that the overall confidence was moderate between 45-50% before a workshop on GCS, and immediately after the workshop there was a significant increase in confidence in the performance of the GCS to about 60-70%. However in 3 months, there was a slight decrease in confidence; this was explained to be due to lack of use [19]. This further emphasized the need for continuous training and update courses for all nurses as well as enforcing the routine use the GCS in the assessment of patients with impaired consciousness in all the wards/units; not just in neurological wards or A&E as observed in this study.

Furthermore, result from the study revealed that 41.2% representing the highest respondents find the eye opening component as the most difficult to score when using the GCS. Although a good number (29.4% each) reported motor and verbal response respectively as the most difficult to scored in this present study. This result differed from other studies which reported that the motor response component is the most difficult to assess [14] [8] [9] [10] [19] [20]. This difference recorded in this study might be attributed to individual respondent's perceived difficulty with the various domains used in assessing GCS and not necessarily the problem of use as most respondents were not assessing patients with GCS and as such this study did not assess the accuracy of the scores from each assessment data to validate the respondent's assertion.

Findings showed that only 45% of the respondents indicated that GCS data is documented in the nursing process profoma hand over notebook and in some cases special GCS score sheet. Further validation by the researchers using an observational checklist confirms the above findings. The same modes of documentation were also reported in studies conducted in India and Osun state [15] [14]. However, it was noted from the patient's clinical record audit that the documented score in ICU carried older entries of more than a month compared to the time of this observation despite the fact that there were still patients in the ward with impaired consciousness. A&E and neuro ward recorded GCS scores that were recent, although there were still some files in neuro ward that carried entries older than a month. There was no documentation in any other ward/unit used for this study as at the time of this observation. From this observation, the researchers confirmed the low level of utilization of the GCS among nurses in UBTH as reported in the questionnaires from this study. It was also noted that GCS documentation was done only on nursing process profoma, handover note book and special GCS sheet. As good and appropriate as this may be, it does not meet in its entirety the purpose of using the GCS and its documentation. GCS assessment data is not for nurses' consumption only; rather it is meant to communicate to physicians and other health professionals assisting them in making clinical judgments and taking appropriate and timely decisions. Therefore, in addition to the modes of documentation indentified in this study, it should also be documented in the flow sheet, observational sheets and special GCS sheets present in the patient case file where others can see and make use of it. The nursing process proforma should also be part of the patients' clinical record that gives an account of nursing care rendered.

Five major perceived factors affecting the use of GCS in the neurological assessment of patient by nurses in UBTH include; lack of continuous training and update courses on GCS for nurses, lack of Nursing Services Department enforcement of the rule, non availability of documentation charts, lack of adequate knowledge and skill and too much work load with few nurses on duty. Similarly, shortage of staff and lack of in-service training on the use of the GCS were major factors affecting the use of GCS among nurses in Osun state [14]. This factor reinforces the need for continuing education. A&E nurses recorded the highest usage of the GCS in their current ward followed by ICU and neuro ward. This high usage recorded by A&E can be attributed to large number of unconscious patients that always presents in the emergency unit on a daily basis that need triage and clinical decision on the best management approach. This may require GCS score in the decision making. However, A&E respondents expressed less confidence in the use of GCS when compared to those in neuro ward and ICU, this is so because nurses in neuro ward and ICU always admit patients with neurological conditions that needed to be monitored using the GCS for a longer period of time compared to A&E. This frequent encounter with neurological patients made them to be familiar and gain more confidence in using the GCS. This assertion agrees with the opinion of Gladwell who reported that the more time spent in the ward and exposure to a wider variety of neurological patients requiring GCS assessment facilitates the learning of the GCS among the nurses [21]. Also in agreement is a finding which reports that student nurses working in neuroscience wards had a better understanding of the GCS as compared with peers who did not undertake such attachment [17]. The Singapore study affirmed this with a report that the types of clinical discipline,

longer length of time working in a neuroscience setting were significant factors determining a nurse's confidence in using the GCS [18]. There was significant difference in nurses usage of the GCS across the various ward/units in UBTH at ($p = 0.000$). Other researcher have reported similar significance difference in nurses usages of GCS across the various units ($p = .02$) with nurses working in neurological care unit having a significantly higher usage than those in other units [13].

Implications for nursing practice.

The Glasgow coma scale is a significant instrument or tool in the management of patients in critical, acute or neurological care settings. It is an internationally recognized tool for the management of unconscious and/or head injury patients and patients in coma as a result of complications from medical conditions such as diabetic and hypertensive conditions etc [22]. The GCS has been the gold standard of neurological assessment for trauma patients since inception [4]. The level of usage, skill and proficiency recorded in this study is not encouraging compared to the standard of practice the nurses are expected to attain. Therefore an urgent and proactive action needs to be taken by all stakeholders in nursing; both in the clinical area and in academia, to continuously empower nurses to use GCS in assessing and reporting GCS scores on every unconscious patient. This becomes important if nurses must make great impact in reducing morbidity and mortality associated with neurological impairment, promote rapid recovery and enhance inter-professional communication with regards to the care and management of unconscious patients. Documented scores must be in clinical records/forms accessible to all members of the health team. Hospital management should organize continuous training and update courses for nurses on the use of the GCS. The Nursing and Midwifery Council of Nigeria (NMCN) through its Mandatory Continuous Professional Development Program (MCPDP) should incorporate neurological skill acquisition as one of its core courses to be taught to all nurses. Schools of Nursing, Post Basic School and Universities offering nursing should teach, demonstrate and evaluate students' proficiency in neurological assessment using the GCS in simulation laboratories and in actual patient encounters. Also Nursing Services Department should make it as a point of duty to enforce the use of the GCS among nurses that manage unconscious patients; and any reporting of an unconscious patient must include the GCS score.

Limitations/strength of the study

The study was limited to nurses working in selected ward/units where unconscious patients were nursed in a selected tertiary health facility. A larger population of nurses from other tertiary and secondary health institutions would have been included for wider generalization of findings. However it is an eye opener to nurses' poor usage of GCS in this federal tertiary health institution in Nigeria. Tertiary health institution represents centre of excellence in clinical practice and are expected to engage experts in various professional fields.

Conclusion

The performance and use of GCS in assessment of patient with impaired consciousness was very poor. All stake holders in nursing and hospital management in UBTH should embrace the responsibility of providing nurses with the

necessary supportive education and training on GCS in order to produce nurses that are skillful, efficient and are confident in the use of GCS for assessment patient consciousness.

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