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Original Article

Operative notes in orthopaedic surgical care in Nigeria

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ABSTRACT

Objective: To determine the quality of operative notes in orthopaedic surgery procedures. **Background:** As University of Abuja Teaching Hospital Gwagwalada transforms from a specialist hospital to a tertiary institution there is the need to improve our practice to conform to standard practice and develop a centre for research and teaching. Our hypothesis is that the present method of operative note documentation is inadequate and that the quality of note written by operating surgeons would be better compare to that of the assistants. **Materials and Methods:** An audit of 120 consecutive orthopaedic surgery operation notes was assessed using Royal College of Surgeons of England (RCSE) guideline. The quality of our notes was compared to the established standard; also the quality of notes by the operating surgeons was compared to his assistants. The data was analyzed with SPSS 17.0. **Results:** Of the 120 operative notes reviewed, 86(71.7%) were written by the assistants, and 34(28.3%) by the operating surgeons. The majority of the note did not conform to that in the RCSE guideline. The quality of documented notes by the operating surgeon was higher in parameter such as the surgeon's name, procedure performed, type of incision, operative findings, closure technique, suture used, post operative instructions, post operative fluid management, thrombo-prophylaxis and nurse instruction compared to that taken by his assistants and these were statistically significant ($p < 0.001$). **Conclusion:** This study identifies areas of improvements in our operative notes. Introduction of proforma and supervision of the assistants by the operating surgeons would improve documentation following surgery.

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1. Introduction

Operation notes are important parts of a patient's medical records [1]. Operative note as a continuum of the documentation of the patients' care included information on procedure performed and the objective findings of the pathology being treated. Mostly notes written by junior members of the scrubbed team were hurriedly done and included abbreviations. The problems of abbreviation in operative notes have been documented [2-3].

As health insurance gradually supports our healthcare delivery system, the importance of operative notes would come to fore in

quality assurance, cost control and lawsuits. The need to standardize our operative note as noted in a study[4] to reappraise the guidelines developed by the Royal College of Surgeons of England [5] (RCSE) would help our practice. Our hypothesis is that proforma based operative note will demonstrate significant improvements in data collection following orthopaedic surgery and that the quality of note written by the operating surgeon would be better compared to that of the assistants. There are many studies [6-16], on this subject but literature search did not reveal any from Nigeria at the commencement of this study. This descriptive study would compare operative notes following orthopaedic surgical procedures at the University of Abuja Teaching Hospital Gwagwalada to the standard set by the RCSE

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2. Materials and Methods

This study was conducted at the University of Abuja Teaching Hospital Gwagwalada in September 2010 using a predesigned proforma according to standards prescribed by Royal College of Surgeon of England (RCSE) to obtain data from operative notes for all orthopaedic procedures done. One hundred and twenty consecutive operative notes were retrieved and reviewed retrospectively by the first author to determine if it conformed to the guidelines set by the Royal College of Surgeons. The data reviewed was also used to compare the quality of notes taken by the operating surgeon to that of his assistants.

Data was retrieved by the proforma as described by Khan et al [12]. This included presence or absence of information regarding patients' data, date and time of surgery, surgeon's name, assistant's name, procedure done, type of incision made, suture material used, operative diagnosis, preoperative findings, complications during the procedure (if any), details of tissue removed, closure technique, type of sutures used in closure, estimated blood loss, post operative instructions including oral intake, intravenous fluids, analgesia, antibiotics and instructions for the nursing staff.

Data was analyzed with Fisher's Exact Test and paired t-test where appropriate using Statistical Package for Social Sciences (SPSS) 17.0 where the p-value < 0.05 was significant.

3. Results

Of the 120 cases reviewed, 86(71.7%) operative notes were written by the assistant, while the other 34(28.3%) operative notes were written by the operating surgeon. Table 1 shows the value and percentages for the operating surgeon and his assistant and the p-value of the operation note that did not have the required input or data recorded.

Patients' names were missing in 26(21.7%) case notes, 93(77.5%) had date of surgery written on them and none had the time of surgery recorded. Post surgical notes had the name of operating surgeon, assistant and the operative procedure carried out in 88(73.3%) cases. The type of incision made was mentioned in 67(55.8%) of the notes and 49(40.8%) did not mention the suturing material used.

In 36(30%) of the case notes operative diagnosis was not mentioned, 73(60.8%) cases mentioned incision type, while the details of operative findings were missing in 69(57.5%), and 3(2.5%) of the case notes reported intra-operative complications. In all the notes reviewed details of tissue removed was not mentioned while 28(23.3%) stated closure techniques and mentioned the suture used in closure. The post operative instructions were written on 88(73.3%) of the notes and 84(70%) had instructions for intravenous fluids. Post operative antibiotic were prescribed in 83(69.2%) cases, 34(28.3%) had post operative thrombo-prophylaxis, post operative analgesics was documented in 88(73.3%) of the cases, while 78(65%) of the post operative notes had no instructions for the nursing staff.

Table 1: Value and percentage of the operation notes without required data point recorded including the p-value.

Characteristics (%)	Operating surgeon	Assistant surgeon	p value
Date	7/34(20.6%)	20/86(23.3%)	0.321
Patient name	4/34(11.8%)	22/86(25.6%)	0.423
Surgeon name	3/34(8.8%)	29/86(33.7%)	<0.001
Assistant name(s)	8/34(23.5%)	24/86(27.9%)	0.761
Time of surgery	34/34(100%)	86/86(100%)	0.112
Diagnosis	6/34(17.6%)	30/86(34.9%)	0.341
Procedure performed	2/34(5.9%)	30/86(34.9%)	<0.001
Operative findings	9/34(26.5%)	60/86(69.8%)	<0.001
Incision	3/34(8.8%)	50/86(58.1%)	<0.001
Complications	32/34(94.1%)	85/86(98.8%)	0.452
Tissue removed	23/23(100%)	67/67(100%)	0.112
Closure technique	6/34(17.6%)	86/86(100%)	<0.001
Suture used	6/34(17.6%)	86/86(100%)	<0.001
Post-op instruction	3/34(8.8%)	29/86(33.7%)	<0.001
Post-op fluid	2/34(5.9%)	34/86(39.5%)	<0.001
Antibiotics	7/34(20.6%)	30/86(34.9%)	0.243
Thrombo-prophylaxis	4/34(11.8%)	82/86(95.4%)	<0.001
Nurses instructions	8/34(23.5%)	70/86(81.4%)	<0.001

4. Discussion

The operation notes reviewed provided a good spectrum as the types of operation and the experience of the surgeon writing the operation note [16]. Complete and accurate documentation would provide data for continue patients' care, form a basis for audit and provide data for research which would improve healthcare delivery system especially in a resource challenged country like Nigeria.

In our study, operative notes documentation leaves much to be desire due to missing of important information which has been shown in many studies [3-4, 7-9, 12-16], reviewed. Hence, this study has brought to fore the inadequacies of our operative notes. Many studies [5,9,11] have shown the benefit of using a standard proforma based on The Royal College of Surgeons of England guidelines to improve accuracy and completeness of operation notes.

In this study, all the operation notes were hand written. This was also the findings of Morgan et al [14]. All the notes reviewed did not show the time of surgery, this is in consonant with the findings of Khan et al [12] that emphasized the medico-legal importance of this fact. In the overall notes, the missing data was as noted in other works [7-9, 11-16]. In our study, areas in which

standard could be improved by the assistant surgeons is in the documentation of surgeon's name, procedure performed, type of incision, operative findings, closure technique, suture used, post operative instructions, post operative fluid management, thromboprophylaxis and nurse instruction. This has been documented in studies by Ghosh [16] who noted the need for improvement in some of the parameter highlighted in operation notes.

With increase involvement of health insurance in our healthcare delivery, potential weaknesses in our operation notes which is a legal tender need to be identified and rectified. The use of standardized operation note sheet with heading and specified space for documentation act as aide- memoires [12]. This aide-memoires and proforma based documenting system has been shown to improve the quality of documentation [7-9,11-12,14-16].

The use of computerized operation notes [10] compared to hand written has demonstrated superior quality, but its use in resource challenge country like Nigeria where there is no constant power supply would not be appropriate.

5. Conclusion

This study shows that our operative notes do not contain essential information to standardize patient care and provide data for research. It also showed that note taken by the operating surgeon is better than that of his assistants. Effort should be made by most senior colleagues to cross check documentation after surgical procedures and an appropriate proforma should be redesign to capture important data.

6. References

- [1] Lesar TS, Briceland L, Stein DS. Factors related to errors in medication prescribing. *J Am Med Assoc.* 1997; 277: 312-317.
- [2] Shocket E. Frequency of uncommon abbreviations in medical journals. *South Med J.* 1995; 88: 315.
- [3] Shayah A, Agada FO, Gunasekaran S, Jassar P, England RJA. The quality of operative note taking: an audit using the Royal College of Surgeons Guidelines as the gold standard. *Int J Clin Pract.* 2007; 61: 677-679.
- [4] Read MW, Phillips WS. Operating theatre lists accidents waiting to happen? *Ann R Coll Surg Engl.* 1994; 76: 279-280.
- [5] The Royal College of Surgeons of England. Guidelines for clinicians on medical records and notes. 1994.
- [6] Dale RF, Midwinter MJ. Use of database management system by surgeons to produce operation notes. *Ann R Coll Surg Engl.* 1996; 78: 272-275.
- [7] Rogers A, Bunting M, Atherstone A. The quality of operative notes at a general surgery unit. *S Afr Med J.* 2008; 98: 726-728.
- [8] Baigrie RJ, Dowling BL, Birch D, Dehn TC. An audit of the quality of operation notes in two district general hospitals. Are we following Royal College guidelines? *Ann R Coll Surg Engl.* 1994; 76: 8-10.
- [9] Bateman ND, Camey AS, Gibbin KP. An audit of the quality of operation notes in an otolaryngology unit. *J R Coll Surg Edinb.* 1999; 44: 94-95.
- [10] Rhodes ND, Southern SJ. Digital operation notes: A useful addition to the written record. *Ann Plast Surg.* 2002; 48: 571-573.
- [11] Din R, Jena D, Muddu BN, Jenna D. The use of an aide-memoire to improve the quality of operation notes in an orthopaedic unit. *Ann R Coll Surg Engl.* 2001; 83: 319-320.
- [12] Khan MUR, Ahmed S, Shamim MS, Azhar M, Rehman SU. Operative notes at surgical units of a tertiary care hospital. *J Surg Pakistan (International).* 2010; 15: 57-59.
- [13] Roger AD. The quality of an operative notes at a general surgery unit. *South Afri J Med* 2008; 98: 726-728.
- [14] Morgan D, Fisher N, Ahmad A, Alam F. Improving operation notes to meet British Orthopaedic Association guidelines. *Ann R Coll Surg Engl.* 2009; 91: 217-219.
- [15] Al Hussainy H, Ali F, Jones S, McGregor-Riley JC, Sukumar S. Improving the standard of operation notes in orthopaedic and trauma surgery: the value of a proforma. *Injury.* 2004; 35: 1102-1106.
- [16] Ghosh AK. An audit of orthopaedic operation notes: what are missing? *Clinical Audit* 2010; 2: 37-40.