Effectiveness of Audit and Feedback in Improving the Quality of Operative Notes - A Retrospective Observational Study

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ABSTRACT

Introduction
Surgeons must maintain detailed and accurate operative notes as it is important not only for safe patient care but also for research, audit and medicolegal purposes. But literature has shown that many operative notes are incomplete and illegible. Audit and feedback is a useful strategy to improve such practices which our department has been following. Our aim is to study its effectiveness by comparing the quality of operative notes of 2016 with that of 2014.

Methods
Total 96 operative notes, 48 each of the year 2014 and 2016 were studied under 22 parameters including 18 suggested by "Good Surgical Practice" guideline. Each operative notes was analyzed by a single observer for completeness. Parameters of the operative notes of two different years were compared and given the status of either improved, deteriorated or unchanged.

Results
Only parameters related to patient identification, date, surgeon's fullname, postoperative plan were complete in both the years. In comparison to earlier year, in 2016 improvement was seen in parameters such as postoperative diagnosis, details of tissue removed, authors details, closure details, operation time and operative difficulties/complications and deterioration was seen in hospital number, preoperative diagnosis, procedure, fullname of anesthetist, fullname of scrub nurse, operative findings and signature of the surgeon.

Conclusion
Improvement in the quality of the operative notes was not adequate with audit and feedback strategy alone. Hence to increase the effectiveness, other methods such as computerized operative notes and aide-memoire should also be introduced.

Keywords: *Audit, feedback, operative notes, surgical notes*

INTRODUCTION

According to the Royal College of Surgeons of England published guidelines, 'Good Surgical Practice', surgeons must maintain records of all their interactions with patients which should be accurate, comprehensive, legible and contemporaneous.[1] Operative notes are one of such important records. Detailed and accurate notes are not only important for safe patient care but are essential also for research, audit and medico-legal purposes.[2] Some literature has even demonstrated that up to 45% of operation notes are non-defensible due to incompleteness and illegibility.[3] Therefore, maintaining clear, concise and legible operation notes are crucial.

An audit and feedback method is widely carried out in various hospitals to improve professional practice.[4] We follow the same strategy of audit and feedback in the department. However, a systematic review has concluded that the success of audit and feedback are variable and it depends on how the feedback is provided.[4] Hence, our aim is

to study the effect of audit and feedback by comparing the quality of operative notes of 2016 with that of 2014.

METHODS

We carried out a retrospective audit at the Department of Otolaryngology and Head & Neck Surgery, Institute of Medicine, Kathmandu. Approval for the study was taken from the department. A total number of 96 operative notes were selected; 48 each from the year 2014 and 2016. Forty-eight operative notes of each year comprised of one operative note selected from each of four subspecialties from each month selected randomly. Operative notes were scrutinized and analyzed for completeness by a single observer. Twenty-two parameters of the operative notes were assessed including eighteen parameters as suggested by "Good Surgical Practice" guideline.[1] Data was entered and results were calculated in MS EXCEL version 2013. Parameters were considered 'incomplete' either when it was illegible or when the information was inadequate. Next, the parameters of the operative notes of the year 2016 were compared with that of 2014 and status of improved, deteriorated or unchanged was given to each parameter.

RESULTS

All of the 96 operative notes were hand written by the assisting resident at the end of the operation. In all the operative notes parameters related to patient identification-name, age, sex, ward, bed number were legible and complete. Similarly, the date of the operation, the full name of the surgeon and postoperative plans were also completely written in all the operative notes. However, the rest of the 14 parameters were written incompletely. [Table 1]

In contrast to the year 2014, in 2016 improvements were seen in 6 parameters-postoperative diagnosis (72.9% vs. 70.8%), details of tissue removal (89.5% vs. 68.7%), author details (100% vs. 97.9%), closure details (87.5% vs. 50%), operation time (35.4% vs. 10.4%) and operative difficulties / complications (58.3% vs. 20.8%). However

there were deterioration in 7 parameters-hospital number (95.8% vs. 97.9%), preoperative diagnosis (77% vs. 100%), procedure (93.7% vs. 100%), anesthetist's full name (75% vs. 97.9%), full name of scrub nurse (75% vs. 97.0%), operative findings (83.3% vs. 100%) and signature of the surgeon (60.4% vs. 64.5%). Proper diagram was legible only in 47.9% in both the years.

DISCUSSION

Maintaining a complete operative note is a professional responsibility of every surgeon. These notes are essential in the management of the patient and are often produced as evidence in medico-legal cases. Our department conducts yearly audit and feedback. In our study audits of data that were two years apart were taken as it would take time to learn and bring about changes in the professional practice from the feedbacks.

In all the operative notes (N=96) parameters related to patient identification, date of the operation and postoperative plans were complete. It could be due to the fact that these parameters are cross-checked with priority by different doctors and nurses posted in the postoperative ward and in-patient ward while shifting the patients out of the operation theatre. Further, these parameters are part of verbal communication as well while referring to a patient during routine rounds. Similarly, the full name of the surgeons was completely written in all the notes. However, the full name of the anesthetists and scrub nurses were not completely written. This could be due to the fact that residents who write the operative notes are usually newly posted in the operation theatre thus they might be unfamiliar with full names of anesthetists and nurses whereas as they work under the supervision of the surgeons they are familiar with their names. Other parameters such as incompleteness in the proper diagram, procedure, per-operative findings, tissue removal details, closure details, operative time, operative difficulties, and signature of the surgeon can be contributed partly to the workload and partly to the failure of appreciating the importance of these parameters.

Table 1: Comparison of completeness of operative notes in the year 2014 and 2016.

Parameters of an operative note	Completeness (2014) n(%) (N=48)	Completeness (2016) n(%) (N=48)	Status
Name	48(100)	48(100)	-
Age	48(100)	48(100)	-
Sex	48(100)	48(100)	-
Bed number	48(100)	48(100)	-
Ward	48(100)	48(100)	-
Date	48(100)	48(100)	-
Hospital number	48(97.9)	46(95.8)	Deteriorated
Preoperative diagnosis	48(100)	37(77)	Deteriorated
Postoperative diagnosis	34(70.8)	35(72.9)	Improved
Procedure	48(100)	45(93.7)	Deteriorated
Full name of surgeon	48(100)	48(100)	-
Full name of anesthetist	47(97.9)	36(75)	Deteriorated
Full name of scrub nurse	47(97.9)	36(75)	Deteriorated
Proper diagram	23(47.9)	23(47.9)	Unchanged
Per operative findings	48(100)	40(83.3)	Deteriorated
Postoperative plan	48(100)	48(100)	-
Details of tissue removed	33(68.7)	43(89.5)	Improved
Full name of author & signature	47(97.9)	48(100)	Improved
Signature of the surgeon	31(64.5)	29(60.4)	Deteriorated
Closure detail	24(50)	42(87.5)	Improved
Operation time	5(10.4)	17(35.4)	Improved
Operative difficulties/ complications	10(20.8)	28(58.3)	Improved

The audit helps in improvement of quality of the operative notes, in some cases[5] up to almost 100% but the effectiveness of audit and feedback depends on baseline performance and how the feedback is provided[4]. Our study showed mixed results. When data of 2014 and 2016 were compared, in certain parameters there was improvement while in others there was deterioration, and in some, there was no change.

There are other ways other than intensive audit and feedback method which can be applied adjunct to it to improve the quality of the operative notes. Barritt et al have found

that computerized operative note can help improve the notes by improving legibility and reduce variability between different operative notes for the same procedure. Additionally, it would be easy to tailor the computerized notes' content as recommended by standard guidelines to minimize the errors.[6] Similarly, a study by Shayah et al have concluded that even addition of simple aide-memoire to operating theatres can be of great help.[7]

CONCLUSION

Improvement in the quality of the operative notes was not adequate with audit and feedback strategy alone. Hence to increase the effectiveness, in addition to an intensive audit and feedback, other methods such as computerized operative notes and aide-memoire should also be introduced.

CONFLICTS OF INTEREST

None declared.

REFERENCES

1. The Royal College of Surgeons of England. Good Surgical Practice. London. 2013. [online] Available at: https://www.rcseng. ac.uk/standards-and-research/gsp/ [Accessed 5 July 2019]

2. General Medical Council. Good medical practice. London. 2013. [online] Available at: http://www.gmc-uk.org/guidance/ good_medical_practice.asp [Accessed 5 July 2019]

3. Lefter LP, Walker SR, Dewhurst F, Turner RWL. An audit of operative notes: facts and ways to improve. ANZ J Surg. 2008; 78 (9): 800-802.

4. Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD et al. Audit and feedback: effects on professional practice and healthcare outcomes. Cochrane Database of Systematic Reviews. 2012; Issue 6. Art. No.: CD000259. DOI: 10.1002/14651858.CD000259.pub3.

5. Singh R, Chauhan R, Anwar S. Improving the quality of general surgical operation notes in accordance with the Royal College of Surgeons guidelines: a prospective completed audit loop study. J Eval Clin Pract. 2012;18(3):578–580.

6. Barritt AW, Clark L, Cohen AM, Hosangadi-Jayedev N, Gibb PA. Improving the quality of procedure-specific operation reports in orthopaedic surgery. Ann R Coll Surg Engl. 2010;92(2):159–162. doi:10.1308/003588410X12518836439245

7. Shayah A, Agada FO, Gunasekaran S, Jassar P, England RJ. 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(4):677–679. doi: 10.111/j.1742-1241.2007.01292.x.