

Quality of Clinical Notes: Lesson Learned from Elective Surgery Patients Admitted at University Teaching Hospital

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ABSTRACT

Background: Informative relevant documentation regarding course of treatment minimizes errors, provides data for evidence based practice and legality. However, the clinical notes are often inadequate. This study aims to analyse quality of structured clinical notes in surgical patients.

Methods: This cross sectional study from Oct 1, 2015 in department of surgery included 100 clinical notes randomly selected by lottery. The entries in notes were predefined. There were 29 general entries (nine for identification, eleven for admission details, eight for treatment progress, and one for handwriting). Three additional entries were for discharge patients. The decision for entries was based on consensus meeting in surgery department. Microsoft excel was used for data entry and descriptive analysis.

Results: There were 100 clinical notes analysed, 62 non-discharge and 38 discharge patients. Four (out of 62) non-discharge had all 29 entries documented. Two (out of 38) in discharge had all 32 entries documented. The “date of entries, clinician name and designation” were mentioned in 12%, 13% and 10%, respectively. The progress on diet was recorded in 53%, investigations in 72% and intervention details in 73%. Handwriting was difficult to read in 21%. In 13 (out of 100) the identification information was incomplete. Discharge lacked details of home advice in 11%.

Conclusions: The quality of clinical note of elective surgery patients needs improvement on documentation in all domains of identification, admission, progress and discharge.

Keywords: Admission discharge information; elective surgery; quality of clinical notes; tertiary care teaching hospital.

INTRODUCTION

Patient care is evolving dynamic process. Comprehensive care involves health professionals, family and friends of patients, community, socially acceptable norms and evidence based approach for optimum outcome of patients. Informative, relevant clinical note is important for better and continued care. Documentation minimizes possible errors in the course of care, provides basis for further research and basis of evidence when there is medico-legal issues. Individual health professional has the responsibility to maintain optimum patient records. Standardized and structured clinical note is essential to improve doctors' performance and outcome to achieve good health care delivery.^{1,2}

General knowledge and skills taught in medical schools to document history, examination, diagnosis, treatment and follow-up is the basis for optimum patient care.

However, information documented in the clinical notes often varies widely and are inadequate, for example- the details of important information, such as important physical findings, medication or investigation, can lead to adverse events and poor clinical outcome.^{3,4}

Locally and in the region, we lack agreed upon essential format of structured clinical note. Periodic audit is crucial for critical appraisal and improvements of the quality of documents. We prospectively analyzed the quality of clinical notes of admitted surgical patients for completeness of information and need of improvements. This study aims to provide information on use of structured clinical notes in surgical patients which could be further modified to develop a guideline on quality of clinical notes and can be modified for use in disciplines other than surgery.

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METHODS

This was a cross sectional study at department of surgery from Oct 1, 2015. We randomly selected 100 patients. Ten intern doctors rotating in surgery ward were briefed to 'look into' the patients' case notes for the completeness and accuracy of pre-defined entries. Ten case notes of admitted surgery patients were randomly selected by simple lottery on working days (Sun, Mon, Tue, Thu, and Friday). The bed numbers of all admitted patients were written on separate pieces of paper, folded and put in a large envelop. Ten folded pieces were drawn randomly, and then put into another envelope. Ten intern doctors each drew one number to review the respective patient chart. This process was repeated for ten days till we had 100 samples. On subsequent days if the number drawn were that of previously drawn patients, then another draw was taken.

The entries in clinical notes were predefined for completeness necessary for quality care. There were 29 general entries and additional three for discharge patients. The consensus decision for relevancy of entries (variables) was based on discussion in the surgery department meeting attended by faculties, residents, and intern doctors. Each entry was given score of one (present) or zero (absent). Thus, a maximum score of 29 was necessary for completeness of note and additional three, i.e. 32 for the discharge patients. Legibility of entries was based on whether hand writing was readable (one) or not readable (zero). Microsoft Excel was used for data entry and descriptive analysis. Study was approved by institutional review committee, IRC-PAHS.

RESULTS

Out of 100 clinical notes studied, 62 were non discharge and 38 discharge patients. Four (6.5% of 62) in non discharge had all 29 entries, and in two (5.3% of 38) discharge patients had all 32 entries noted. In 13 (13% out of 100), the information for identification of patient was incomplete. The 'date, clinician name and designation' was noted in 12%, 13% and 10%, respectively. Drug and social history was detailed in 30% and 23%, respectively. In daily progress notes, the details of changes in diet were noted in 53%, investigations in 72% and intervention in 73%. Handwriting was difficult to read in 21%. The clinical notes of the patients who were being discharged lacked the information on home advice about medicine, diet, physical activity and dressing in 11%, (Table 1).

DISCUSSION

Our study showed there was serious lacking in

documentation in clinical notes of elective surgery patients. Only four out of 62 (6.5%) non-discharge patients had complete information on all the 29 general entries. Among 38 discharge patients, only two (5.3%) had all 32 entries. Furthermore, the crucial information on 'identification of patients' were incomplete in 13 (13% patients). Similarly inadequate documentation has been reported as common occurrence in clinical practice that may compromise quality of care, cause adverse incidents and lead to poor outcome.^{3,4}

When the individual sections of the score were analyzed separately, the general information for identification of patients and doctors (9 entries) that are crucial and must have information were incomplete with missing data in 13% (13 out of 100). The deficiency was in details of contact number and address of the patients. For identification of doctors, the consensus decision on "every entry should be signed, every note should be dated and every entry should have clinician designation" had lowest score of 17%, 13% and 10%, respectively. Lack of these entries could be the issue of not being responsible when there is need to 'identify' the clinician who is taking care of and is responsible for the management of patients, for example, in circumstances of dispute about the care and medico-legal issues. Information to accurately identify patient 'Identification data- name, age, sex, hospital number, date, contact number, addresses' were noted in 87% only. This could lead to unwanted consequences in time of urgency when the patient's family needs to be contacted. Despite recommendations and advice from Royal College of Surgeons and Physicians, the NCEPOD (National Confidential Enquiry into Patient Outcome and Death), the study found that the standard of initial assessment was unacceptable in 7.1%.⁵ This is also interesting to note from published evidence that doctors who record more data are likely to detect adverse events.⁶

In present study, the initial clinical information on admission was also lacking. The details of social history about duration and quantity of alcohol and tobacco (smoking or chewable) were mentioned in only 23%. The crucial information to initiate prompt treatment, for e.g. type of admission (emergency or elective) and chief complaint was mentioned in 87% only, previous history of tuberculosis, diabetes, and hypertension was mentioned in 69% only. More serious lacking was in details of initial examination, present in 81%, initial plan of treatment in 79% and progress note with specific plan of treatment in 85% only. Even the working diagnosis was present only in 88%. These details are important and further influence the course of treatment and final outcome. For any modification of diagnosis or treatment there must be a

Table 1. Documentation of entries required for quality clinical notes in elective surgery patients (n= 100) admitted in a tertiary care university teaching hospital.

Entry categories for quality clinical notes		Details of entries for quality clinical notes (score-- present 1 , absent 0)		Non-discharge (n=62)	Discharge patients (n=38)
A. General information		1	Identification data- name, age, sex, hospital number, date, contact number, address	87	-
		2	Patient name on every page	83	
		3	Hospital number on every page	82	
		4	Every entry should be dated	12	
		5	Every entry should be timed	51	
		6	Every entry should be signed	17	
		7	Every note should have clinician's name	13	
		8	Every entry should have clinician's designation(or 'as per advised by')	10	
		9	There must be entry each working weekdays (son, mon, tue, thu, fri)	81	
B. Clinical content (11 entries)	B1. On admission	1	Type of admission- emergency, elective	87	-
		2	Presenting/chief complaint	87	-
		3	History of presenting/chief complaint	75	-
		4	Previoushistory(no/yes- details of TB, HTN, DM, other/ surgery)	69	-
		5	Allergies/warnings- no, if yes details	60	-
		6	Family history- married, unmarried, divorced, menstruation and pregnancy	50	-
		7	Drug history- no, if yes details of type, duration, dose	30	-
		8	Social history- duration, quantity of alcohol, tobacco (smoke/ chew)	23	-
		9	Details of initial examination	81	-
		10	Working diagnosis	88	-
		11	Plan of treatment/investigations	79	-
	B2. Daily progress notes (8 entries)	1	Relevant complaint	91	-
		2	Relevant clinical findings as per specific disease/surgery	90	-
		3	Plan of treatment- specify (in progress sheet/dr order/ drug sheet)	85	-
		4	Drugs - name, dose, route, duration	72	-
		5	Iv fluid - name, dose, route, duration	64	-
		6	Oral diet- sips, liquid/soft/normal	53	-
		7	Investigations	72	-
		8	Intervention	73	-
C. Legibility-readability of handwriting		1	Readable	79	
D. Discharge plan, when the 'discharge' was mentioned in Dr's order (3 entries)		1	Discharge diagnosis, if different from admission clarification	-	98
		2	Home advise- medicine, diet, physical activity, dressing etc	-	89
		3	Follow-up when and where	-	97

logical explanation as why earlier diagnosis or treatment requires change. Also, there must be documentation to show clearly that modified management is working. Approximately half of the clinical notes (53%) did not have details of progression of oral diet, sips, liquid or normal. This documentation is necessary to omit unnecessary intravenous fluid in patient who can tolerate oral diet.⁷ Similarly, the details of drugs and antibiotics to justify their use was noted in 72% only, where as in clinical practice the logical explanation is necessary to justify the necessity of use of antibiotics.⁸

In this study, we noticed 21% of clinical notes were difficult to comprehend due to difficult to read handwriting. Doctors are famous for 'scribble' with difficult to read handwritings which at times create blunders. Readable writing, preferably with identification of persons who makes entries of relevance and accuracy serves as evidence in case of litigation.⁹

The discharge advice of medicine, diet, physical activities, dressing etc were lacking in 11%. The home advice is important and a matter of concern for patients and family after leaving hospital. It affects the compliance and overall outcome after surgery. The detail instruction, preferably in written form provides ease of mind to patients and family, more so in our society where there is lack of community nurses and family physicians.¹⁰

This study shows our clinical notes have problems with documentation, are inadequate and lacks necessary information to be recorded in the patient chart during the course of patients care and need to be improved with detail entries. The teaching in medical schools to systematically document history, physical examination, relevant investigations and treatment process for the care of patients, and use of structured standardised clerking, were not adhered to in our daily practice as found in other studies.^{11,12} Standardizing entries in clinical notes during the course of care is important for consistency. Structured, agreed upon entries improves documentation. The CRABEL score has been shown to be a useful, reproducible and easy-to-perform objective assessment of the quality of medical record keeping. Repeated audit cycles have ensured that case-note quality remains a high priority and have also led to the development of standardized admission documentation for measurable improvement in record keeping.^{2,113-15}

Our findings suggest that there is need of reinforcement to knowledge and skills learned in medical school in regard to documentation of clinical history, and further management of patients. Standardized clinical note of

relevance requires input from all health care personnel, doctors, nurses and paramedical staff who are directly involved in overall care of patient. Furthermore, the holistic care involves patients, family, management, community and society as a whole because medicine is more than just facts and figures of science and includes much bigger circle outside of health professional and patients. Good clinical note is the basis of quality patient care. Our study shows adequate and relevant information in clinical notes needs to be improved. Implementation of structured clinical note with periodic audit for revisit and reflection will help maintain consistency and improve quality of care for patients.

CONCLUSIONS

Quality of clinical notes in admitted surgery patients need improvement both in required number of entries and details in all the domains of general information for identification of patients and doctors, initial clinical details on admission and progress as well as discharge advice.

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