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Original Research

Effect of Attaching Standard Medical Recording Guidelines to the Patient File on Quality of Medical Students' Skills

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Abstract

Introduction: Currently, medical staff of hospitals use a number of recorded files in the treatment process of patients, but we have noticed that there are insufficiencies and gaps in data of the medical recordings, some of which may be the reason behind serious problems related to treating patients. Other studies have shown some weaknesses in the medical recording systems in our country so we studied effect of attaching a standard recording guidelines sheet to patients'files as a reference for the recorder.

Methods: In this study, 50 externs and 40 interns were enrolled. They were responsible for 60 patients in the general internal medicine ward of Sina hospital, University of Medical Sciences, Tabriz, Iran. This study was done during 6 months in the Sina hospital (January 2010-August 2010). Standard medical recording guidelines were attached to the patients' files. The externs studied off note writing, and the interns studied consultation, off note and orders writing in the first day of patient hospitalization. The quality of their medical writing was assessed before and after attaching guidelines. The students were not aware of the evaluation of their work. If the writing met less than 70% of the standard format, it was not accepted.

Result: The consultation sheet of the interns showed significant differences before and after the guidelines' attachment in problem list writing (p= 0.005). Other studied aspects did not have any significant difference. Affixed guidelines, therefore, could solve the problem of list recording, but did not alter other items.

Conclusion: This study showed that the interns had many problems in medical recording which would not be solved with attaching a standard medical recording checklist, and we must choose other methods to correct those errors.

Introduction

Writing, including medical recording, is among the most important duties of medical students at a hospital. Physicians communicate with each other with their speaking and writing skills. However, we see many problems in regards to both of these tyeps of skills.[1] Studies showed that medical writing (like files, prescriptions and witnesses) have many weak points in need of improvement. Furthermore, in most of the files, data related to patients is incomplete.[2,3] Verbal communication is overly dull (like a paper with a thesis and a patient introduction). Reviewing of students' evaluations on lecture presentations, morning reports, and journal club classes is called witnesses. They are some of the reasons that medical students dislike participating in such classes. Despite this, speaking and writing are essential skills. Most of students' unwanted experiences have been repeated frequently due to the absence of suitable medical recordings, which wasted time and expenses. Nowadays, medical files are not only used for communication, but also are very important in managing patients.[4] Exact recording of data in consultation notes and orders is a basic principle. This exactness also helps other medical staff in this field.[5] Mistakes in file writing seem to have different causes, like using of speaking skills instead of writing, and the students' absence of knowledge on the importance of data recording, and absence of data evaluation with an attending physician, and so on. We

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hypothesized that the lack of correct and thorough medical recording methods was one of the reasons we saw such poor records; therefore, we attached principles of true medical writing in the first page of all files.[6]

Materials and Methods

In this study, 50 externs and 40 interns were enrolled. They were responsible for 60 patients in the general internal medicine ward of Sina hospital. This study was done during in the Sina hospital, Tabriz University of Medical Sciences. This study was done over six months in this center (January 2010-August 2010). This type of before and after study in a single group meant that we used the non-parametric equivalent of a paired t-test (Wilcoxon test); this is because all of our variables were nominal, not scale. P values more than 0.05 were considered significant. For our sample size calculation, we used the Vanderbilt power and sample size calculating software, Dichotomous tab and replaced the required parameters and calculated a sample size (about 88 students). Our intervention was a standard medical recording guideline, which was placed in the file of patients. We evaluated the knowledge and skill of students in our wards both before and after the placing of guidelines.

For externs, we evaluated the off-service note writing, and for interns, we evaluated consultation, off-service notes and order writing for patients in the first day of hospitalization.

Our goal was a general improvement of medical writing among medical students, because at this time, there are many problems in this particular field, which will subsequently affect other aspects of learning and healthcare in our region.

Some patients who were very ill and their condition was different different from other patients were excluded (for example, patients who were comatose or under mechanical ventilation).

We studied the quality of the "Medical consultation sheet" among the interns, because in our ward, only interns are allowed to write such papers. Off-service notes are written by externs and interns, so we studied these notes in both groups of students separately, because comparing of quality results between externs and interns was not our goal.

Order writing is also a duty of interns. This study was approved by the local ethical committee of Tabriz University of Medical Sciences, and all of the results were kept confidential. We also did not consider the results of this study in our final evaluation of students.

In our study, we used this method: principles of medical recording were attached to the first page of files.[7,8,9] None of the students were aware of the evaluation, and we also did not consider the results in the final evaluation of our students.

If the writing contained greater than 70% of medical recording standards, it was accepted.

Results

In consultation writing by interns only, a significant difference was detected in the problem list item (p= 0.005). In other items like progress notes, the purpose of consulting both the control and case groups were similar and still contained many problems (Table 1).

Both interns and externs had various and frequent difficulties in writing the progress note, problem list and patients' evaluation, even in the presence of the attached learning note. Interns also had multiple mistakes in their physical examination notes (Table 2, 3).

Additionally, first day orders showed frequent mistakes in vital signs, nursing and prescriptions notes in both groups. Due to the continued presence of mistakes and incomplete data on the medical records, our results meant that the attachment of a learning note did not solve the problem as hypothesized (Table 4).

Table 1. Medical consultation sheet condition

Item	Before (%)	After (%)	P-value
Patients characteristics	27 (90)	27(90)	0.665
Time of consultation	29(96.7)	29(91.7)	0.654
Emergency	27(90)	30(100)	0.119
Brief	29(96.7)	30(100)	0.5
Readable	28(93.3)	29(96.7)	0.5
Politeness	29(96.7)	29(96.7)	0.754
Defined time of hospitalization	28(93.3)	28(93.3)	0.694
Medical language	30(100)	30(100)	0.6
Secret protection	30(100)	28(93.3)	0.246
Clinical course	9(30)	11(36.7)	0.392
Problem list	0	7(23.3)	0.005
Goal	26(86.7)	21(70)	0.105
Absence of excess explanation	29(96.7)	27(90)	0.306
Unrelated findings	(100)	(100)	0.54
Previous consultation	4(13.3)	7(23.3)	0.253
Relationship between goal and specialty	28(93.3)	28(93.3)	0.253

Table 2. Off- service note condition of interns

Item	Before (%)	After (%)	P-value
Time of hospitalization	24(88.9)	25(83)	0.415
Diagnosis	24(88.9)	28(93.3)	0.449
Diagnostic and therapeutic works	24(88.9)	22(73.3)	0.125
Progress note	14(51.9)	10(33.3)	0.126
Examination	25(92.6)	25(83.3)	0.258
Lab data	25(92.6)	25(83.3)	0.258
Problem list	1(3.7)	3(10)	0.347
Evaluation	17(63)	14(46.7)	0.067
Plan	22(81.5)	19(63.3)	0.109

Table 3. off- service note condition of externs

Item	Before (%)	After (%)	P-value
Time of hospitalization	28(93.3)	21(70)	0.021
Diagnosis	27(90)	29(95)	0.306
Diagnostic-therapeutic works	18(60)	24(80)	0.079
Progress note	13(43)	10(33.3)	0.289
Physical examination	19(63.3)	17(56.7)	0.396
Lab data	29(96.7)	27(90)	0.306
Problem list	5(16.7)	1(3.3)	0.097
Evaluation	15(50)	50(15)	0.602
plan	21(70)	27(90)	0.052

Table 4. Order writing condition

Item	Before (%)	After (%)	P-value
Time and ward of hospitalization	28(93.3)	24(80)	0.12
Diagnosis	28(93.3)	28(93.3)	0.69
General condition of patient	27(90)	30(100)	0.11
Allergy	23(76.7)	23(76.7)	0.61
Vital signs	6(20)	7(23.3)	0.5
Patient activity	28(93.3)	25(83.3)	0.21
Nursing cares	8(26.7)	3(10)	0.09
Dietary regiments	26(86.7)	25(83.3)	0.5
Drug orders(injection)	12(40)	19(63.3)	0.06
Drug orders (oral)	30(100)	29(96.7)	0.5
Lab data request	30(100)	29(96.7)	0.5
Special orders	29(96.7)	30(100)	0.5

Discussion

Alongside a consultation, affixing of standard medical recording guidelines to the patients' files could significantly solve the problem list item, but it could not solve other aspects of faulty medical recording. It must be mentioned that in the problem list section, 14 out of 17 items were true. It meant that 82% (with a coefficient of 70%) of the medical records were written correctly.

In off-service note writing, 6 out of 9 items were pointed out as being correct (66% with a coefficient >70%). In all of the above-mentioned items, about 23% of the problem was detected in file writing. In one study, the actions of the students were evaluated using designed sheets, observation or history-taking sheets, and orders. It showed that the revenue of the students was 47.4%, and the revenue of residents was 37.5%.[10] The defective data and documents had negative effects in the diagnosis and treatment process.[11,12]

In another study, a weak insight on files was shown (about 7 out of 9 students) was present, which may be due to the ineffectiveness of affixing guides.

In file recording, not all the items were improved by the addition of the guide, but most of the items were done according to the standard methods. In our study, history-taking was not investigated. It is clear that in the medical recording of these files, there are many problems. This may be due to medical students' unawareness of both the importance and legal aspects of this duty. Workshops for learning proper medical recording are necessary, and it is effective to have a final evaluation of this task. Errors in medical writing are not only due to lack of knowledge, but other possible factors that may be present.[13] For this reason, attaching a guide for standard medical recording was not enough.

Documentation of medical files is often seen as unimportant, so incorrect completion of the files, absence of medical documents staff (who can control and correct the mistakes), absence of regard to patients' legal rights,[14] and neglect of medical researchers will damage[15,16] all of the persons who might make use of these incorrect documents.

Conclusion

According to the above-mentioned data, the attachment of standard medical recording guidelines to the patients' files as a review for the recorder does not improve the medical recording template and content. Therefore, we must focus on other methods to improve this important problem, not only among medical students, but also all of the staff who are involved in patient care and treatment.

Competing interests

The author declares no conflict of interest.

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