

PRACTICE OF DOCUMENTATION AT CASUALTY OF TERTIARY CARE HOSPITAL – AN INTERVENTIONAL STUDY

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Abstract

A medical record plays a major role for the patient and health care sector in terms of treatment and making policies on certain diseases. In any suit of negligence, this medical record will help the doctors to defend them. Many a times the complete and accurate documentation only have helped the medical fraternities from getting entangled in various consumer cases made by the patient against the doctors. Even though we have seen so many negligence cases on doctors, documentations are still incomplete in any medical record. There are studies shown that the average time spent by a doctor on a medical record is very less and the scenario is much worse when it comes to critical areas of the hospitals like casualty where the time is very precious in treating the patient and not much of importance is given for documentation. So to identify the current practice of documentation of medical records, this study was carried out to assess the documentation practice of the admission case sheets in the casualty of SMVMCH, Puducherry. An intervention was done to improve the completeness of documentation in the casualty and post-intervention analysis was also done. The results of the study showed that the percentage of documentation out of the 34 variables documented in the admission case sheets found to have significant deficiencies. But following the intervention on improving the documentation there has been a significant decrease of the deficiencies in the documentation practice on all those 34 variables.

Keywords: Medical record, Documentation, Casualty and Admission case sheet.

Introduction

In a tertiary care hospital, medical records serve as a tool to provide better clinical care and to act as a means of communication between care providers.¹ Completed documentation of this medical record is very important, because the deficiencies in this documentation, have made the doctor's defenseless in medical negligence cases filed against them in the court.² Casualty being the

first place of contact, a properly documented medical record is needed for proper diagnosis and treatment.³ Thus in view of a good patient care and to prevent a health care provider from negligence suits, a standardized medical record documentation is very essential. This needs to stress on the "Golden Rule" in documentation i.e. "If it isn't written down, you didn't do it."⁴ Following the Honourable Supreme Court judgement in the year 1995, stating that "doctors also come under the purview of the Consumer Protection Act, 1986 which makes the medical fraternity liable under the consumer forum for deficiencies in the quality care and treatment". To safeguard the physicians from these forums, the only defensive evidence was proper documentation which is the need of the hour.⁵ So our study helps in identifying various deficiencies in the documentation of medical records mainly the admission case sheet in the casualty,

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followed by analysis and an interventional methodology to improve the same in the casualty, there by helping the patient to have a better care and the doctors to safeguard from litigations by having a proper documentation practice.

Materials and Method

The study was conducted at Department of Forensic Medicine, Sri Manakula Vinayagar Medical College and Hospital, Puducherry, after getting approval from the Institutional Ethics Committee approval (IEC NO-97/16). It was a hospital based cross-sectional study with pre and post interventional analysis, conducted for periods of 18 months from November, 2016 to April 2018. The case sheets of patients admitted under the department of medicine, surgery and orthopaedic in casualty were used as study sample. The total sample size was calculated, by using "Open Epi software version 3.0" taking into account the improvement in the documentation of case sheets from 16.0 % to 28.0 % based on previous study with 95% confidential interval and 80% power, as 680 case sheets. Out of total 680 case sheets, 340 case sheets were studied during the pre-interventional period and 340 case sheets during the post-interventional period using simple randomized sampling method. All case sheets of patients admitted to Casualty by the concerned departments were taken for the study. **Exclusion Criteria:** Out Patient case sheets attending casualty, Case sheets of patients referred to other hospitals, Case sheets of patients patient admitted to casualty by other than the Medicine, Surgery and orthopaedics department faculty. The checklist proforma for case sheets was prepared after going through the guidelines on documentation by Medical Council of India, admission case sheet format of our hospital and review of literature. The checklist proforma was scrutinized and validated by the faculty from the department of Medicine, Surgery and Orthopaedics. **A total of 34 variables were identified from the admission case sheets and grouped into 6 categories for analysis purpose as follows: Category A: Socio-demographic variables** (1.Patient name, 2.Address, 3.Age, 4.Sex, 5.Income, 6.Hospital number, 7.Date of patient), **Category B: History variables** (8.Narrated by, 9.Referred by, 10.Brought by, 11.Presenting complaints, 12.Past history, 13.Personal history, 14.Family history), **Category C: Physical examination and vitals variables** (15.General examination, 16.Blood pressure, 17.Pulse rate, 18.Respiratory rate, 19.Glasgow coma scale), **Category D: Systemic examination**

variables (20.CVS examination, 21.RS examination, 22.Abdominal examination, 23.CNS examination, 24.ENT/Eye examination, 25.Oral cavity examination), **Category E: Management variables** (26.Provisional diagnosis, 27.Plan of management, 28.Investigation) and **Category F: Doctor's variables** (29.Signature of the doctor, 30.Name of the doctor, 31. Designation, 32.Registration number, 33.Date, 34.Time). 340 case sheets of the patients admitted under the Department of Medicine, Surgery and Orthopaedics in emergency Department were recorded in checklist proforma before intervention. The variables in the checklist were entered in "Microsoft Excel" analysed in "Epi data analysis software version 2.2.2.186" and the deficiencies were identified. Intervention was done in the form of workshop to the faculties and post graduates of Medicine, Surgery and Orthopaedics Departments. The deficiencies found in the admission case sheets were highlighted and its importance in both improving patient care and legal implications on doctor's side were discussed. After the intervention, again the checklist proforma was filled up from 340 case sheets of patients during the post-interventional period. The difference between the documentation in the case sheet for pre and post interventional periods were assessed using Chi Square test. P value <0.05 was considered as statistically significant. The completeness of documentation in the case sheet was compared between pre and post interventional periods.

Results

Total of 680 admission case sheets were analyzed, out of which 340 case sheets were analyzed in the pre intervention period and 340 case sheets in the post intervention period. Out of 340 admission case sheets in the pre-interventional period, 226 case sheets were of Medicine, 66 case sheets of Surgery and 48 case sheets of Orthopedics department. In the post-intervention, 192 case sheets belonged to Medicine, 89 case sheets to Surgery and 59 case sheets to Orthopedics.

However 340 pre and 340 post interventional admission case sheets of all three departments were collectively analysed and result were compared for this study. On Comparison of "Socio-demographic variables" (Table No. 1), except the variable of documenting Hospital number, rest all variable showed a significant increase in the practice of documentation in the post-intervention period.

Table No 1: Comparison of pre and post interventional documentation of socio demographic variables

S.No.	Socio demographic variables	Pre intervention (N=340)	Post intervention (N=340)	p value
		Number (%)	Number (%)	
1	Patient name	311 (91.5)	335 (98.5)	<0.001
2	Address	133 (39.1)	178 (52.4)	<0.001
3	Age	278 (81.8)	323 (95.0)	<0.001
4	Sex	277 (81.5)	321 (94.4)	<0.001
5	Date	219 (64.4)	259 (76.2)	<0.001
6	Income of patient	0 (0.0)	5 (1.5)	0.031
7	Hospital number	224 (65.9)	238 (70.0)	0.250

Table no 2 shows the details of documentation of “**History variables**” in the admission case sheets during the pre- and post- intervention period and its comparison analysis. Except the variables like referred by and past history, rest all variable showed a significant increase in the practice of documentation in the post-intervention period.

Table No 2: Comparison of pre and post interventional documentation of history related variables

S.No.	History variables	Pre-intervention (N=340)	Post-intervention (N=340)	p value
		Number (%)	Number (%)	
1	Narrated by	3 (0.9)	10 (2.9)	0.050
2	Brought by	143 (42.1)	177 (52.1)	0.009
3	Personal history	186 (54.7)	240 (70.6)	<0.001
4	Family history	96 (28.2)	150 (44.1)	<0.001
5	Referred by	11 (3.2)	20 (5.9)	0.098
6	Presenting complaints	340 (100.0)	340 (100.0)	NA
7	Past history	330 (97.1)	329 (96.8)	0.825

On comparison between the documentation practice of “**Physical examination and Vitals variables**” it was observed from the study that variables like BP, Pulse rate and General examination were documented properly even during the pre- intervention period itself.(Table No 3).

Table No 3: Comparison of pre and post interventional documentation of Physical examination and Vitals variables

S.No.	Physical examination and vitals variables	Pre intervention (N=340)	Post intervention (N=340)	p value
		Number (%)	Number (%)	
1	Blood pressure	316 (92.9)	310 (91.2)	0.394
2	Pulse rate	315 (92.6)	300 (90.3)	0.272
3	General examination	331 (97.4)	332 (97.6)	0.806
4	Coma scale	5 (1.5)	11 (3.2)	0.205
5	Respiratory rate	17 (5.0)	23 (6.8)	0.328

In this study, it was observed that doctors were proper in documenting the important variables like CVS, RS, CNS and Abdomen examination under the category of “**Systemic examination variables**”. (Table No 4).

Table No 4: Comparison of pre and post interventional systemic examination related variables

S.No.	System examination Variables	Pre intervention (N=340)	Post intervention (N=340)	p value
		Number (%)	Number (%)	
1	CVS examination	336 (98.8)	336 (98.8)	1.000
2	RS examination	335 (98.5)	336 (98.8)	0.737
3	Abdomen examination	335 (98.5)	335 (98.5)	1.000
4	CNS examination	331 (97.4)	329 (96.8)	0.650
5	ENT/Eye examination	153 (45.0)	142 (41.8)	0.395
6	Oral cavity examination	121 (35.6)	129 (37.9)	0.525

The study has shown that doctors have documented variables like Investigation and Provisional diagnosis without any fail in the admission case sheets during the pre- and post- intervention period under the category of “**Diagnosis related variables**” but during pre-intervention period documentation of Plan of management wasn’t done properly but later on after the intervention it was done properly. (Table No 5).

Table No 5: Comparison of pre and post interventional management related variables

S.No.	Diagnosis related variables	Pre intervention (N=340)	Post intervention (N=340)	p value
		Number (%)	Number (%)	
1	Plan of management	275 (80.9)	300 (88.2)	0.008
2	Investigation	329 (96.8)	336 (98.8)	0.067
3	Provisional diagnosis	337 (99.1)	339 (99.7)	0.316

In this study even though the doctors were found to be only proper in documenting their signature apart from other variables under the category of “**Documentation of doctor related variables**” during the pre-intervention period, later on after the intervention, significant improvement was observed in all the other variables as the doctors understood the importance of documenting these variables properly. (Table No 6).

Table No 6: Comparison of pre and post interventional doctor information related variables

S.No.	Documentation of doctor variables	Pre intervention (N=340)	Post intervention (N=340)	p value
		Number (%)	Number (%)	
1	Signature	320 (94.1)	336 (98.8)	<0.001
2	Name of doctor	222 (65.3)	320 (94.1)	<0.001
3	Designation	271 (79.7)	316 (92.9)	<0.001
4	Registration number	176 (51.8)	298 (87.6)	<0.001
5	Date of treatment	219 (64.4)	259 (76.2)	<0.001
6	Time	4 (1.2)	11 (3.2)	0.068

Discussion

In our study total number of sample size was 680 case sheets which includes 340 case sheets of pre intervention period and 340 case sheets of post intervention period,

taking into consideration of 34 variables from the admission case sheet, similar study was conducted by Vahedi HS et al, titled “an impact of educational intervention on medical record documentation in

Iran” with 900 sample which including 300 medical records on pre interventional periods, 300 records on post interventional periods after 1 month and also 300 medical records on post interventional periods after 6 months and they have recorded 17 variables from all the medical record including progress sheets and admission sheets.⁶

In our study documentation of patient identity related variables in pre interventional period showed that the name of the patient was recorded 91.5%, address 31.9%, age 81.8% and sex was recorded in 81.5% where the other study of Saravi PM et al, study titled on “documentation of medical records in hospital of Mazandaran university of medical science in 2014” showed that the demographic findings was recorded in 95% history sheet, 90% on progress notes, 77% on admission notes and 61% of summary seats.⁷

Some A et al, study titled on “audit of medical record in 2010” showed that socio demographic characteristic of name, age, sex, residence, occupation, marital status and religion were available in 26 to 99% of the case sheets. This study conducted on 368 medical record on the department of medicine, surgery, obstetrics and gynaecology and paediatrics. Name of the patient were recorded in 100% on medicine and surgery department and totally 99.73%, age of the patient were recorded 98.1%, sex of the patient were recorded 91%, residence were recorded in 72.6 % of medical records.⁸

Bhanot K et al, titled on “Completeness in clerking: the surgical admission proforma” showed that address and age were recorded 100%, date and time of admission in and hospital number were recorded 96% in traditional clerking before proforma induced.⁹ In our study documentation of personal history was recorded in 54.7 % on pre interventional period. Pastor G et al, 2010 study titled “the use of a pro-forma improves the quality of the emergency medical charts of patients with acute stroke” showed that personal history was recorded 98 % on medical records before introducing pro-forma.¹⁰

Khoshbaten M EM et al, titled an “The study of determination of re-education students and the faculty role in the improvement of medical record data files, proceeding of the 10th medical science education” showed that the training workshop will positively effect on documentation of medical records.¹¹ Tavakoli N et al, titled an “The study of inpatient medical records on hospital educations”: an interventional study showed that

intervention and qualitative and quantitative analysis of medical records will improve the documentation of medical records as well as it’s decrease the medical record deductions for more than 50%.¹²

Farzandipour et al, titled an “A pilot study of the impact of an educational intervention aimed at improving medical record documentation” showed that the diagnostic accuracy was not increased in single brief intervention.¹³ The study by Tinsley et al¹⁴ and other study by O Brien et al¹⁵ sought that the documentation could be increased by education when it was reinforced with support of faculty members with regular feedback and also training regarding their charting quality.

Conclusion

The following conclusions were made from the study i.e. awareness about the completeness of documentation on medical records was present only certain areas of documentation like documenting the patient name, presenting complaints and systemic examination, whereas other areas had not been given much importance while documenting. Explaining the medical fraternity in modes of intervention on the importance of documenting medical records in present era of evidence based medical education and increasing cases of medical negligence against doctors has been more useful by evidencing significant improvement in the documentation practice of case sheets in this study. But still there is more scope for improving the documentation process by having frequent interventions and using structured documents customized for each department in a user friendly manner.

Conflict of Interest: Nil

Source of Funding: Self

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