COMPETENCY OF DENTAL UNDERGRADUATES IN COMPLETE FILLING OF DENTAL CHARTS - A RETROSPECTIVE ANALYSIS OF 86000 FILES.

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ABSTRACT

Documentation of dental records is one of the important professional and legal requirements for all dental health professionals. Also it is important because there is some research going on evaluating the whole standard of dental medical record documentation by health professionals like physicians and dentists. The present study would be a maiden attempt to identify reasons for incomplete dental case sheets. It would help develop interventional strategies to improve the quality of the case sheet. A hospital based setting where 100 random samples case sheets were analysed from DIAS. After data collection Completeness of each and every examination was analysed and graded as adequate, partially filled and inadequate. Data was tabulated. Tabulated data was analysed using SPSS software. Statistical test used is Descriptive association and correlation. Based on the software analysis results were tabulated. Among the 100 case sheets, 88% case sheets were filled completely and had adequate information, 22% were not filled completely and did not have adequate information due to several reasons like lack of time, lack of cooperation in between patient and dentist, lack of training and clinic exposure. A dental hospital based quality improvement project to increase dental record management, case sheet completion and proper documentation shall provide better treatment for patients.

Key Words: Case Sheet, Dental records, Documentation, Dental treatment, Examination


INTRODUCTION:

Documentation of dental records is one of the important professional and legal requirements for all dental health professionals. Records are important because there is some research going on evaluating the whole standard of dental medical record documentation by health professionals like physicians and dentists.[1][2]. Dental and Medical records act as a link between doctor, other healthcare providers like nurses and patients. Healthcare information documentation provides legal support and protection for patients, as well as doctors and also for hospitals treating patients, especially when there is a necessity for a patient's case history due to any emergency conditions. Documentation of dental and medical records also support dental and medical education, and can also be used for clinical research [3]. The international laws state that each and every action which is related to dental and medical services be recorded accurately and completely [4]. A record case sheet must be generated and filled completely whenever a health care service is started and it must include all tests, diagnosis, treatments plan, and with past medical and dental history. Dental and Medical records play an important tool to perform the correct and proper needed treatment procedure to patients and prevent unwanted confusion among doctors in treating patients [5].

Incomplete documentation or registration of data in a dental and medical record will result in missing the tests and undergoing further expenses for patients so completion of the case sheet is important [6]. Completion, documentation and accurate saving and maintaining of dental and medical records are one of the basic parts of patient’s treatment management provided by the doctor [7]. Mistakes in making dental and medical records interferes while performing procedures and planning preventive and prophylactic treatments for the patients [8]. Some diagnoses are simpler and some disease conditions like treatment planning for oral cancer patients, other oral pathological conditions depend on the Dental case sheet and its completeness [9–16].

Adding intraoral, extraoral, relevant photographs like biopsy, malignant lesion, infected tooth in dental case sheets helps in providing for better treatment for patients,[17–22]. Hence completeness of the case sheet with proper history and diagnosis is necessary [13, 23].

Our study focuses on completeness of dental case sheets in an institutional set up based on study of patients visiting Saveetha Dental College, Chennai, Tamil Nadu, India. Dental Case sheets include general examination, clinical examination, Oral surgery examination, periodontal examination, dental status examination, prosthodontic examination, Orthodontic examination, and dental Treatment plan to case sheet. This research will comprehensively study and assess the completion of the dental case sheet. There is not much information on the medical and dental case sheets completion. The present study would be a maiden attempt to identify reasons for incomplete dental case sheets. It would help develop interventional strategies to improve the quality of the case sheet thereby helping in providing better patient care.

MATERIALS AND METHODS:
The present study was done as a retrospective study in a Hospital based setting where 100 random sample case sheets of patients who visited University Hospital in between the month of June 2019 to March 2020. To carry out this study, we obtained approval from the Institutional review board. Out of 86000 patient’s case sheets of University Hospital, 100 random case sheets were selected, retrieved from the Hospital patient information
archiving software. Case sheets were analysed and reviewed. Completeness of each and every examination was analysed and graded as adequate, partially filled and inadequate. The data were cross verified by another examiner. Data collected were tabulated in Excel and was analysed using SPSS 23rd version. Descriptive association and correlation was performed.

RESULT AND DISCUSSION:
The present study was done by retrieving the case sheets of patients visiting the dental hospital during the months of June 2019 to March 2020. A total of 86000 patients visited the Hospital in this time period, from those 86000 case sheets which contain patient history, diagnosis and treatment planning 100 case sheets were randomly selected and analysed. Majority of the patients were examined by interns (60%) and PGs (32%) (Figure 1). Around 1% of the case sheet filled by 3rd year was partially filled and inadequate. 6% by 4th years had adequate information. 60% by Interns had adequate information and 32% by PG had adequate information. Year of student adding treatment plan case sheets shows p value <0.005 which is statistically significant. Around 2% case sheets filled by 3rd year, 9% case sheets by interns and 1% case sheets filled by PGs were incomplete. This was found to be statistically significant. This might be due to a better proficiency of the senior students and postgraduate residents compared to the third year students who have begun patient assessment.

According to Mahmoodian S, et al <50% medical case sheets were complete containing medical records [24] comparatively our study showed better results. 98% of case sheets had adequately filled the General Examination, 1% was partially filled, 1% didn’t have adequate information (Figure 2). As far as clinical examination, 93% case sheets had adequate information and 7% didn’t have adequate information (Figure 3). The individual examination is summarised in Table 1. Figure 4 shows frequency and percentage distribution of completeness of case sheet and adding treatment plan to the case sheets where around 88% case sheet was filled completely and treatment plan was added and 12% case sheets was incomplete and didn’t have treatment plan. In a descriptive study aiming to assess the quality of medical records in a university hospital in Brazil in 2010, nursing documentation was found to be 82% complete and the remaining 18% was incomplete [25]. According to Riyadh et al documentation level for the medical records included in the study was poorly documented in 78% of the records [26]. A precise recording and documentation of the pharmaceutical history and notes related to the patient's condition and response to drugs is very important especially for the inpatients and having incomplete documentation of this vital information might result in undesirable treatment interrelated problems [27]. Recording and documentation of pharmacological history in patients was found to be often incomplete with 61% of the patients records. According to Seo et al out of SOAP notes reviewed, around 36.8% were not signed and only 27.4% case sheets were completed fully and documented[28]. These studies though not performed in a dental hospital setting, have relatively less percentage of completion. Comparatively our study shows an elevation in percentage of case sheets which completed with the addition of a treatment plan into it and only 12% case sheets were incomplete in our study. Reason for incompleteness in previous studies might be due to lack of clinic exposure. In our study more percentage of completion could be achieved due to Systematic assessment. Prior clinical exposure to students can be considered as an important reason. Association between year of student examined and completeness of the clinical
examination column of a case shows that most of the patients’ case sheets filled by interns had adequate information compared to others. P-value is 0.000; (<0.05) which is statistically significant (Figure 5). Association between year of student examined and completeness of adding treatment plan in case sheet was done using chi square test and shows most of the patients’ case sheets filled by interns had adequate information compared to others. P value = 0.000; (<0.05) which is statistically significant (Figure 6).

Furthermore, innovations in health care have the potential power to improve both quality and efficiency of dental and medical services. Such innovation is the practice of health care supported by information technology or E-health [29]. Our study is an institution based single centered study, focused on only randomly selected 100 sample case sheets. In future this study might be carried with a huge number of sample case sheets with multi centered approach analysing for long duration.

CONCLUSION:
Within the limits of the study almost 88% case sheets were filled completely and had adequate information, 22% were not filled completely and did not have adequate information due to several reasons. A dental hospital based quality improvement project to increase dental record management, case sheet completion and proper documentation shall provide better treatment for patients.

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Conflict of interest: None

Author’s contribution:

Author 1 (Santhanam.P), carried out the retrospective study by collecting data and drafted the manuscript after performing necessary statistical analysis. Author 2 (Dr. Gifrina Jayaraj) aided in conception of the topic, has participated in the study design, statistical analysis and has supervised in preparation of the manuscript. Author 3 (Dr. Raghu Sandhya) has participated in the study design and has coordinated in developing the manuscript. All the authors have discussed the results among themselves and contributed to the final manuscript.

REFERENCES:


Table 1: Percentage of completion of case sheets as per speciality.

<table>
<thead>
<tr>
<th>Field</th>
<th>Completely filled</th>
<th>Partially filled</th>
<th>Inadequately filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Surgery</td>
<td>71%</td>
<td>1%</td>
<td>28%</td>
</tr>
<tr>
<td>Periodontics</td>
<td>70%</td>
<td>23%</td>
<td>7%</td>
</tr>
<tr>
<td>Dental Status</td>
<td>94%</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>Prosthodontics</td>
<td>68%</td>
<td>2%</td>
<td>30%</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>68%</td>
<td>2%</td>
<td>30%</td>
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</tbody>
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Figure 1: Bar graph representing frequency distribution of year of the student who filled the patient case sheet. X-axis represents the year of the student and Y-axis represents the number of patient’s case sheet. Graph shows that most of the patients’ case sheets were filled by interns (60 case sheets) followed by PGs (32 case sheets); 4th years (6 case sheets); 3rd years (2 case sheets). On analysis interns attend more number of op patients when compared to others.
Figure 2: Bar graph representing frequency distribution of completeness of general examination column of a case sheet. X-axis represents the general examination column and Y axis represents the number of patient’s case sheets. Most of the patients’ case sheets had adequate information (98%).
Figure 3: Bar graph representing frequency distribution of completeness of clinical examination column of a case sheet. X-axis represents the clinical examination column and Y axis represents the number of patient’s case sheets. Most of the patients’ case sheets had adequate information (93%).
Figure 4: Bar graph representing frequency distribution of completion of case sheet of adding treatment plan. X-axis represents the completion of the case sheet of adding treatment plan and Y-axis represents number of patient case sheets. Most of the patients' case sheets had a complete treatment plan (88%).
Figure 5: Bar graph representing association between year of student examined and completeness of clinical examination column of a case sheet. X-axis represents the year of the student examined and Y-axis represents the number of patient case sheets. Association between year of student examined and completeness of the clinical examination column of a case sheet was done using chi square test and was statistically significant. Most of the patients' case sheets filled by interns had adequate information compared to others. Pearson Chi square p value = 0.000; (<0.05) which is statistically significant.
Figure 6: Bar graph representing association between year of student examined and completeness of adding treatment plan in case sheet. X-axis represents the year of the student examined and Y-axis represents the number of patient case sheets. Association between year of student examined and completeness of adding treatment plan in case sheet was done using chi square test and was statistically significant. Most of the patients' case sheets filled by interns had adequate information compared to others. Pearson Chi square p value = 0.000; (<0.05) which is statistically significant.