

Assessing the status of tools and methods for evaluating physicians' documentation in the emergency department: A review study

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ABSTRACT

Introduction: Documentation of medical records is the first and most important source of patient information collection. On the other hand, the correct registration of medical records is considered as one of the criteria of physicians' scientific skills. Therefore, the purpose of this study was a systematic review to examine the status of tools and methods for evaluating the documentation of physicians in the emergency department.

Material and Methods: This systematic review was performed in studies related to the evaluation of the documentation status of emergency department physicians. The studies were available from PubMed, Web of Science, Scopus, Irandoc and SID databases by the end of 2020. Titles and abstracts were reviewed independently based on eligibility criteria. After that, the complete texts were retrieved and independently reviewed by two researchers based on eligibility criteria. A standardized form was used to extract the data including study title, first author name, years of study, place of study, number of samples, research method, tools, indicators studied and main findings.

Results: A total of 4693 related studies were extracted from the database and finally 40 main articles were included in the study. In 4 cases, the level of documentation was reported to be incomplete and undesirable by examining the registered files; In the other 4 cases, they estimated the amount of documentation as moderate to favorable. In 2 cases, the effect of education and in 2 cases, the effect of feedback and encouragement on documentation were measured. None of the studies provided a comprehensive tool for evaluating physicians' documentation of emergencies; Evaluation patterns were different in each study and were partially reviewed.

Conclusion: A review of research conducted in Iran and the world on documenting physicians, especially in the emergency department, emphasizes the importance of continuing the process of patients. Consequently, the consequences are the same for all stakeholders in the medical record. In addition, the effect of feedback and encouragement was more effective than training in improving documentation, so it is suggested that programs be applied for ongoing feedback to documentarians.

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INTRODUCTION

Documentation of medical records is the first and most important source of data collection for patients [1]. On the other hand, proper recording of medical records is considered as one of the criteria of physicians' scientific skills. Improving physicians' documentation behavior by designing targeted

interventions including training, auditing and feedback, continuing education and reminders seems necessary. It can also be said that documenting physicians' records is clearly an essential aspect of physicians' behavior and competency assessment, and its evaluation and improvement has always been emphasized [2].

In the meantime, the emergency department is one of the most important concerns in the field of health, which to improve its status, the existence of proper management and planning and evaluation of emergency activities is very important and one of the effective steps in this field [3].

In emergency patients, the quality of evidence-based and information-based treatment can be a determining factor for life or death or disability during a person's lifetime [4]. Emergency departments (EDs) are fraught with the dangers of poor documentation and the urgent need for accurate records, with frequent changes of staff, high activity levels, overcrowding, frequent interruptions, time pressures, unidentified patient entry patterns, and a wide range of items provided in such environments. Has complete patient care [5].

The work environment of an emergency department (ED) is a unique, complex, and dynamic environment. Errors and allegations of abuse. On the other hand, studies have shown that emergency departments have the most preventable errors [6].

Given that is important that proper documentation makes the medical record a primary tool for evaluating health care practices and care, hospitals should seek to identify the factors that increase the quality of documentation to improve the quality of health care [1]. In order to make evidence-based decisions in this field, there is an appropriate tool to evaluate the documentation of emergency physicians and then implement this tool to examine the status of documentation of emergency physicians to achieve the strengths and weaknesses of documentation and provide appropriate solutions to improve the documentation of emergency physicians. Therefore, the purpose of this study was a systematic review to examine the status of tools and methods for evaluating the documentation of physicians in the emergency department.

MATERIAL AND METHODS

This systematic review was performed on studies related to the evaluation of documentation by emergency physicians. The studies were available from PubMed, Web of Science, Scopus, Irandoc and SID databases by the end of 2020.

Titles and abstracts were reviewed independently based on eligibility criteria. The two researchers independently reviewed the selected articles for the full text and extracted the data in the same form. Form data includes (article title, first author, year and place of study, number of samples, research method, tools, indicators and main findings). Any differences between the extracted data will be resolved through discussion and consensus between the parties, and in case of disagreement, the third author will give a final opinion for review. The questions to be researched

are as follows:

1. Is there a standard tool for documenting physicians in the emergency department?
2. What is the documentation status of doctors in the emergency department?
3. What are the effective factors in documenting physicians?

Search strategy

A systematic review of Persian and English studies by searching for related keywords in Mesh and Emtree, including three keyword combinations with AND in keywords, title and abstract of studies in the authoritative scientific databases PubMed, Web of Science, Scopus, Irandoc and SID was explored. Table 1 shows the keywords.

Table 1: Selected Keywords

Row	Persian field	English field
1	Documentation / Reporting / Registration / Medical Records / Medical Documents / Medical Documents / Medical Papers / Records / Emergency Records / Physicians	Documenting / documented / recording / reporting / documentation(s) / "Medical record(s)" / "hospital record(s)" / "health record(s)" / "clinical record(s)" / "patient(s) record(s)" / "medical form(s)" / "hospital form(s)" / "health form(s)" / "clinical form(s)" / "patient(s) form(s)" / documentation(s) / document(s) / emergency record / Physician / doctor(s) / resident(s) / assistant(s)
2	Emergency / Emergency Department	Emergency department / emergency ward / emergency setting / emergency unit / emergency section / emergency room / emergency / ED /
3	Tools / Evaluation / Review / Audit	audit / review / evaluation / assessment / tool

Selection of studies

A total of 4693 related studies were extracted from the database. 1999 Article was deleted as a duplicate. After reviewing the titles, abstracts and articles, 3226 articles that did not meet the purpose of the study were excluded; and after reviewing 80 main articles, finally 40 main articles were included in the study. Fig 1 showed Preferred Reporting Item for Systematic Reviews (PRISMA) workflow diagram to select articles.

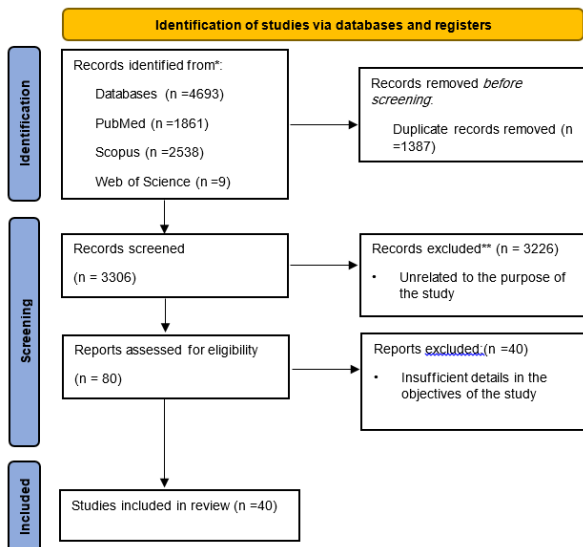


Fig 1: Steps for selecting articles

Data extraction

The two researchers independently reviewed the selected articles for the full text and extracted the data in the same form. Form data includes (article

title, first author, year and place of study, number of samples, research method, tools, indicators and main findings). Any differences between the extracted data will be resolved through discussion and consensus between the parties, and in case of disagreement, the third author will give a final opinion for review.

RESULTS

A total of 40 studies (21 Persian studies and 19 English studies) related to the tools and methods of evaluating physicians' documentation were included in our study. In 4 cases, by examining the registered files, they reported the level of documentation as incomplete and undesirable [7]. And in 4 other cases, they estimated the amount of documentation as moderate to desirable [3, 8-10]. In 2 of the studies, the effect of education [8] and in 2 cases, the effect of feedback and encouragement on documentation were measured [2, 11]. None of the studies provided a comprehensive tool for evaluating physicians' documentation of emergencies. Evaluation patterns in each study were different and partial. The data extraction results of the studies are as follows (Table 2 and 3):

Table 2: Summary Findings of Reviewing Previous Related Articles (Persian Studies)

Place of study	Number of samples/ research method/ tools/ indicators studied	Main results	Ref
Ardebil	730 clinical records of hospitals affiliated to Ardabil University of Medical Sciences descriptive-cross-sectional retrospective Two-part checklist the first part is a checklist related to the quantitative completeness of clinical information registration and the second part is a checklist related to a qualitative examination (accurate diagnosis by the treating physician based on ICD requirements).	The highest record with 71.9% was related to the initial diagnosis and the lowest with 8% was related to the underlying cause of death. The results showed that the process of documenting medical records by physicians, as the main groups providing health care, is incomplete.	[12]
Kashan	Clinical records of 51 specialist physicians working in the hospitals of Kashan University of Medical Sciences Checklist based on (ICD-10 book) in the dimensions of diagnosis, registration of medical procedures and registration of external causes of accidents	Results show that the principles of diagnostics and the principles of registration of measures at the rate of 87 and 77% to the desired level and the principles of registration of external causes of accidents at the rate of 65%, were observed to the average in clinical records.	[8]
Kashan	540 emergency cases in Shahid Beheshti and Taghavi hospitals in Kashan. 6 checklists that included legal, administrative and financial matters and complementary staff such as admission, nursing, medicine	The results showed that the non-registration of legal, administrative and financial cases in Taghavi Hospital was 12% and in Shahid Beheshti Hospital was 15%. Finally, the registration of emergency patients in Kashan hospitals was relatively desirable.	[3]
Mazandaran	207 people from 7 disciplines in the teaching hospitals of Mazandaran University of Medical Sciences Descriptive study. The questionnaire consists of 10 questions related to knowledge and 10 questions related to attitude and checklist related to performance (including admission form and discharge summary, case summary, biography and physician instructions).	The incompleteness of the medical records of in Mazandaran Medical Sciences is due to Poor student awareness	[13]
Semnan	134 medical students and assistants in Semnan university of Medical Sciences hospitals Descriptive - Analytical. Through interviewing assistants and studying files A questionnaire to assess awareness and a checklist to assess performance	Knowledge of the study population about: ceiling of completion time of history sheet 6.1% of the population, ceiling of time of oral instructions 14.5% of the research population, how to correct the contents in the reports of 6.1% and how to use the abbreviations in recording the final diagnosis and surgery / 2 It was 25 percent. Up to 71% of the clinical study population had written the complete history sheet. In the review of the case file, only 50% of the identity information and 84% of the clinical information were completely entered. Also, in the examination of the doctor's instructions sheet, only 38% of the identity information was recorded.	[14]
Isfahan	26,284 cases were reviewed. Descriptive, applied and cross-sectional The study tool was a checklist extracted from medical records books 3 and 4.	The highest number of defects was related to the registration of date and time by 91 documentarians and the lowest percentage was related to the registration of data.	[15]

Place of study	Number of samples/ research method/ tools/ indicators studied	Main results	Ref
Isfahan	1067 patients who were admitted to teaching hospitals under the auspices of Isfahan University of Medical Sciences in the second half of 1386. - Descriptive - practical retrospective The researcher-made checklist was prepared based on the contents of the biography, surgery report and doctor's instructions.	The average frequency of records of biographies, physician orders and surgery reports by the ward secretaries of the studied hospitals was 57, 56 and 64%, respectively. As a result, the completion of the papers under review is not desirable and in some cases is very weak and incomplete.	[16]
Bonjourd	355 medical records of patients discharged from the wards of Bojnourd University Hospitals Quasi-experimental - with a quantitative review of 9 main sheets of medical records of discharged patients twice before training and 5 months after training Completion of 9 checklists 3 options for quantitative examination of 9 main leaves (admission and discharge summary - case summary - history - disease course - doctor's instructions - nurse report - vital signs control - vital signs diagram - test)	The completion rate of the file was 75% before training and 79% after training. In evaluating the 9 sheets studied, the highest percentage of completing the file before training (90.4) and after training (93.5) was related to the doctor's report sheet.	[17]
Babol	730 medical records available at Amirkola Children's Hospital in all wards (except pediatric and neonatal surgery) Cross-sectional - applied Checklist with 50 items to check the performance of assistants	The results showed that assistants and interns had a mediocre performance in recording medical records, while apprentices performed poorly and unexpectedly in recording medical reports.	[18]
Hamedan	457 hospital records from 4 teaching hospitals in Hamedan Cross-sectional descriptive study The information obtained from the files of 4 university hospitals was entered in a checklist designed for this purpose. The checklist contains 16 questions that indicate the absolute and relative abundance of information required by the patient (existence of admission certificate, date, stamp and signature of the person accepting it, presence of diagnosis document, registration and treatment procedures, registration and discharge summary.) Was monitored and in each case, it was recorded in the checklist with a yes or no answer.	94% of the cases had a hospital certificate. Physician registration, stamp, and signature were present in 93% of cases; In the same way, there was a biography form in the educational files. Differential diagnoses were present in 75% of cases, final diagnosis was registered in 90% and physician's discharge order in 84% of cases. 86% of physicians recorded medical procedures or surgeries in the file. Paraclinical procedures were recorded in 83% of cases. Only 61% of the files on the medical record were signed and stamped by an assistant or intern. Nursing care sheets were 99% stamped and signed. In 83% of cases requiring counseling, accurate counseling information such as time of request, date, etc. was recorded. Also, in 82% of cases, the consultation, stamp and signature of the consulting physician were mentioned.	[9]
Kashan	19 specialized assistants (internal medicine, surgery and obstetrics) of Kashan University of Medical Sciences, semi-experimental Two-part checklist: the first part is the background and the second part is the collection of diagnostic information recording principles in internal groups consisting of two items (underlying cause and clinical manifestations), obstetrics and gynecology consisting of four items (type of delivery, place of delivery, outcome of delivery, complications Delivery) and surgery consisting of four items (morphology, behavior, and primary or secondary neoplasm) were assigned.	The results showed that there was no significant difference in the application of diagnostic principles by specialists in clinical files before training and after training.	[19]
Kashan	1500 copies of outpatients, health insurance Descriptive-cross-sectional Checklist including readability and prescription items, physician and patient identity information	The results showed that the status of prescribing principles was in the good range with an average score of 15.01 and the lowest score was observed in dermatologists (12.18) and the highest score was observed in psychiatrists (16.29).	[10]
Zabol	500 emergency files of three teaching hospitals of Zabol University of Medical Sciences Descriptive-analytical Two checklists: the first checklist to check the registration and non-registration of items in the emergency medical records forms and the second checklist to check the compliance with the legal aspects and principles of documenting medical records	The rate of information registration by medical, nursing and admission staff was 25.4%, 52.6% and 67.1%, respectively, and the rate of observance of legal aspects in all reviewed cases was 44.7%.	[20]
Mashhad	The rate of information registration by medical, nursing and admission staff was 25.4%, 52.6% and 67.50.1% of the files of university hospitals and social security in Mashhad, respectively. Descriptive cross-sectional study A checklist containing all the information elements of the 9 main forms of the patient's file including the forms: Admission, case summary, history, form of the disease, doctor's instructions, nurse report, vital signs diagram, vital signs control and laboratory report The percentage and degree of observance of legal aspects in all the examined cases was 44.7%.	The highest number of defects was related to vital signs control leaf (34.5%). The highest rate of defects among the clinical information elements of admission and discharge summary was related to post-discharge recommendations (89.5%) and recording of test results and radiographs (88.9%).	[7]

Place of study	Number of samples/ research method/ tools/ indicators studied	Main results	Ref
Kashan	5 medical records per surgical assistant of Shahid Beheshti Hospital in Kashan (19 assistants) A quasi-experimental study Two-part checklist: The first part is related to background information including age, gender and file number and the second part is a checklist related to collecting information registration principles in various forms.	The results showed that the amount of information documentation in the forms of history, disease course, admission and discharge summary and operation report of surgical assistants after the intervention had significant changes.	[2]
Isfahan	300 files of patients admitted to the emergency department of Al-Zahra Hospital in Isfahan Cross-sectional study Two-part checklist including 23 questions (Part 1: to determine the level of compliance with documentation standards for patients' specifications and the second part to determine the level of compliance with documentation standards in nursing reports)	The highest number of deficiencies in documenting the patient's profile on the cover and other documents, signing orders, recording the time and date of the visit by the physician, as well as closing the end of the orders, and the highest number of documentation deficiencies in nursing reports, respectively, related to non-closing the report. A straight line was not mentioning the cause, manner and type of referral at the time of admission and not providing sufficient explanations about the general condition of the patient.	[18]
Qom	Medical records of patients in hospitals affiliated to Qom University of Medical Sciences Cross-sectional descriptive-analytical method The checklist was prepared using the diagnostic standards in the ICD, as well as two previous studies.	The most observed case was the observance of diagnostic principles with 58% and then the principles of recording medical procedures with 50% of external causes of accidents with 5.5%.	[21]
Tehran	1800 cases in which he was examined by a doctor. Descriptive-analytical-cross-sectional study The four-part checklist includes the following: Doctor profile, shifts and variables such as readability, drug dose, etc.	However, none of these standards were fully observed in 1800. The highest error (17.6%) in complying with physician's prescription requirements was readability in 10 doses.	[22]
zahedan	250 physicians and nurses working in 6 hospitals affiliated to Zahedan University of Medical Sciences Cross-sectional descriptive-analytical application 30-item questionnaire with four dimensions of patient safety, in-hospital workflow, physician-nurse interface and quality of care	From the perspective of physicians and nurses, the computer system of medical records has an effective role on the quality of medical services.	[23]
Shahr-e-kord	250 cases of patients transferred to hospital by pre-hospital emergency Cross-sectional study The two-part checklist consisted of 25 questions, the first part consisting of 11 questions to determine the degree of compliance with patient documentation standards and the second part consisting of 14 questions to determine the degree of compliance with documentation standards in mission reports.	Some of the mission forms were straightforward, both readable and misspelled, both at the time of communication and at the end of the report, respectively.	[24]
Mashhad	36 emergency medicine assistants of Ghaem Hospital and Adalatian Emergency Department of Mashhad University of Medical Sciences Descriptive - cross-sectional A 5-item questionnaire with 30 questions was prepared by a panel of professors of forensic medicine, poisoning and emergency medicine.	The results of the study showed that the students participating in this study answered 38% of the questions correctly on average, which indicates the average knowledge of emergency medicine assistants about forensic topics.	[25]

Table 3: Summary of Review Findings of Previous Related Articles (English Studies)

Place of study	Number of samples/ research method/ tools/ indicators studied	Main results	Ref
America	1857 Action registered by 17 residents A pre-defined book for recording actions by residents and then transferring it to the database	Since 1885 registered operations, most of which involve resuscitation (20%), intubation (12%) and percutaneous venous cannulation (12%), this system enables resource managers to closely monitor the experiences of individual and group operations. And make academic changes based on objective findings.	[26]
Texas	1228 Physician-patient encounter in the emergency department Futuristic blind randomized controlled trial A questionnaire was used to measure the time of evaluation and treatment of all emergency physicians, professional billing and satisfaction.	The average total time of the emergency physician was 127.5 minutes in the model group and 132.1 minutes in the non-model group. The mean difference at the time of evaluation was 4.6 minutes. The mean time of evaluation was 100 minutes in the model group and 108 minutes in the non-model group. The average professional bill was \$ 40.137 for the template group and \$ 80.107 for the non-template group.	[27]
America	The control group consisted of 36 patients at the University of Massachusetts Medical Center Level One Emergency Injury Center. A retrospective study	This study represents the first collection of follow-up measures of emergency medicine resident using PDA system. Documentation through these tools has several advantages over traditional action booklets.	[28]

Place of study	Number of samples/ research method/ tools/ indicators studied	Main results	Ref
America	297 patients aged 70 years or older who referred to the emergency department of an urban hospital during a 12-month period. A prospective observational study Use of two tests: Confusion Assessment (CAM) and Memory Concentration Test (OMC) and interview (case of past cognitive impairment, current living conditions, availability of home health services)	Mental disorders are common among older patients in the emergency department. Lack of documentation, admission or referral by emergency physicians indicates a lack of awareness of this important issue.	[29]
America	302 patients from an emergency department at Illinois Medical College Chicago. A retrospective study Interview and retrospective review of patient charts for patient demographics, diagnoses, and pain management.	Initial pain assessment was recorded in 94% of the charts, but the pain scale was used for only 23% of patients. Post-treatment pain documentation is mentioned in 39% of charts, but pain scale is used in only 19% of cases. After treatment, nurses recorded 2.2 times more pain assessments than physicians.	[30]
Scotland	Eighty sets of clinical notes were audited, forty before Performa and forty after. A study before and after The study was conducted in two phases, the first of which was the prospective audit of a series of notes from forty patients with head injuries; And in the second phase, a special performa was designed and the notes of forty patients were audited. Data collection tools were designed to measure the presence or absence of documentation of the mechanism of injury, specific symptoms, symptoms, medications, research, and treatment necessary to manage head injuries as the gold standard.	This study shows that the introduction of custom performa can improve the quality of documentation.	[31]
California	21 residents working in the emergency department. Descriptive interventions Standard two-page paper form: The first page contains a semi-structural history of the current disease with the main complaint, onset, severity, duration, related symptoms, relieving and exacerbating factors, location, space allotted for past medical history, past surgical history, social history, Mentioned family history. The first half of the second page is the medical decision section, which has an empty list of five differential diagnoses. The second half of the second page is the appendix.	Implementing a resident incentive program to increase documentation may significantly improve resident documentation and training for proper documentation.	[11]
East Carolina	12 physicians residing in the first year, 13 physicians residing in the second year and 11 physicians residing in the third year Semi-experimental and interventional study A 1-hour lecture on documentation and coding was given at the beginning of the study to 18 of the 24 second- and third-year emergency medicine residents of the University of East Carolina Emergency Medicine Residents Program for 3 months after the lecture to emergency physicians Feedback was provided.	The level of the evaluation and management chart (E/M) of the bill was significantly different at each stage of the study. Educational intervention had a positive effect on residents' documentation, leading to higher RVU (relative value units) hours and higher billing performance in the emergency department (ED).	[32]
America	462 cases of a Boston Medical Center emergency department, 231 cases before use (APL) and 231 cases after use (APL) A before and after study in two 6-month periods Software for electronic search and analysis of documented resident actions in electronic medical record (EMR) and their automatic submission to a resident management system via the web	There is a significant increase in the average number of registered actions after the implementation of the APL, which indicates that the new registration system facilitates the performance of residents.	[33]
Melbourne	The study population included 2880 The resident was transferred to the emergency department where 408 samples were randomly selected. Retrospective review Information collected from the records of the emergency department: includes the time of the resident's arrival in the emergency department, filing a complaint, the assigned triage group, investigations and actions within the emergency department, diagnosis, length of stay in the emergency department and current situation. All transcripts with the resident were manually extracted from the scanned medical record and collected by a research resident and verified by a member of the research team - an experienced emergency nurse.	There are two important findings in this study: gaps in transfer documentation are still common, and poor documentation has a negative impact on residents' transfer through the emergency department. Despite the introduction of the transfer package to the hospital, gaps in the documentation of the transfer are still common. A quarter of the residents arrived at the emergency department without transfer documents. Proper use of the envelope depends on the training of RACF staff (elderly care centers).	[34]
Iran	600 records of patients referred to the emergency department of Imam Reza Hospital in Tabriz from November 2011 to January 2011. Cross-sectional descriptive analytical study Checklist in accordance with the Joint International Commission	In this study, the completeness of files and documentation of physicians was significantly less than the documentation of nursing staff, which indicates the need for training of residents and physicians on the Internet.	[35]

Place of study	Number of samples/ research method/ tools/ indicators studied	Main results	Ref
Germany	A series of 505 PCRs were collected before the introduction of SOP and 520 PCRs were collected three months after the introduction of SOP. Study before and after Patient care documentation (PCR) was performed with NADOK forms	SOPs (standard operating procedures) improve the amount of documentation of many items that have been requested and not requested. Regardless of whether these cases had high or low documentation in the pre-SOP period. Default items were documented more than unsolicited items, either before or after the introduction of the SOP. In this EMS database, the development of SOPs is an effective tool for improving the quality of PCRs (patient care reports) and the completion rate of documentation. The patient is helped.	[36]
Australia	Sample size of 110 documented notes and 110 non-documented emergency physician notes, written in the emergency department Study of retrospective observations A tool with a score of 9 items whose answers are assigned a 5-point Likert scale. The terms of these items are: up-to-date, accuracy, precision, usefulness, comprehensible organization, concise integration, and internal consistency, both of which were answered with yes and no answers.	The individual items of the instrument had good internal consistency (Cronbach's alpha = 0.93), but there was very little agreement between the evaluators. Overall, this tool was not able to detect good notes and bad notes.	[37]
America	Sample size 104 Documentation chart A prospective study at a US medical school from May 2014 to May 2015. An online learning tool using simulated items according to HCFA guidelines	The results showed that most of the simulated diagrams were coded due to several incomplete parts of the diagrams, including physical examinations and poor medical, family, and social history. The findings show that incomplete documentation of medical students is not optimal for financial purposes.	[38]
California	1671 patients from Davis University of California Level 1 Trauma Hospital A retrospective review of trauma patients at a level one trauma center. Chart review (based on previously published guidelines focusing on clinical IFs) was performed to verify competency and complete data collection.	Trauma patients are at risk of poor access to IF follow-up care (random findings). Extending specific IF guidelines, working with radiologists to facilitate their inclusion in reports, and ensuring that IFs are part of a patient's treatment can provide systematic ways to improve their documentation.	[39]
Turkey	150 notes of surgery among upper gastrointestinal surgeries, endocrine surgery and emergency surgery of Aegean University Hospital A prospective study over a period of 10 months Compliance with eighteen criteria from the College of Surgeons' "Good Surgery" guidelines and seven additional criteria, including: Name of anaesthesiologist Nurse Name Operation Type of anaesthesia Patient position Surgical side (right / left) Postoperative diagnosis Amount of bleeding. Three stages of auditing were performed and a surgical note form was created after the second audit.	In the first audit, it was found that fourteen parameters were written with more than 90% accuracy. The first audit showed seven weak items in the documentation: operation time (0%), identification of emergency / elective method (0%), identification of prosthesis or devices used (65.3%), details of termination procedure (36.6%), Name of anaesthesiologist (0%), patient status (1.3%) and bleeding rate (0%). In the second audit, there was incomplete but significant improvement in these seven parameters (28, 28.6, 82, 75.3, 31.3, 32 and 34%, respectively). After the introduction of Proforma; The third audit cycle showed a clear improvement in surgical note documentation with at least 80% compliance with all parameters.	[40]
Germany	The volume of trauma documentation of a trauma level 1 center was collected for each trauma patient who was not treated in a trauma room from October 2015 to March 2016. Retrospective and interventionist study The GEDMR (German Emergency Medical Records) standard, which contains 796 data items and is implemented in an EDIS (emergency department information system) based on a timetable	All 796 data fields from 6 modules (Basic Data, Trauma, Patient Monitoring, Anaesthesia, Counselling, Neurology) for use with the EDIS (Emergency Department Information System) configuration available by a physician who works regularly in the emergency department Has been. Standard documentation was successfully implemented in an EDIS. Availability of structured treatment information improved, but treatment time also increased; Therefore, more work is needed to improve the input time.	[41]
Australia	1200 randomly selected medical records from patients with abdominal pain, chest pain, shortness of breath or headache Retrospective study The 0-10 scoring tool identified five important medical records and physical examinations that should be submitted for each of the four common complaints: Abdominal pain, chest pain, shortness of breath, or headache. The maximum score was 10 and the minimum score was 0.	Year, day and hour presented, patient's age and gender, preferred language, interpreter need, discharge destination and physician's gender were not associated with complete documentation. Registrars and consultants scored significantly lower.	[42]
Germany	All trauma room patients at Magdeburg University Hospital with trauma room documentation in 2016 Retrospective study All items required to enter the TR-DGU (German Trauma and Trauma Registration Association) were not obtained automatically at the time of admission. Included: Main patient data, prehospital data and trauma room data	There is a significant increase in the complete recorded data for the assistant physician compared to the day physician and the network physician.	[43]

DISCUSSION

Documentation of the case by physicians is very important because it determines the services required by the patient in the next service [8].

Therefore, the purpose of this study was a systematic review to examine the documentation of physicians in the emergency department. The results of our systematic review showed that although in 19 cases the studies provided indicators to examine the status

of documentation, but some qualitative items, some quantitatively sometimes only one indicator was examined individually. This heterogeneity leads to rework, lack of Comprehensive review and correct decision making in policies and planning [7, 8, 10, 13-15, 17, 18, 23, 24, 26, 28, 31-35, 38, 39].

Since the correct recording of medical records is considered as one of the criteria of physicians' scientific skills, it seems necessary to improve the documentation behavior of physicians by designing targeted interventions including training, encouragement and feedback, continuing education and reminders [2, 8, 17, 30]. A review of research conducted in Iran and the world on the documentation of physicians, especially in the emergency department, emphasizes the importance of continuing the process of patients. In most studies, the amount of documentation was reported incompletely and undesirably [7-10].

Some of the causes of documentation deficiencies were lack of attitude and lack of awareness. However, in the study of Farzandipour et al., Who measured the effect of education on the quality of documentation, there was no significant difference in improving documentation [8]. At the same time, in studies that measured the impact of feedback and encouragement on the improvement of documentation, the results showed an improvement in the documentation process [2, 30]. Therefore, considering scores for physicians who have better documentation than training seems to have a better effect on improving documentation. In some studies, the results showed that computerized recording of medical prescriptions by documentarians had an effective role on the quality of documentation [23, 26, 28, 36].

In line with the results of this study, Salmanizadeh et al. The study showed that 70.34% of the selected files were incomplete for each patient. In most medical records forms, data elements related to the ward secretary were incomplete. In other forms, nurses and physicians did not record more than half of the data elements. The highest number of defects was observed in the forms of electrocardiogram attachment, emergency file and radiographic request, respectively. In addition, data elements such as demographics, initial diagnosis, final diagnosis, and signatures were not completed by the ward secretary, physicians, and nurses [44].

In 2017, Walker et al. showed that physicians' quality documentation tool does not show reliability in evaluating emergency medical records. No evidence was found of the lower quality of the notes recorded by the documenter than the notes recorded by the emergency physician. Overall, the instrument was unable to diagnose good notes and poor notes [37]. In 2019, Wai-Lee et al. randomly selected 1,200 medical records from patients with abdominal pain, chest

pain, shortness of breath, and headache. The 0-10 scoring tool identified five important medical records and physical examinations that should be submitted for each of the four common complaints (abdominal pain, chest pain, shortness of breath, or headache). The maximum score was 10 and the minimum score was 0. The results showed that the year, day and hour presented, patient's age and gender, preferred language, interpreter need, discharge destination and physician's gender were not associated with complete documentation. With interns, registrants and consultants scored significantly lower [44].

CONCLUSION

The results of this study showed that until a comprehensive basis for accurate evaluation of physicians' documentation is developed and used, the process of incorrect documentation continues and has serious consequences for patients, treatment staff and other stakeholders. Although the quality of documentation has been studied in various studies using tools, and some studies have suggested different tools to evaluate its documentation, including case audit checklists, the use of simulators, structured clinical sheets, and these approaches are often evaluated by physicians. These tools do not have high validity and reliability [6, 45-57]. And consequently, the consequences for all stakeholders of the medical record. In addition, the effect of feedback and encouragement from training on improving documentation was greater and better, so it is suggested that programs be applied for ongoing feedback to documentarians.

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AUTHOR'S CONTRIBUTION

All authors contributed to the literature review, design, data collection and analysis, drafting the manuscript, read and approved the final manuscript.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of this study.

FINANCIAL DISCLOSURE

No financial interests related to the material of this manuscript have been declared.

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