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SPECIAL DENTAL CASE SHEET AS A MEDICAL AND FORENSIC COMMUNICATION TOOL

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ABSTRACT

Background: *The implementation of the International Classification of Diseases, Tenth Edition (ICD-10 codes) in the medical records serving as the humanitarian tools for practitioners is to establish treatment procedures for re-admitted patients in a hospital. Medical records serves as a tool in determining the appropriate treatment for each patient. But in reality, has never the ICD-10 been applied to the Electronic Medical Record Management. For it to be used as a humanitarian tool, it has first to be used as legal evidence in the court as a written legal system in Indonesia. However, the implementation by the lawyers and relevant officers is under the progress. The result of the previous research showed on the Dental Professionals' Medical Record Form in 2014 at FKG Usakti [29] had determined the need for special dental case sheets as a humanitarian tool between practitioners and dentists. The Special Sheet should meet the specific requirement to be utilized in a class A hospital and it also needs to be standardized with the Indonesian National Police.*

Methods: *In this Systematic Review, the researchers conducted a Proquest database published from January 2012 to June 2019. 10 relevant studies of the medical records were selected as a humanitarian tool in Disaster Victim Identification (DVI) done by the dentist.*

Results: *From 10 present studies and previous studies [29] conducted by the researcher, it had successfully identified the importance of medical record management as a humanitarian tool between practitioners and dentists in hospitals.*

Conclusion: *Special Dental Case Sheet is required for the implementation of collective information which serve as a general humanitarian tool among health professionals. It is required as a comparative data in the identification process if the related patients are the disaster victims.*

Keywords: *Medical Record, Humanitarian Tool, Health Professionals, Dental Professional Teaching Hospital*

INTRODUCTION

ICD-10 codes in medical records will be primarily used as a humanitarian tool by any doctor who treats a re-admitted patient in hospitals. Hence, the treatment history from previous Medical records should be considered before determining the appropriate treatment plans. Health service facilities in Indonesia remains employing the manual medical record as the legal evidence in the Indonesian court [1-2, 5, 10-13]. Currently, most of public and private hospitals in Indonesia render their health services based on the referral system policy applicable in the National Health System (SKN 2012) [14-17]. This service adopts the ICD-10 codes as a basis for mandatory reporting method and calculation of total cost to be paid by the Healthcare Security. The healthcare security is continuously supported by various policies that has been continuously undergoing multiple amendment since the publication of its first policy on Online Reporting Obligations in 2011. Furthermore, it's followed by various policies issued in 2019 to overcome various difficulties in the field [18].

Result of the previous studies was pertaining to the Medical Record at the dental professional teaching hospital [29]. The Special Dental Case Sheet for Dental Professional served as a part of medical record, instead of a medical record form. The Special dental case sheet contained all information as marked on the odontogram and registered onto F1 and F2 forms under the Disaster Victims Identification (DVI) System International. Besides, the adoption of this special sheet would be compelled under several health policies along with the Indonesian National Police DVI Team [19-25]. The special dental case sheet was considered to require further modification to be applied in a class A hospital. In class A hospital, around 43 types of medical record forms were used to support outpatient services in the various Polyclinics and Emergency Departments. Meanwhile, 29 types of medical record forms were used to support inpatient services [1-6]. Based on these various data, the Special Dental Case Sheet is significantly required for the practical use of medical records for re-admitted patients. Moreover, symbols, abbreviations, and code can be applied to the Special Dental Case Sheet according to the hospital policies and needs.

So far, healthcare facilities in Indonesia remain adopting the manual medical records. Meanwhile, the other countries has proven the sound reliability for the use of Electronic Medical Records (EMR) as the humanitarian tools. It can be used to sustain some hospital obligation such as [7-10] :

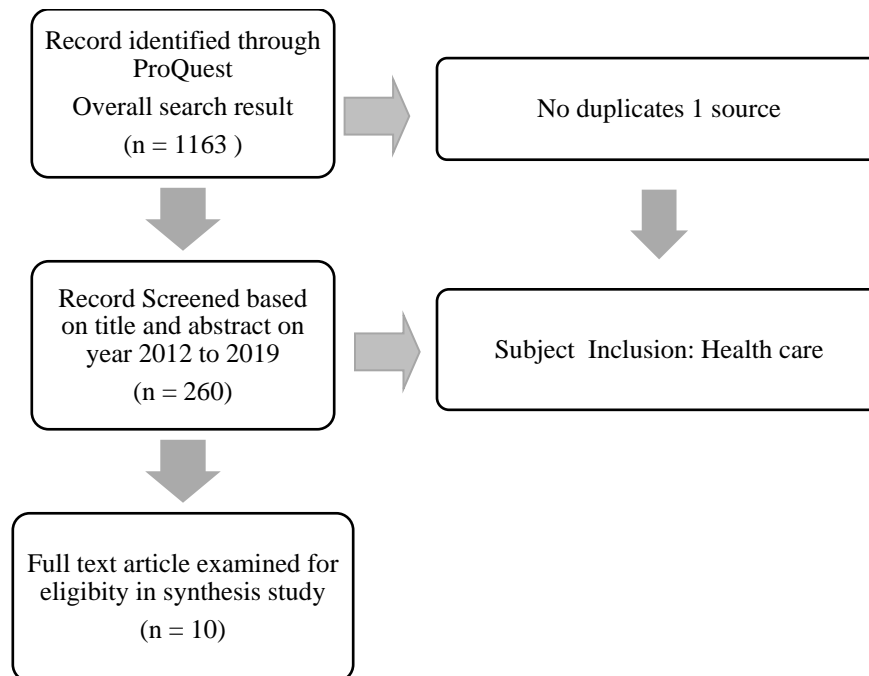
Providing medical services

- Supporting medical and nonmedical services
- Nursing and care services
- Providing education, training and facilitating research and development
- Supporting the General administration
- Dealing with Financial Matters
- Providing Referral services

The legal health practitioner and officers are striving to implement the EMR related to the written legal system in Indonesia. The obligation to adopt the ICD-10 codes for each individual in health service facilities is carried out in Class A, B, C, and D of public hospitals, with Class A hospital is classified as the highest or third reference [1-2, 5, 14-17]. The referral system is governed by the National Health System (SKN).

METHODS

This study employed the guidelines and the statement of preferred reportings on the Systematic Reviews for its basis. The researchers mainly employed one database (ProQuest) to identify the relevant empirical studies and reviewed studies as the focus of this research. English articles were published from 2012 to 2019. The researchers first screened the research title and abstract. Afterward, the researchers classified some previous researches into relevant studies and cross-sectional studies. In searching the studies, the researchers engage done database (Proquest), including the following keywords: (1) medical record, (2) communication tool, (3) dentistry and (4) Disaster Victim Identification. Finally, 10 relevant studies were being chosen.



RESULTS

Data extraction was conducted through data analysis which was based on the author, title, objective, and result of the studies. The data extraction result is illustrated in the table below.

Table 1. Review results.

No	Author	Title	Objective	Result
1	N Jafar AJ, Norton I, Lecky F, Redmond AD, Wilkinson Building E, HCRI	A Literature Review of Medical Record Keeping by Foreign Medical Teams in Sudden Onset Disasters.	This study was aimed to highlight medical record management and the duty of FMT in SOD and the integral with the LMT	Legal aspect and obligation of health workers, medical professional regarding FMT in SOD and LMT communication. Standardization of medical

No	Author	Title	Objective	Result
	Ellen Wilkinson Building Mbc.			record content was engaged to simplify and avoid communication hindrance between FMT and LMT
2	Martins A, Warmling F, Amante CJ, Lúcia A, Ferreira De Mello S.	Information and Communication Technologies in Dental Education: Students' Perceptions	This study was aimed to demonstrate the information and communication technologies usage as supportive tools for teaching-learning process in dentistry study programme	A positive attitude of dental students toward the system, the Reduction of measurement errors in OCT scanning can be employed as humanitarian tools and one of ways to access the knowledge, research, and to facilitate the information exchange
3	Yang T-H, Ku C-Y, Yen DC, Hsieh W-H.	Electronic Hand-Drafting and Picture Management System	This study was aimed to implement a new system for EMR that could combine hand-drafted file, text file, photographs in the same system of the Hospital Information System and integrated it into PDF as a final phase of completing EMR	The design and interface was in friendly model for physicians. It was supported with self-audit functions. In addition, the implementation of wireless technology facilitated its applicability in all areas, making physicians more proactive in using the EMR
4	Graziele Rodrigues L, Batista De Souza J, Miranda De Torres E, Ferreira Silva R.	Screening the Use of Informed Consent Forms prior to Procedures Involving Operative Dentistry: Ethical Aspects.	This study was aimed to screen the dentists' knowledge and attitudes toward informed consent prior to an operative procedure	Out of questionnaires distributed to 731 dentists, only 179 answered questionnaires were returned. Meanwhile, 67 questionnaires were reported for not using IC with main reason as it had good dental records. Poor knowledge about the importance of employing MR and IC as an instrument to protect the dentists against ethical and legal actions.
5	Lakshmi Bhaskar N, Naga S, Kumar S, MeeraSubhashini M,	Medical Auditing-A Study of Systematic	This study highlighted the system and variation of medical records for each	A shortage in some or other information written in the medical records was

No	Author	Title	Objective	Result
	Satyanarayana N, Resident J, et al.	Case Review in a Tertiary Care Hospital	hospital classification. It differentiated the number of medical and nursing professionals.	caused by inappropriate data filling by naive residents and excessive workload in the particular work area, such as Emergency Department and Intensive Care Unit, this condition distracted their concentration in filling out the medical records
6	Lorenzo Vaccaro G, Gabriele Di Carlo L, Maria De Sanctis C, Antonella Polimeni D, Sfasciotti G, Di Carlo G.	Informed Consent to Medical Treatment in Pediatric Dentistry: A Proposal for Two New Model Forms for the Public Health Care System.	This study resulted in two new model forms in pediatric dentistry as the safe guarding medical personnel and health care facilities	Form A was intended for patients' consent and their legal representative, and Form B was used to protect the consent acquisition and orthodontic therapies. From the legal perspective, these two forms could serve as the legal safety. The IC importance in MR was applied as legal proof.
7	Deepak Kumar B, Vinaya Kumari CM, Sharada MS, Mangala MS.	Evaluation of the Medical Records System in an Upcoming Teaching Hospital-A Project for Improvisation	This study was aimed to investigate MR system in the upcoming Teaching Hospital which were to be evaluated for its accessibility, completeness, and physicians' satisfaction.	The research subjects were 40 participants comprising of 30 doctors, 5 staffs from the medical record department, and 5 administration staffs. 65% of physicians were relatively satisfied with the system. 92.5% of them agreed on the improvement of teaching hours in the teaching hospital and the importance of EMR
8	Du Fresne D, Holder LJ, Samudio I, Nallavadla Sujana R.	Interconnectivity of Health Information Exchanges Using Patient Access Number (Pan)	This study highlighted EMR as a real-time availability and no-sharing MR problem.	Health Information Exchanges (HIE) was applied to foster information sharing among various enrolled medical providers by adding a more effective capture, storing, and sharing patients' information. The problem found was the lack of

No	Author	Title	Objective	Result
				consistent design across HIE. This study proposes a solution to enhance the HIE by the way of using Patient Access Number
9	Sahelangi, P; Novita MNL of M.	Role Of Dentists in Indonesian Disaster Victim Identification Operations: Religious and Cultural Aspects	This study highlighted the importance of the dentist role in Disaster Victim Identification.	Each dentist must comply with the legal aspects and perform its obligation to fulfill dental, medical records and Special Dentistry Profession Sheet and use them as comparison of Forensic Tools
10	Choudhary, Swati; Prasad, Krishna Deo; Yadav P.	Records-Life of Forensic Odontology	This study highlighted the importance of dentist role in Disaster Victim Identification by employing the forensic odontology	The importance of forensic odontology in Disaster Victim Identification cannot be put apart from the engagement of the victims' dental records. Deliberated negligence in filling medical records may result in legal issues.

From the table, we can conclude that a number of practicing dentists (residents) inappropriately filled in the medical record prior to admission of treatment to the patient. This might be caused due to the complex filling procedure of dental medical record form, such as filling out every tooth information on the odontogram form. Even though the dentist knew that medical record serves as a powerful humanitarian tool in identifying a disaster victim, there was still an issued they have face in manual and electronic medical record filling. Electronic hand-drafting picture management system might be a solution for this issue. An approach to the importance of medical record should be taught in the dental profession school.

DISCUSSION

Human teeth are a part of the human's hardest tissues with a composition of inorganic materials and inferior water content. It is hard to damage, does not melt in high temperature, nor affected by the low temperatures. Also, teeth are more durable compared to bones that can decompose over time [20]. Therefore, odontogram is employed as a dental medical record in Disaster Victim Identification. Furthermore, a roentgen examination of patients' teeth has proven to significantly contribute in the identification of a disaster victim. For example, 56% of victims in the 2002 Bali Bombing and 60% of victims in the Situbondo traffic accidents in October 2003 were successfully identified through the history of various dental procedures, teeth occlusion, torus palatinus, torus mandibular, dental arches,

supernumerary teeth, diastema, dental anomalies, and other special notes [6]. A complete dental medical record is a success key in Dental Victim Identification process. This reason highlights this systematic review for the urgency and the need of a complete and systematic dental medical record. It can be implied as a communication tool between doctors and dentists for any kind of treatment or emergency needs. However, some dentists still have insufficient knowledge pertaining to the importance of appropriate filling of medical record [13]. Another problem arising related to ERM in Indonesia is that ERM cannot be employed in legal cases since there are no policies related to it. In reality, only manual RM is accepted as legal proof. In addition, the dentists are still not aware of appropriate filling of the medical record which is based on the treatment given despite the safeguarding benefit from the medical records in legal cases [27-28].

So far, most of hospitals in Indonesia have fulfilled the reporting obligation by filling the ICD-10 codes. However, all hospitals are required to establish every single report under the policy of ICD-11 by 2022. The obligation to report and fill disease codes based on the ICD-10 codes for individual health services in 35 provinces in Indonesia has only reached 21.1% of total Hospitals, out of 78.9% Community Health Services, including 103,700 medical professionals and doctors, specialists, dentists mostly provide individual health services in private or state health services. It does not include mandatory reporting policies with the ICD Code [1-4, 27-28]. The utilization of symbols and abbreviations are generally prohibited from filling out any medical record type. Nevertheless, several hospitals have developed a Special Dental Case Sheet, contradictory, it is deemed as improper medical record form to summarize patients' condition.

The use of Special Dental Case Sheet as a Medical Records and Forensic Tools by employing odontogram later to be developed must be filled with special standardized symbols and along with brief information about the patients' dental history procedures. It will be the most effective humanitarian tool to simplify the tracking process of the patients' vital information in order to prepare a patient treatment plan. It can be used as comparative data in the identification process if the related patient is suspected of being a disaster victim [1-3, 20-25]. The Special Dental Case Sheet will be developed according to the policy on the Special Sheet for Medical Professionals as follows:

- (1) Special Dental Case Sheet will be stored as a medical record file even though it is not a medical record form. It is coupled with odontogram images with hand drawings to be filed, based on examples of various standard symbols along with brief information which contain various items and patients' dental treatment procedures previously done by each dentist in the hospitals.
- (2) It will not be destroyed and will be treated as valuable information in an inactive medical record file, based on the hospitals' retention and leadership policies.
- (3) Collective information in the Special Dental Case Sheet will be stored properly since the patients have received various dental treatment services. Collective information serves as the utmost effective humanitarian tools to simplify the tracking process of the patients' important information required in the preparation of the right treatment. Besides, it can be used as comparative data in the identification process if the related patients are suspected of being disaster casualties.[1-6, 17, 21-25].

CONCLUSION

As the research shows, Special Dental Case Sheet only serves as a part of various medical record forms based on the medical records, instead of a medical record form itself, this sheet must be accompanied with odontogram images provided by dentists in hospitals. It will be further completed with standardized

symbols applied in hospitals as collective information which will be employed as a humanitarian tool between the dentists and other health professionals who are authorized to fill in the hospital medical records. The Special Dental Case Sheet as the research result does not violate the Ministry of Health's policy on Medical Records. Even, its collective information can function as a humanitarian tool or serve as comparative information in the identification of disaster victims.

SUGGESTION

The Special Dental Case Sheet will be optimally effective in the event of existence and availability of legitimate policies to support it. Hospital or Health Service Facilities as the administrator of individual health services must keep the Special Dental Case Sheet as the patients' information.

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