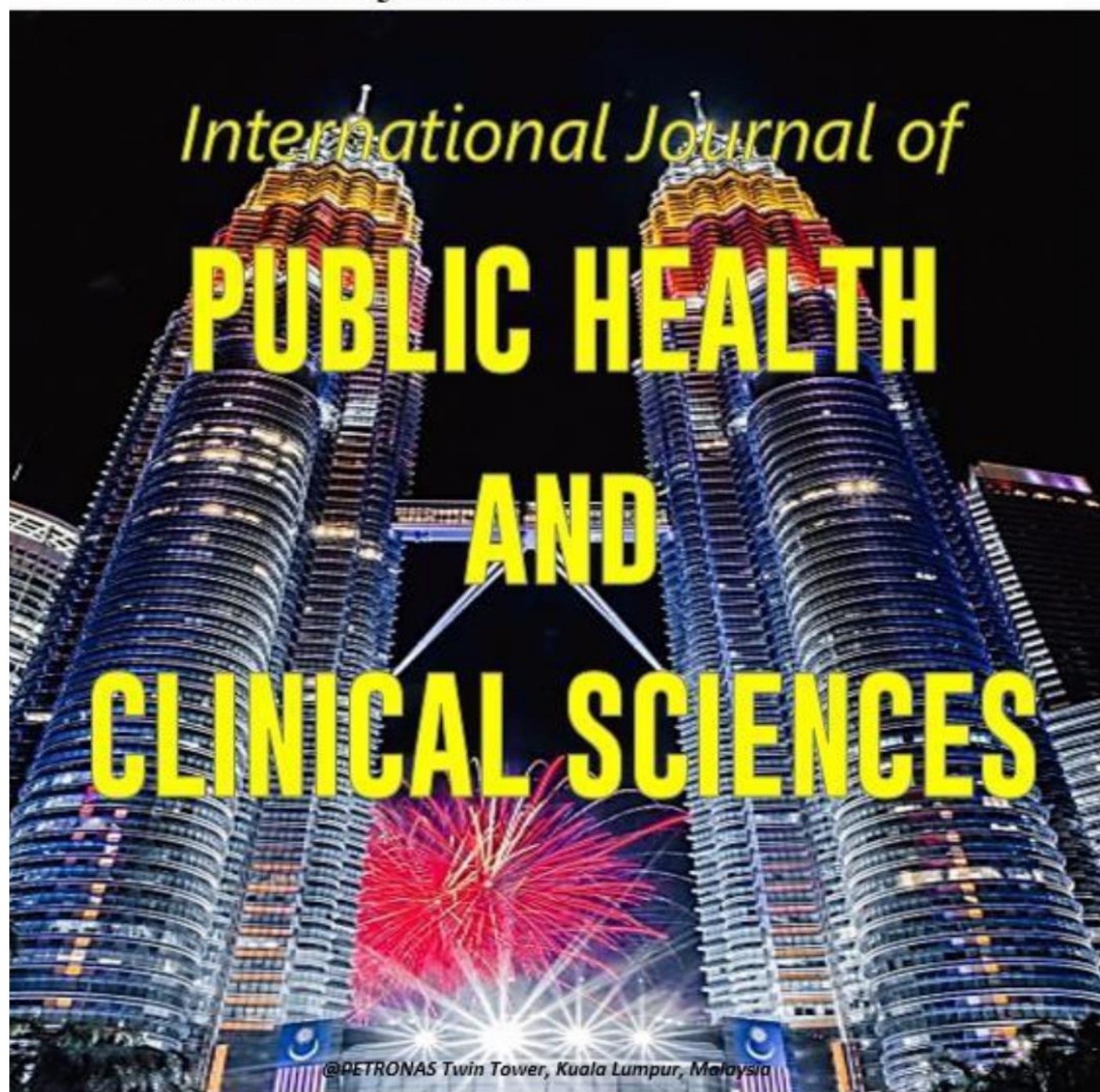


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THE EFFECT OF DISCIPLINE AND WORKLOAD TOWARDS THE PERFORMANCE OF DOCTORS AND DENTISTS IN FILLING MEDICAL RECORD AT COMMUNITY HEALTH CENTRES OF SURABAYA

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ABSTRACT

Background: Medical record is a written proof about healthcare given by doctors and dentists after treatment. The previous study conducted in thirteen community health centres of Surabaya found that 100% of medical records did not show the treatment schedule, 99.49% of them did not have doctors' signatures, 85% did not show the given treatment, and 7.69% had incomplete patients' identity on the status card. This study would analyse the effect of discipline and workload towards the performance of doctors and dentists in filling medical records at community health centres.

Materials and Methods: This research is located at Community Health Centres of Surabaya. This study is a cross sectional research. The population in this study involved all doctors and dentists amounted to 354 people. The sampling method is systematic random sampling. The sample amounted to 84 doctors and 46 dentists. Exclusion criteria is doctor who serve as head of community health centre. Independent variables are discipline and workload, while dependent variable is performance. Data were collected from questionnaires filled by respondents, observation towards the completeness of medical record, and Focus Group Discussion (FGD). Data were examined by using linear regression test in SPSS.

Result: Almost of respondents had high discipline (38.5%) in filling the medical records. Most of the respondents with high workload (62.3%) had greater number of patients than the standard number of patients per day. Out of 50 respondents who had high discipline, most of them (62%) showed low performance. Performance measured by observation of medical records. Most of respondents with high workload showed low performance amounted to 64.2%. The result of linear regression test showed the significant value was 0.002 for discipline and workload. The result of this study is discipline and workload proven to have an effect on performance doctor and dentist in filling medical records.

Conclusion: Discipline and workload were proved to become the influential factors towards the performance of doctors and dentists in filling medical records at community health centres of Surabaya.

Keywords: community health centre, doctor, dentist, medical record

1.0 Introduction

According to Indonesian Health Ministry, community health centres are united functional organization as the development centre of public health, public participation, and pervasive and integrated healthcare for society in their operating areas. Community health centres are the first central healthcare in Indonesia, so it is important for doctors and dentists to provide good services. Based on regulation about medical practices, doctors and dentists follow the standard specifically the standard of medical record setting.

Medical records are written proof of healthcare given by doctors and dentists to patients after treatment. Medical records can be used for legal purposes as a proof to stand for justice. Therefore, doctors and dentists are responsible for filling medical records as clearly, completely, and punctually as possible to avoid disadvantages such as miss use of information and further medical error. Information showed in patients' status card includes who patients are (who) and who serves them (who), what kind of services are (what), when services are given (when), why services are given (why), and how healthcare services are given (how). There are two forms of medical records. They are written medical records in patients' cards, and medical records are then written in Management Information System or electronic P care. Management Information System or P Care is an information system integrated to help the management process of community health centre (Dinas Kesehatan Surabaya, 2015). P care is information systems for community health centre and in it perform data processing starting from registration, diagnosis section, therapy, until laboratory examination.

Problems that happen in filling medical records are incomplete, unclear, and overdue medical records, so the medical records cannot give accurate information. If patients' status cards have inaccurate information, they will make medical record staffs difficult to re-write in Management Information System or P Care. Thus, the way doctors and dentists fill medical records of patients is very important. The preliminary research conducted in thirteen community health centres of Surabaya found that 100% of medical records did not show the treatment schedule, 99.49% of them did not have doctors' signature, 85% did not show the given treatment, and 7.69% have incomplete patients' identity on the status card. The preliminary research showed that doctors did not performed well in filling the medical records.

Many factors may influence the performance of doctors. These include discipline and workload. Discipline is an internal factor, while workload is an external factor which can affect the performance of doctors and dentists. Discipline is an individual awareness and willingness to obey the company's rules and norms (Hasibuan, 2003). Discipline is a training form to conduct the company's rules (Mathis & Jackson, 2002). Discipline in this study is awareness and willingness of doctors and dentist to accomplish their tasks and responsibility voluntarily in filling medical records based on the rules. Workload is related to the number of patients treated by doctors and dentists per day in comparison to the standard. The large number of patients will result in higher standard of workload, while less workload will result in lower workload. Too high workload can result in limited time to fill medical records, so medical records are incomplete.

Many studies examined the factor related to the performance of filling medical records by doctors in hospitals, but few studies examined the performance of doctors and dentists in filling medical records at community health centres. Community health centres as the first healthcare facilities need to provide medical record data well, so the information obtained is useful for further medical treatment. This study analyses the effect of discipline and workload towards the performance in filling medical records by doctors and dentists at community health centres.

2.0 Materials and Methods

2.1 Study Design and Sample

This study is a cross sectional research. The population of the study was all of doctors and dentists at 62 community health centres of Surabaya in 2015 with 354 people. The number of population from 62 community health centres of Surabaya was 416 people subtracted by 62 people who became the heads of those community health centres. Exclusion criteria is doctor who serve as head of community health centre. The sample obtained by using Lemeshow formula was 130 doctors divided into 84 doctors and 46 dentists at community health centres of Surabaya (Lemeshow, 1990). The techniques of sampling in this study used systematic random sampling where the sample amounted to 84 doctors and 46 dentists chosen as participants. The list of doctors and dentists is obtained from personnel data of Surabaya City Health Office in 2015. Sampling interval is 3.

2.2 Data Collection

This research has passed ethical clearance by health research ethics committee, Faculty of Public Health, Airlangga University. Independent variable in this research are discipline and workload, while dependent variable is performance. Discipline means willing to voluntarily comply with all regulation in medical record filling. Workload means the number of patients served by doctor or dentist in one day. Performance means the ability of the doctor and dentist to complete the medical record filling and return the medical record document on time. Discipline and workload measured by a questionnaires were filled by respondents, and performance measured by observation on medical record filling. The questionnaires consist of questions related to discipline and workload. The indicators of discipline include obedience, devotion, orderliness, and compliance. The indicator of workload is the average number of patients checked by respondents. The reliability of the questionnaires shows the value of *alpha cronbach* was more than 0.600, so the questions can be used for research.

Data of the performance of doctors and dentists in filling medical records were obtained by using observative tools. Observative record is an observation form which consists of 11 indicators of medical record completeness and punctuality of returning medical records. Observation medical record filling conducted by researches. The indicators of medical record completeness include the anamnesis of illness complaints, illness history, physical check and support, diagnosis, operational planning, medication and/or action, other services which have been given, approved action, doctors' or dentists' names, signatures of doctors or dentists who checked the patients, and patients at odontogram dental clinic (specifically for dentists).

2.3 Data Analysis

The data were identified by using frequent distribution for each question, scoring each of the indicators and categorizing them into several categories. Discipline was categorized into very low discipline, low discipline, high discipline, and very high discipline. Workload was categorized into low (<the standard number of patients per day), middle (=the standard number of patients per day), and high (>the standard number of patients per day). The performance of doctors and dentists was measured based on the completeness of medical records (75% score) and punctuality of medical records (25% score). Performance was categorized into very low performance, low performance, and high performance. The assessment of performance was obtained from 10 documents of each doctor.

The next data were analysed by using SPSS to view the effect of independent variables (discipline and workload) towards dependent variable (performance). This study used linear regression test.

3.0 Result

3.1 The Discipline of Doctors and Dentists at Community Health Centres of Surabaya

Discipline is an awareness and willingness to obey the writing rules of medical records based on the regulation of Health Ministry. The indicators of discipline are obedience, devotion, orderliness, and compliance. The result of obedience test was presented in table 1.

Table 1. The discipline indicators of doctors and dentists in completing medical records at community health centres of Surabaya.

No	Discipline Indicators	Alternative Answer				Total n (%)
		Very Good n (%)	Good n (%)	Not Good n (%)	Not Very Good n (%)	
1	Obedience	41 (31.5)	53 (40.8)	27 (20.8)	9 (6.9)	130 (100)
2	Devotion	52 (40.0)	44 (33.8)	26 (20.0)	8 (6.2)	130 (100)
3	Orderliness	42 (32.3)	47 (36.2)	31 (23.8)	10 (7.7)	130 (100)
4	Compliance	43 (33.1)	37 (28.5)	37 (28.5)	13 (10)	130 (100)

In terms of obedience, most of respondents had good obedience in writing medical records (40.8%) and 31.5% had very good obedience. Good obedience was obtained since most of doctors or dentists still filled medical records even though they had many patients to check. Doctors and dentists performed very good devotion (40%) because more than a half of them could finish and complete medical records on the same day. Most of the respondents argued that completing medical records needs writing order and time order, so it results in good orderliness (36.2%) dan very good orderliness (32.3%). The last indicator was about the respondents' compliance in writing medical records based on the rules. Most of the respondents often obeyed the rules of medical record writing, so the compliance was very good (33.1%).

After having discipline based on each indicator, the test was categorized to be four discipline categories as presented in table 2. Categories based on the total score of the four indicators of discipline. They are very low discipline, if the total score 4 until 7; low discipline if the total score 8 until 10; high discipline, if the total score 11 until 13; dan very high discipline, if the total score 14 until 16.

Table 2. The discipline of doctors and dentists in completing medical records at community health centres of Surabaya

No	Discipline	Freq (%)
1	Very low discipline	7 (5.4)
2	Low discipline	26 (20)
3	High discipline	47 (36.2)
4	Very high discipline	50 (38.5)

Table 2 shows that most of the respondents had very high discipline (38.5%) in filling medical records. As many as 5.4%% respondents had less discipline in filling medical records.

3.2 The Workload of Doctors and Dentists at Community Health Centres of Surabaya

Workload is the number of patients being treated in certain time. The result of this study shows that the number of patients on one day was from 35 to 36 patients treated by doctors, and there were 9 to 10 patients treated by dentists at community health centres of Surabaya. The standard number of patients per day was 18 patients for doctors, while the standard for dentists was 9 to 10 patients per day. This standard was used as the basis of workload categorization.

Table 3. The workload of doctors and dentists at community health centres of Surabaya

No	Workload	n	%
1	Low (<standard number of patients per day)	44	33.8
2	Medium (=standard number of patients per day)	5	3.8
3	High (>standard number of patients per day)	81	62.3

Most of the respondents who had high workload (62.3%) had more standard number of patients per day. As many as 33.8% of respondents with low workload had less number of patients per day than the standard. The rest (3.8%) had middle workload with the same number of patients per day as the standard.

3.3 The Performance of Doctors and Dentists at Community Health Centres of Surabaya

Performance can be grouped into the completeness of medical record and the punctuality of medical record returning. All doctors and dentists return the medical records on time. The completeness of medical record shows the ability of doctors and dentists to fill the items of medical records that include 10 items for doctors and 11 items for dentists. The result of the completeness in filling medical records is presented in table 4.

Table 4. Items of completeness in filling medical records by doctors and dentists at community health centres of Surabaya

No	Items	Completeness of Medical Records (%)			
		Min.	Max.	Average	Deviation Standard
1	Anamnesis of illness complaint	0	100	58.7	37.09
2	Anamnesis of illness history	0	100	30.5	33.22
3	The result of physical check and medical support	0	100	62.8	39.71
4	Diagnosis	0	100	81.0	26.82
5	Operational Planning	0	100	36.5	42.20
6	Medication and/or action	0	100	60.0	39.04
7	Other given services	0	100	51.8	49.29
8	Approval action	0	100	51.3	49.66
9	Names of dr./drg. who check the patients	0	100	24.1	37.33
10	Signatures of dr./drg. who check the patients	0	100	36.9	41.67
11	Patients at odontogram dental clinic	0	100	86.6	33.61

Table 4 shows that the highest average completeness was the item of patients at odontogram dental clinic amounted to 86.65%, while the lowest average completeness was the item of doctors' and dentists' names amounted to 24.1%.

The result of completeness check in filling medical records was then grouped into four categories; very incomplete (0-25% filled aspects) amounted to 5.4%, incomplete (26-50% filled aspects) amounted to 43.8%, complete (51-75% filled aspects) amounted to 39.2%, and very complete (76-100% filled aspects) amounted only to 11.5%. The result of punctuality check in returning medical records to staffs shows that all of respondents (100%) returned the medical records on the same day. Performance doctor and dentist based on completeness and punctuality of medical records return.

The completeness of the medical records is given a weight of 75%, while the punctuality of medical records return is given a weight of 25% from performance. Data related to the completeness of medical records and punctuality of returning become the basis of performance categorization which consists of three categories. Out of 130 respondents, most of them (61.5%) had low performance. Respondents with high performance were 21.5%, while the rest (16.9%) had very low performance.

3.4 The Effect of Performance and Workload on How Doctors and Dentists Perform in Filling Medical Records at Community Health Centres of Surabaya

The effect of performance and workload on how the performance of doctors and dentists in filling medical records was presented in table 5.

Table 5. Cross tabulation between discipline and performance of doctors and dentists at community health centres of Surabaya in filling medical records

No	Variables	Performance			Total n (%)
		Very Low n (%)	Low n (%)	High n (%)	
Discipline					
	Very Low	0 (0.0)	4 (57.1)	3 (42.9)	7 (100.0)
	Low	0 (0.0)	16 (61.5)	10 (38.5)	26 (100.0)
	High	10 (21.3)	29 (61.7)	8 (17.0)	47 (100.0)
	Very high	12 (24.0)	31 (62.0)	7 (14.0)	50 (100.0)
Workload					
	Low	12 (27.3)	24 (54.5)	8 (18.2)	44 (100.0)
	Medium	0 (0.0)	4 (80.0)	1 (20.0)	5 (100.0)
	High	10 (12.3)	52 (64.2)	19 (23.5)	81 (100.0)

Out of 50 respondents with high discipline, most of them (62%) had low performance, and only 14% of them had high performance. Most of them (57.1%) with low discipline also had low performance, and the rest had high performance. This means that the higher discipline is, the lower performance is. Unlike discipline, workload is in line with performance. Most of them (54.5%) with low workload had low performance. However, respondents with high workload had low performance amounted to 64.2%. Crosstab results are supported by the results of regression tests which show that there is a discipline influence ($p = 0.002$; $b = -0.256$) and workload ($p = 0.002$; $b = 0.268$) on performance in filling medical records.

4.0 Discussion

Discipline and workload proved to affect the performance of doctors and dentists in filling medical records at community health centres. Based on the linear regression test with SPSS, the significant value for discipline and workload was 0.002 (with $\alpha=0.05$). Discipline is defined as behaviour that follow the organization's rules, whether written rules or not (Robbins, 1984; Dapu, 2015). Discipline is a condition created and formed through the process of a series of behaviors that show the values of obedience, devotion, orderliness, and compliance (Priyodarminto, 1993). High discipline requires healthcare worker to keep the policies determined by the community health centre. Discipline makes individuals subject to organizational rules with pleasure (Hasibuan M. , 2005). The discipline of healthcare worker is an effect of fulfilling the need to be part of the community health centre, but discipline can also be formed because of a compulsion from another person or organization (Handoko, 2001). The community health centre policy that is compelling can be a driving force to increase the discipline of healthcare worker to comply.

Staffs who have discipline in work can be seen from their responsibility, behaviour, and action in obeying rules of organization where they work. Community health centres become the organizer of health events and office where doctors and dentists work, according to Law of the Republic Indonesia No. 29 Year 2004 about medical practice. Each doctor is required to follow the standard, guide, and procedures so that society are treated with professional and safe medication. Doctors and dentists should consider these three aspects (standard, guide, and procedures) when they work and fill medical records.

The majority of doctors and dentists in community health centres of Surabaya had high discipline in filling medical records. They accomplish this task on time because they need to return the medical record on the same day. This policy has run well because the result of this study shows that all of doctors and dentist returned the medical records on time. This policy encourages doctors and dentists to follow the rules, so they fulfil the need of community health centre. Discipline is very significant to construct healthy organization atmosphere and to reach the goals in that organization (Monappa, 2000).

Even though doctors and dentists (100%) returned the medical records on time, they still lacked discipline in completing the medical record documents. Discipline of doctors and dentists has been well related to the accuracy of returning patient's medical records. However, the discipline in the filling of medical records still need to be improved again because there are still many medical records that are not filled completely. The head of the community health centre has the authority to determine policies that can make disciplinary doctors and dentists. Awareness of the discipline of work must be instilled due to the habits of doctors and dentists who feel they have done their job well. Lack of awareness is likely due to a lack of understanding that there are consequences if the medical record is incomplete. This needs attention, especially from the head of the community health centre as the leader of the organization.

Medical records have been regulated in Regulation of The Health Minister of Indonesia Number 269 of 2008 (Kementerian Kesehatan , 2008). Things that regulate everything about obedience, devotion, orderliness, and compliance in filling medical records written in the regulation. Therefore, to improve the discipline of doctors and dentists in filling out medical records, it is necessary to increase understanding of these regulations.

Workload also affects the performance of doctors and dentists in filling and returning medical records. Workload in this case is the number of patients treated per day. Most of doctors and dentists at community health centres of Surabaya had the greater number of patients than the standard. This is because the number of patients handled by doctor and dentist exceed the standard. The standard of workload normatively is calculated based on the total of work hours and time needed for treating patients on one day. The standard number of patients for doctors every day is 18 patients, while there are 9 to 10 patients for dentists. The high workload shows that more health service utilization in community health centre. In addition, the large population of Surabaya City also has the potential to contribute to the high number of patients in community health centre.

Because of the number of patients treated on one day, it may make doctors and dentist not fill the medical records optimally. Contrastly, doctors and dentists mention that huge number of patients is not a problem of filling the medical records. The findings of this study show that doctors and dentists with high workload had 64.2% low performance. Doctors and dentists get used to filling the medical records incompletely. Even though doctors and dentists did not have many patients, they still filled the medical records incompletely. The findings of this study show that doctors and dentists with low workload had 54.5% low performance.

The workload reviewed based on the number of patients handled by doctors and dentists exceeds the standard level. For doctors and dentists, filling in medical records is a habit that is always filled together while writing diagnoses and prescriptions to patients but many of them are incomplete. Incomplete charging is affected from the workload of serving patients over standard amounts. Therefore it can be said that the workload significantly influence the performance of doctors and dentists to complete the medical record.

5.0 Conclusion and Recommendation

Discipline and workload is proven to be influential factors towards the performance of doctors and dentists in filling medical records at community health centres of Surabaya. Discipline and workload resulted in the significant value 0.002 ($\alpha=0.05$). The authors recommend that doctors and dentists should fill the medical record completely to improve their performance at community health centres of Surabaya. To community health centres, they should optimizing the head's role in guiding, directing, supervising, and evaluating medical record procedures completed by doctors and dentists.

Community health centres should supervise the procedure completeness to find problems and seek for solutions. Supervision is done regularly to make doctors and dentists ready to fill medical records. The lack of discipline in completing medical record can be solved by strengthening or improving the understanding of doctors and dentists about medical records writing based on the standard and the problems of incomplete medical records. Discipline also can be improved by applying reward and punishment for doctors and dentists who can complete and return medical records on time.

To Surabaya Health Department, it is recommended to conduct workshops on how to write medical records for staffs at community health centres of Surabaya. In addition, they are recommended to hold seminars about the legal aspects of medical records for doctors and dentists, to supervise the medical record procedures, recreate the medical record sheet based on the standard, and fulfil the needs of doctors and dentists at community health centres of Surabaya to have more ideal performance.

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Declaration

Authors declare that there is no conflict of interest regarding publication of this article.

Author's contribution

Author 1: information gathering
Author 2: data analysis
Author 3: preparation, review of manuscript
Author 4: review of manuscript

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