The Differences of Doctor Adherence and Medical Record Completeness in Accredited and Unaccredited Primary Health Care

Aisyah Shofiatun Nisa*

*Correspondence Author: Aisyahshofi@Yahoo.co.id
*Master of Hospital Management, Postgraduate Program, Universitas Muhammadiyah Yogyakarta, Indonesia

INDEXING

ABSTRACT

In the field of medical and dentistry, medical records is one of authentic evidence a service provided by doctor and dentist, which contain clinical record of a patient. Accreditation is one of method made by government to control and maintain the quality of public health service. The purpose of this study is to analyze the differences in the completeness medical records at primary health care that have been accredited and haven’t. Quantitative descriptiver method which observes the field condition is used in this research. Approximately the knowledge of a doctor on accredited Primary Health Care is 69.4% while 65.27% for unaccredited Primary health care. As for the assessment for adherence a doctor on accredited Primary Health Care is 87.64% while 73.52% for unaccredited. The completeness medical records from (n: 300 medical records at 6 Primary health care) accredited Primary health care is on 80.33% while unaccredited Primary health care is on 68%. Based on the analysis using paired t-test to assess the differences between the completeness medical records at accredited and unaccredited Primary health care obtained sig value 0.0001. There is a difference in the completeness the medical record between accredited Primary health care and unaccredited Primary health care.

INTRODUCTION

In the field of medical and dentistry, medical records is one of authentic evidence a service provided by doctor and dentist, which contain clinical record of a patient. The development in the medical field makes people more selective in choosing health service facilities. Each of it will compete to provide high quality health services. It is necessary to provide a safe, non-discriminative, equitable, and a good service which can be accounted for. Therefore every medical activity should have a complete and accurate medical record for each patient and it is obligation for every doctor and dentist to be a professional. The medication history in the hospital medical record is often incomplete, as 25% of the prescription drugs in use is not recorded. Based on study that had been held at PKU Muhammadiyah Yogyakarta by Tiara Wahyu Pamungkas, there are 40,43% incomplete medical record at Internal Department. It is such a low number remember how important medical record are. Accreditation is one of method made by government to control and maintain the quality of public health service.
The purpose of this accreditation is to improve the quality assurance from a health facility such as Primary health care. Accreditation of Primary health care is an acknowledgement from external assessment process, by the Accreditation Commissioner, whether the quality in accordance with the standards.

Accreditation at health care centers has been done in many countries in the world. Some scientific evidence suggests that healthcare centers are experiencing drastic increases related to external assessments of accreditation.

The purpose of this study is to analyze the differences of the doctor’s adherence and completeness medical records at accredited and unaccredited primary health care.

**RESEARCH METHOD**

The study is cross-sectional quantitative analitical research. The research instrument using reliable checklists that have been validated based on Health Government Regulation No.269 of 2008 about medical record’s content for outpatient and Manual Issued about Management of Hospital Medical Record by Directorate General of Medical Services Health Ministry of Indonesia Republic.

This research will be conducted at accredited and unaccredited primary health care in one of Yogyakarta Province’s District. This study had been done at August 2017 to October 2017. The population of this study were all doctors who worked in accredited and unaccredited primary health care and medical records of the patient at the primary health center within a period of two last year (2016-2017).

The number of samples of medical record files is 300 medical records from 6 different primary health care. Assessment of questionnaires will be filled by each doctor, while the assessment of medical records will be assessed by 3 different assessors. Each assessor will be given direction on the completeness of the medical record prior to the assessment.

These different assessors are intended to avoid bias at the time of the study. Then at the beginning of the study, each assessor will be tested to assess medical record for make sure the perception on each assessor whether the assessment obtained that tend to be the same or not.

After an analysis of the assessment experiments by each assessor, the averagel score is almost the same. If at the time of the initial assessment there are differences asessment, then the assessors will equate perceptions that may arise. Therefore, before the research begins any perceptions of the words in the checklist will be equated.

For example if at the address in write the name of the district but not complete whether to get a point or not.

If the process, perceptions and how to assess each assessor are the same, then the assessment of each new medical record will begin.

**RESULT AND DISCUSSION**

**Doctor’s Knowledge**

Based on graph 1 from the filled questionnaires obtained the question with numbers 10, 17, and 18 have the highest error rate. Question number 10 regarding the knowledge of medical records in the form of alarm or allergy, question number 17 with regard to the latest time of medical resume should have to be completed and question number 18 about when history of disease and examination result have to be completed.

The highest score for the assessment of physician's knowledge is 77 while the lowest score is 55. Whereas based on table 4.1 the average value of knowledge at primary health care that have been accredited is 69,4 whereas in the unaccredited primary health care is 65,27.

**Table 1. Comparison of doctor’s knowledge scores at accredited and unaccredited primary health care**

| Information | Accredited Primary Health Care | Unaccredited Primary Health Care |
|-------------|--------------------------------|---------------------------------|
| Dokter 1    | 66,67                          | 66,67                           |
| Dokter 2    | 77,78                          | 77,78                           |
| Dokter 3    | 77,78                          | 55,56                           |
| Dokter 4    | 55,56                          | 61,11                           |
| Average     | 69,44                          | 65,27                           |

**Doctor’s Adherence**

Graph 1. The Spread value of doctor’s knowledge by question
Based on the graph 2, questions that have the lowest value is the question number 12 which contains about filling the complete medical record will spend the time, number 15 which contains about writing an incomplete medical record does not mean do not provide good service, number 16 which contains about medical record the incomplete will still have benefits. Based on table 2, the average value of attitudes of doctors at primary health care that have been accredited is 87.64 and the average value of attitudes of doctors at primary health care that have not been accredited is 73.52.

**Graph 2. The spread value of doctor’s adherence by question**

| Question | Accredited | Unaccredited |
|----------|------------|--------------|
| Q1       | 88,24      | 70,59        |
| Q2       | 90,59      | 81,18        |
| Q3       | 85,88      | 67,06        |
| Q4       | 85,88      | 75,29        |
| Q5       | 87,64      | 73,52        |

**Assessor of Medical Records**

When assessing medical record completeness, researchers used 3 different assessors to avoid bias. Therefore it is necessary to assess whether there is a difference from the assessment already done by the assessor. Based on data if using inter-class correlation get significance value equal to 0.976. Based on the coefficient interpretation, the strength of agreement on each appraiser is very high.

**Table 3. The percentage difference of medical record completeness to each appraiser**

| Primary Health Care | Assessor(%) | M | M | Percent | N | X |
|---------------------|-------------|---|---|---------|---|---|
| PHC 1               | 59          | 61 | 60 | 59      | 61 | 60% |
| PHC 2               | 73          | 74 | 73 | 73      | 74 | 73% |
| PHC 3               | 72          | 73 | 71 | 71      | 73 | 72% |
| PHC 4               | 78          | 78 | 77 | 77      | 78 | 78% |
| PHC 5               | 98          | 97 | 97 | 97      | 98 | 97% |
| PHC 6               | 66          | 65 | 67 | 65      | 67 | 66% |

**Medical record completeness**

Based on table 6, the percentage of medical record completeness at unaccredited primary health care is 60%, 73%, and 72%. While based on table 4 the percentage of medical record completeness at accredited primary health care is 78%, 97%, and 66%. The medical records that have the lowest percentage in the filling are about assessment time (20%), marital status (33%) and another assessment by health workers such as nurse, midwife and physiotherapist (51%).

**Table 4. Completeness of Medical Record at Unaccredited Primary Health Care**

| Information | PHC 1 | PHC 2 | PHC 3 |
|-------------|-------|-------|-------|
| Name        | 100   | 100   | 100   |
| Age         | 93    | 99    | 91    |
| Sex         | 48    | 7     | 48    |
| Address     | 97    | 100   | 99    |
| Marital Status | 0   | 39    | 55    |
| Assessment Date | 100 | 97    | 100   |
| Assessment Time | 0   | 1     | 0     |
| Anamnesis   | 55    | 78    | 78    |
| Physical    | 58    | 57    | 83    |
| Examination | 71    | 100   | 97    |
| Assessment by Health Workers | 98 | 99    | 99    |
| Completeness | 60  | 73    | 72    |

**Table 5. Completeness of Medical Record at Accredited Primary Health Care**

| Information | PHC 4 | PHC 5 | PHC 6 |
|-------------|-------|-------|-------|
| Name        | 100   | 100   | 100   |
| Age         | 93    | 99    | 91    |
| Sex         | 48    | 7     | 48    |
| Address     | 97    | 100   | 99    |
| Marital Status | 0   | 39    | 55    |
| Assessment Date | 100 | 97    | 100   |
| Assessment Time | 0   | 1     | 0     |
| Anamnesis   | 55    | 78    | 78    |
| Physical    | 58    | 57    | 83    |
| Examination | 71    | 100   | 97    |
| Assessment by Health Workers | 98 | 99    | 99    |
| Completeness | 60  | 73    | 72    |
Government Regulation No. 749a in 1989, and there is 1 doctor (12.5%) knowing that medical resume obtained must be complete within 24 hours after the patient was treated. Although in fact, as written by Vandan in his journal titled “Assessment of doctors’ knowledge of dental health conducted in the Nellore District”, said that all doctors who were interviewed were aware that there existed a relation between oral health and general health. But only 10% of respondents refer their patients to dentists without patients asking for referrals. Even with high knowledge it can not necessarily change a person in determining what he or she will do.

Doctor's Knowledge of Medical Record

From the results of the knowledge analysis from 8 doctors who filled the questionnaire. The doctor was understood that the medical record contains anamnesis, physical examination, diagnosis, therapy, other medical examination, none of them (0%) know how to put danger / allergy signs on a medical record, there are 5 doctors (62.5%) who know how to delete data on medical record, there is 1 doctor (12.5%) knowing that medical resume have to be complete in 2x24 time and maximum 14 days after the patient went home according to Health Government Regulation No.749a in 1989, and there is 1 doctor (12.5%) who know all the patient’s examination have to be complete within 24 hours after the patient was treated.

A person's knowledge is derived from a variety of sources, from the process of learning in school, experience, books, or even from people, which this knowledge hopes can make a belief that one can behave accordingly. Knowledge is also a resultant result of the process of sensing (sight and hearing) of an object.

As mentioned by Rola Al-Habashneh in his research that every diabetic patient does not know the possibility of dental disease. Rola in her journal assesses doctor's knowledge about dental health in diabetic patients is very low. It says in his journal that there are 70% of doctors who have known the relationship of diabetes and dental health. But only half of them give dental referrals about dental hygiene in diabetic patients. Some doctors do not believe that diabetes will have a direct effect on dental health, so this doctor does not provide patient dental referrals. Therefore in his journal it is said that the more doctors who have knowledge about dental health in diabetic patients the more likely the doctor will provide referrals to the dentist in diabetic patients.

Even in other studies that also assess doctor's knowledge of dental health conducted in the Nellore District, said that all doctors who were interviewed were aware that there existed a relation between oral health and general health. But only 10% of respondents refer their patients to dentists without patients asking for referral. Even with high knowledge it can not necessarily change a person in determining what he or she will do.

Doctor's knowledge is a basic thing every doctor should have. Although in fact as written by Vandan in his journal titled “Assessment of doctors' knowledge of tuberculosis management in Lucknow, India: A public-private sector comparison", there are 71% of doctors who know how to treat tuberculosis, 69% of them who adhere to tuberculosis treatment.

Another study which also assesses the doctor's knowledge in handling Tuberculosis is also done by Abdihalim Mohamoud. By using Tuberculosis scoring in children to diagnose tuberculosis. The things assessed in the scoring of Tuberculosis are such as fever over 2 weeks, coughing more than 3 weeks, losing weight, contact history scoring of Tuberculosis are such as fever over 2 weeks, coughing more than 3 weeks, losing weight, contact history...
With the high knowledge of doctors about medical records is expected every doctor can write the patient's medical record completely. However, not all doctors who have good knowledge of medical records can complete a complete and correct medical record without a strong desire to do what a doctor already knows about the medical record.

Therefore, with the accreditation process at primary health care it can be expected that every doctor has a reinforcing factor that directly influence in making a complete medical record in accordance with Lawrence Green & B.F Skinner's theory.12

**Doctor's Adherence of Completeness Medical Record**

From the result of the adherene analysis from 8 doctors who filled the questionnaire, there are 3 doctors (37.5%) who stated strongly agree that complete medical record will spent the time , 2 doctors (25%) agreed that complete medical record will spent the time, 1 doctor (12.5%) stated that hesitantly filled out medical records with complete time spent, and 3 doctors (37.5%) said they are not agree to complete the medical record will spent the time. While another question that have a low value is when the doctor filled uncomplete medical record , does not mean they give bad services to patients. There are 2 doctors (25%) who strongly disagree, so the doctors think with an uncomplete medical record doctors already provide good service to patients. Whereas one of the criteria of good service is be able to write a complete medical record.It accordance with Article 46 paragraph (1) Medical Practice Law, that every doctor must complete each medical record document (100% completeness).

Adherence is a closed reaction, can only be interpreted from visible behavior. Another opinion adherence is an evaluative response based on self-evaluation process inferred positive or negative choices that then crystallize as a potential reaction to the object.13

Definitely attitude means a state of the soul (mental) and state of mind (neural) prepared to respond to an object organized through experience and directly or indirectly affect the behavior.14

In a study conducted in the United States a study of adherence to administered therapeutic management in AMI patients was obtained at an accredited Society of Chest Pain Centers (SCPC) significantly more adherent-giving aspirin and B-blockers less than 24 hours compared to unaccredited centers.15

Based on data analysis from Centers for Medicare and Medicaid Services (CMS) in the US at accredited hospital patients receive better quality care for acute myocardial infarction (AMI) than patients in unaccredited hospitals. In this study, mortality rates in post-AMI cases in accredited hospitals were lower than those not yet accredited.16

In another study in Copenhagen at 51 units (38 surgeries and 13 anesthesia) in accredited hospitals were more compliant with guidelines than in unaccredited hospitals.17

Simon Bates in his journal entitled Human factors that lead to non-compliance with standard operating procedures that assess laboratory compliance in a laboratory against SOPs. In his journal said there are some things that can be a factor of a person in not complying with the SOP, such as insufficient time and pressure, workload, training and supervision, and insufficient facilities. Some things that can also happen is because it has become a routine.18

An attitude has not been automatically manifested in practice, the realization of an attitude into a real action (practice) requires supporting factors or conditions that allow. Factors that can support the complete assessment of medical record is with the accreditation process. This accreditation process is expected to be a boost factor for a person to behave as regulated by law.

**Differences of Medical Record Completeness**

Based on 6 primary health cares, the lowest value of completeness medical record is the unaccredited primary health care with the percentage 60%, while the highest value of completeness medical record document is the accredited primary health carer with the percentage 97%. Based on the checklist, only 48 medical records were filled the time column from 300 assessed medical records, while the assessment of marital status column only 107 medical records were filled out of the 300 assessed medical records, and on the assessment from another health service columns by other professions only 106 medical records were filledout of 300 assessed medical records.

For the average value of medical record completeness at unaccredited primary health center is 68,3% while theaverage in accredited primary health care is 80,3%. There is a difference of 12% between unaccredited and accredited primary health care.

Based on Health Government Regulation No. 32 and No. 749a of 1989 about completeness of medical record, every doctor have to complete every medical record document (completeness 100%). An attitude has not been
automatically manifested in practice, the realization of an attitude into a real action (practice) requires supporting factors or conditions that allow. Factors that can support the complete assessment of medical record with the accreditation process, which is expected this process can be a factor amplifier someone to behave as where is regulated by law. One of the main elements in the excellent health care system is the availability of medical services by doctors and dentists with quality maintained in accordance with the mandate of Law No. 29 of 2004 on Medical Practice. In the conduct of medical practice, every doctor and dentist shall refer to applicable standards, guidelines and procedures so that the public shall receive professional and safe medical services. As one of the regulatory functions in the Medical Law in question is the regulation of medical record that is on article 46 and article 47.

The main problems and obstacles in the implementation of medical records are that doctors and dentists are not fully aware of the benefits and usefulness of medical records, both in health care facilities and in private practice, resulting in incomplete, unclear and inaccurate medical records. Error in medicine is a serious problem and usually occurs when the patient's documentation is written in a paper based medical record. The patient's medical record is the primary data in the patient's health care process. Paper based medical record is still widely used today. Although paper based medical record has many advantages because the user is more familiar with how to use it.

But now health agencies are facing the development of information that increases its quantity and complexity. The patient records are now unable to manage all necessary information. The storage of medical records began to become a problem, the search for medical records became increasingly difficult. When this medical record is needed quickly, however difficult to find will be the doctor's barrier in making an effective decision. According to the book The Computer-Based Patient Records: An Essential Technology for Health Care the use of electronic medical records is the answer to the incompleteness of medical records.

Accreditation programs for healthcare providers should be supported because they can improve health services. One of the most important obstacles in the implementation of the accreditation program is the skepticism of health professionals in general and physicians particularly regarding the positive impact of the accreditation program on the quality of health services. The need for education to healthcare professionals about the potential benefits of accreditation to address skepticism of health care providers towards accreditation.

Currently there are guidelines for medical records published by the Ministry of Health, but the guidelines only regulate hospital medical records. Therefore, a rules of medical record is required for public hospital, private, special, health center, individual and other health service, because the importances of medical record.

Based on analytical test using paired t-test to assess whether there are differences in the completeness of medical records at accredited and unaccredited primary health care obtained results of significance value 0.001 which means there are differences in the value of medical record completeness. Based on the theory put forward by Lawrence and Green a rule made by the government can make a person's strengthening factor in behaving. In this case, the assessment of the accreditation process is a factor in the reinforcement of a person.

Accreditation and its influences

The accreditation program has evolved in social and health care centers over the past few decades in response to improving service quality and assessment and strengthening the sense of competition in all types of social and health services. Based on a journal review written by Mays Glen in 2004, the accreditation program can have positive effects on service quality, service outcomes and operational service providers. Currently, almost all healthcare managers and regulatory policymakers must be able to evaluate and control the quality so as to improve the quality of service itself. Therefore, with the many demands to improve the quality of service, this accreditation program began to grow around the world 10 years lately. In many industries, this accreditation is recognized as a symbol that can indicate a quality of an organization.

In a study conducted Dra G states that a health care organization can make medical records as the main note used as a tool to evaluate a service. Many studies have shown that the quality of a medical record can reflect the quality of care provided by a physician.

Some evidence proves that accreditation programs can improve the service process in primary health care services and may affect a patient's clinical outlook. Therefore, this accreditation program should be supported and can be used as a tool in improving the quality of health services.
Based on a journal written by Mahi Al Tehewy in 2009 entitled “Evaluation of accreditation program in nongovernmental organizations' health units in Egypt: short-term outcomes” show that at accredited service centers display a higher percentage of value than service centers which have not been accredited. Some of the things that are compared in this study are the functioning of alarm systems, medical devices, patient care in keeping track of the development of diabetes patients, hypertension and in providing antenatal care.

Salmon et al. conducted a study on accredited hospitals. He made hospital sanitation as one indicator to compare. Salmon believes that the health of a hospital is closely related to the prevention of infection within a hospital. In his study he produced sanitation in hospitals that had been accredited better than unaccredited hospitals. The same study also conducted Duckeet in Zambian and resulted in sanitation in hospitals that have been accredited better than hospitals that have not been accredited.

In a cross-sectional survey conducted in the Philippines, using scenario cases, the quality of clinical care is significantly better in an accredited physician compared with an unaccredited physician.

In the cross-sectional tests conducted in Japan over the past 2 years, the score of the infection control assessment was significantly related to the hospital's accreditation status. In a retrospective study of 24 trauma centers accredited in the United States, significant accreditation was associated with survival rates in patients with 6 types of traumatic injury.

In an outpatient surgical center analysis in the US, there was an unexceptionable significance of inpatient reduction in patients undergoing colonoscopy in an outpatient accredited surgical center compared to an unaccredited surgical center. The study also said that there was a decrease in inpatient rates in patients who had undergone cataract surgery at an accredited surgical center than those not yet accredited.

In a study conducted by El-Jardali in 2008 said that nurses feel the quality improvement during and after the process of accreditation in hospital. Some of the perceived improvements are leadership, commitment and quality management, staff engagement and hospital size.

However, it seems that the effect of this accreditation is not related to patient satisfaction. In some studies, there is no significant association between assessment of accreditation and patient satisfaction. But in this study Albert also said that too much potential bias towards hospitals with more favorable accreditation scores and patient satisfaction ratings and the overall inferential nature of the results. For example, patients with food restrictions are more dissatisfied at accredited hospitals, it may be that this food restriction is what makes him dissatisfied with the hospital. In addition, patients with roommates and without roommates affect the level of patient satisfaction. Therefore in his journal he says the need for many more judgments of factors that may be a confounding factor in the assessment of patient satisfaction levels.

The research on patient satisfaction was also done by Sack in 2011 which also said that although accreditation is the key to an improvement in quality but not a factor of a patient in recommending a hospital to another patient. Although current accreditation is used as an important tool in improving the quality of care in a hospital, this research finds that the accreditation process is not related to better quality of care as reflected in patient satisfaction. Perhaps the accreditation process itself also needs to be evaluated and needs to include patient satisfaction parameters as one of the assessment of accreditation in hospitals.

Meanwhile, the benefits of accreditation are not only felt by health institutions. At educational institutions in some journals also said there was a positive impact after being accredited. One of his journals is titled “The Faculty Perspective On The Impact Of AACSB Accreditation”, the journal undertook research on 30 different business schools collected from 1997 to 2001. Accredited business schools generally had a positive impact, believing that every school should be accredited to maintain its quality.

In a study conducted in one technical school also said that the accreditation provides benefits in providing quality assurance alumni. This study compares the quality of graduates in 2004 and graduated in 1994. Compared to graduates 10 years ago, current engineering graduates more learning activities in the classroom, interact more with faculty, and more actively involved in engineering design competition activities. Graduates in 2004 are also reported to have increased significantly higher values compared to graduates 10 years ago.

The accreditation program has been developed for various health care organizations over the last few decades in response to increasing pressure to improve the quality and quality of services and enhance the competitive culture for every healthcare provider organization.

This pressure includes growing public concerns about the considerable differences in quality in providing health care to every organization of health care providers both public and private. This state of affairs indicates that if the
accreditation program succeeds in strengthening the health-care leveling system of health providers.

CONCLUSION

Doctor's knowledge about medical records at accredited primary health care tends to be higher than the doctor's knowledge at unaccredited primary health care. Assessment of doctor's adherence toward medical record at accredited primary health care tends to be higher than doctor’s adherence assessment at unaccredited primary health care. There is a difference in the completeness of medical records at unaccredited and accredited primary health care.

From all the conclusions that have been described above, the suggestions from researchers are: The government, currently the medical record guidelines published by the Ministry of Health are only guidelines for hospitals. Therefore, medical record of medical practice in relation with legal aspect is required for public hospital, private, special, health center, individual and other health service. Medical records are crucial in analyzing a case as an accurate main proof.

Primary health care, to improve the completeness of the medical record, each health center can make a medical record format according to the medical record manual already published by the Indonesian Medical Council, Regulation of the Minister of Health Number 749a of 1989 and Manual Issued about Management of Hospital Medical Record by Directorate General of Medical Services Health Ministry of Indonesia Republic. The next researcher, it is hoped that there will be further research with larger populations, larger variables and more complete data retrieval. As well as including nurses, medical recorders, midwives, pharmacists, physiotherapists, dentists as research respondents, to determine the extent of knowledge and behavior of health personnel to the completeness of medical records. Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Muhammadiyah University of Yogyakarta Faculty of Medicine. Informed Consent: Written informed consent was obtained from participants who participated in this study. Peer-review: Externally peer-reviewed. Conflict of Interest: No conflict of interest was declared by the author. Financial Disclosure: The author declared that this study has received no financial support.

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