

Evaluation of Medical Record Completeness Based on KARS (Komisi Akreditasi Rumah Sakit) Standard 2012 at Muhammadiyah Hospital of Ponorogo Indonesia

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Abstract- The completeness of medical records is very important in the provision of health services, especially to improve the quality of service and patient safety. As an effort to improve the quality of service Muhammadiyah Hospital of Ponorogo has followed the KARS 2012 accreditation with a plenary achievement in August 2016. Although the status of accreditation plenary has been achieved but efforts to maintain improvements in patient care and patient safety should still be done. This study aims to determine the description of medical record completeness at Muhammadiyah Hospital of Ponorogo. This research is an observational analytic, quantitative approach with cross sectional design. Data analysis using univariate and bivariate analysis with Chi Square test. In the sample prior to the accreditation survey, the standard that was not achieved was PFE (Patient and Family Education) 2.1, while for samples after the accreditation survey, the unreachable standards were PFE 2.1, MCI (Management of Communication and Information) 19.3 and ACC (Access to Care and Continuity of Care) 3.2.1. There are some standards that have statistically significant differences in the completeness of the medical record between before the accreditation survey and after the accreditation survey ie PFR (Patient and Family Right) 6.4 ($p = 0.001$), ASC (Anesthesia and Surgical Care) 7.1 ($p = 0.018$), AOP (Assesment of Patient) (1.6 ($p = 0.020$), ASC 7.4 ($p = 0.005$), MCI 19.3 ($P = 0.001$).

Index Terms- Medical record completeness, KARS (Komisi Akreditasi Rumah Sakit) 2012 standard.

I. INTRODUCTION

Hospitals are health care institutions that provide full-scale personal health services that provide inpatient, outpatient, and emergency care services. Each Hospital has the obligation to provide safe, quality, anti-discrimination and effective health services by prioritizing the interests of the patient in accordance with hospital service standards; create, implement and maintain health care quality standards in hospitals as a reference in serving patients and organizing medical records^[1].

As an effort to improve the quality of Hospital service, it is obliged to make periodic accreditation at least 3 (three) years^[2]. The implementation of accreditation based on KARS 2012 standard includes several stages of preparation of accreditation, accreditation guidance, accreditation implementation and post accreditation activities^[3]. The implementation of the KARS (Komisi Akreditasi Rumah Sakit) accreditation survey includes steps such as the individual patient search and the patient's medical record of being closed (the patient has returned). This study was conducted to ensure hospital compliance provides track records of medical records^[4].

A medical record is a file containing records and documents about the patient's identity, examinations, medications, actions and other services that have been provided to the patient^[5]. In the medical aspects, medical records are used as a basic for planning care provided to a patient and in order to maintain and improve the quality of care through medical audits, clinical risk management and patient safety^[6]. Mentioned by David Karp *et all* (2008)^[7] that good documentation will protect the patient. So, good documentation in medical record is an important aspect in realizing patient safety. The completeness of medical records is very important in the implementation of health services, especially to improve the quality of patient care and safety.

Muhammadiyah Hospital of Ponorogo (RSUM Ponorogo) is a type C hospital in Ponorogo. This hospital has followed KARS 2012 standard accreditation and has been declared a plenary pass based on a decree dated August 23, 2016^[8].

A preliminary study conducted by researchers in January 2017, of the 10 files studied did not find complete files as a whole according to the standards set by KARS 2012. Among them is the standard of PFR 6.4 only reached 18.5%, standard ASC 7.1 reached 22.2%, ASC 6 standard was achieved at 55.5% and several other standards.

Although the status of accreditation plenary has been achieved by RSUM Ponorogo, but efforts to maintain service quality improvement and patient safety should still be done. Seeing the importance of medical records documentation especially for patient safety and to maintain the quality of service and there are still some improvement suggestions from the medical record-related

accreditation team and the finding of incomplete medical record in the months after the accreditation, it is necessary to evaluate the completeness of medical record based on KARS standard 2012 at RSUM Ponorogo.

II. MATERIAL AND METHODS

This research uses analytic observational research type with quantitative approach. The research design used is cross sectional to see the completeness of medical record before and after survey of accreditation.

This research was conducted during January-May 2017 at RSUM Ponorogo. The subjects used are medical records of patients at RSUM Ponorogo with the criteria used are medical records of inpatients in July and December 2016, medical records of patients who get surgery, medical records of patients who get general and spinal anesthesia.

In the research variables to be studied in this study is the completeness of each medical record accreditation standards and the time of filling out the medical record file (before and after the accreditation survey). Statistical analysis using computer with SPSS 2.0.0 application, which will be done in this research is two kinds of data analysis that is univariate and bivariate analysis. The statistical test that will be used in this research is Chi Square.

III. RESULTS

This research was conducted at Muhammadiyah Hospital of Ponorogo (RSUM Ponorogo) during January to May 2017. Data was collected during February to April 2017, taking samples of patient's medical record in the months leading up to the accreditation survey, ie patient files in July 2016, which were 30 patient medical records files. After the accreditation survey that is the patient file of December 2016 as many as 30 files. The study was conducted using closed medical record review format according to KARS 2012 standard.

Table I :Results of Bivariate Analysis

No.	Standard	July 2016		December 2016		P value
		Completeness		Completeness		
		Σ	%	Σ	%	
1.	PFR 6.3	28	93,33	27	90	1,000
2.	PFR 6.4	29	96,66	9	30	0,000 *
3.	PFR 8	0	0	0	0	-
4.	ASC 5.1	30	100	30	100	-
5.	ASC 7.1	17	56,66	8	26,66	0,018 *
6.	AOP 1.3	30	100	30	100	-
7.	AOP 1.4.1	30	100	30	100	-
8.	AOP 1.5	30	100	30	100	-
9.	AOP 1.5.1	16	53,33	18	60	0,432
10.	AOP 1.6	9	30	18	60	0,020 *
11.	AOP 1.7	30	100	29	96,66	1,000
12.	AOP 1.9	0	0	2	100	-
13.	AOP 1.10	30	100	30	100	-
14.	AOP 1.11	30	100	27	90	0,237
15.	AOP 2	25	83,33	19	63,33	0,080
15.	COP 2.1	23	76,66	26	86,66	0,488
16.	PFE 2	30	100	30	100	-
17.	ASC 3	0	0	0	0	-
18.	ASC 4	30	100	29	96,66	1,000
19.	ASC 5	25	83,33	29	96,66	0,195
20.	ASC 6	8	26,66	13	43,33	0,176
21.	ASC 7	27	90	25	83,33	0,448
22.	ASC 7.2	9	30	10	33,33	0,781
23.	ASC 7.4	30	100	22	73,33	0,005 *
24.	MMU 4	27	90	28	93,33	1,000
25.	MMU 4.3	30	100	30	100	-
26.	MMU 7	27	90	29	96,66	0,612
27.	PFE 2.1	0	0	3	10	-
28.	MCI 19.3	24	80	0	0	0,000 *
29.	ACC 1.1.3	0	0	0	0	-
30.	ACC 2.1	30	100	28	93,33	0,492
31.	ACC 3.2.1	6	20	4	13,33	0,488
32.	ACC 4.4	18	60	14	46,66	0,301

Description: * Results are statistically significant

Sampling in this study was divided into two groups of samples, they are samples taken before the accreditation survey which are July 2016 samples and samples taken several months after the accreditation survey are samples in December 2016. It is intended to see if there are differences in completeness before and after accreditation to see the consistency of hospitals in maintaining and improving the quality of hospitals. To see whether or not there were differences, the researchers performed bivariate analysis for two unpaired groups. Bivariate analysis test use chi square, if not meet the requirements of chi square test then use Fisher test as an alternative. To test these two groups in pairs we present for each standard in KARS 2012.

In the July 2016 sample there are some standards that not all sample files require the form so that the sample number is zero. These standards include PFR 8, AOP 1.9, ASC 3 and ASC 1.1.3. Standards that have a percentage of 100% completeness are AOP 1.3, AOP 1.4.1, AOP 1.5, AOP 1.7, AOP 1.10, PFE 2, ASC 4, ASC 7.4, MMU (Medication Management and Use) 4.3 and ACC 2.1. The standard that has the lowest completeness is PFE 2.1 at 0%, meaning that all samples taken for standard filling of PFE 2.1 are incomplete. Sample in December 2016, there are some standards that not all sample files require the form so that the sample number is zero. These standards include PFR 8, ASC 3 and ACC 1.1.3. Standards that have a percentage of 100% completeness are ASC 5.1, AOP 1.3, AOP 1.4.1, AOP 1.5, AOP 1.9, AOP 1.10, PFE 2 and MMU 4.3. The standard that has the lowest completeness is MCI 19.3 of 0%, meaning that all samples taken on the standard is not complete. From Table 4.1 it can be seen that there is an increase and decrease of medical record completeness before and after the accreditation survey. They are some standards that have statistically significant differences between before and after the accreditation survey, they are the standard of PFR 6.4, ASC 7.1, AOP 1.6, ASC 7.4 and MCI 19.3.

IV. DISCUSSION

There are some standards that not all sample files require the form so that the sample number is zero. These standards include PFR 8 on approval of research, examination and clinical trials, AOP 1.9 on assessment and reassessment of patients with end-of-life conditions, ASC 3 on pre-sedation assessments, monitoring during sedation and recovery criteria and ACC 1.1.3 on delay in management.

In relation to PFR standard 8, Muhammadiyah Hospital of Ponorogo did not provide a special form, because the hospital was not involved in the research hospital. To fill the standards of AOP 1.9, Muhammadiyah Hospital of Ponorogo provides a form in annex 44 B.1 which contains the records of the patients' end-of-life care patients. Standard ASC 3 is provided in an attachment form 24. This form is used to record patient assessments prior to sedation, monitoring during sedation as well as sedation patient recovery criteria. To comply with ACC 1.1.3 standards regarding delays in management, Muhammadiyah Hospital of Ponorogo does not have a special form.

According to Wuryandari (2013)^[9] that the availability of medical record form can affect a result of medical record completeness, ideally can format medical record that available enough hence more complete filling of medical record. Conversely, when the availability of the form has not been good then it will affect the measurement of the non-imbalance of medical record by the registration officer, the nurse and the doctor medical recorder.

According to the 2012 KARS guidelines, the assessment requirements of each element of the assessment of each standard are stated as fully achieved, partially achieved, not achieved and not applicable. It is said as fully achieved if 80-100% of the sample findings are met, partially achieved if 20-79% of the sample findings are met, not achieved if only $\leq 19\%$ is found, and can not be applied if not included in the assessment and calculation process^[2].

From the results of this study, the assessment elements of the July 2016 sample were fully achieved including PFR 6.3, PFR 6.4, PFR 5.1, AOP 1.3, AOP 1.4.1, AOP 1.5, AOP 1.7, AOP 1.10, AOP 1.11, AOP 2, PFE 2, ASC 4, ASC 5, ASC 7, ASC 7.4, MMU 4, MMU 4.3, MMU 7, MCI 19.3 and ACC 2.1. In December 2016 samples were fully achieved including PFR 6.3, ASC 5.1, AOP 1.3, AOP 1.4.1, AOP 1.5, AOP 1.7, AOP 1.9, AOP 1.10, AOP 1.11, COP (Care of Patient) 2.1, PFE 2, 4, ASC 5, ASC 7, MMU 4, MMU 4.3, MMU 7 and ACC 2.1.

In July 2016 samples, the standard elements were partially achieved are ASC 7.1, AOP 1.5.1, AOP 1.6, COP 2.1, ASC 6, ASC 7.2, ACC 3.2.1, ACC 4.4. In December 2016 samples, the standard elements were partially achieved are PFR 6.4, ASC 7.1, AOP 1.5.1, AOP 1.6, AOP 2, ASC 6, ASC 7.2, ASC 7.4 and ACC 4.4. In July 2016 sample, standard elements were not achieved include PFE 2.1 (0%). For the sample of December 2016 standard elements that were not achieved include PFE 2.1 (10%), MCI 19.3 (0%) and ACC 3.2.1 (13.3%).

Another research by Kristianto&Ernawati (2015)^[10] in RS. DR. Karyadi Semarang obtained the result of completeness with AOP percentage. 1.7 for incomplete 2.5% pain screening, PFE 2 standard for incomplete 8.75% patient education, ACC 3.2.1 standard on home residence of 11.25% incomplete and standard ACC 4.4 for patient transfer of 10% incomplete. Other research by PagelaPascarellaRenta (2016)^[11] in the hospital of PKU Muhammadiyah Yogyakarta Unit 1 got the result of percentage of incomplete standard that is AOP. 1.6 (43.2%), ASC 5.1 (22.7%), ASC 7.1 (22.7%), MMU 4 (38.6%) and MMU 7 (50%).

The results of medical record completeness of each hospital are different, this is influenced by many factors. First, health personnel resources, especially doctors, paramedics, nurses and other officers in compliance with medical records of each hospital are different. Second, the means of infrastructure are the availability of complete and effective medical record forms, places and facilities

for filling medical records. Third, the standard procedure of filling medical records of each hospital, although the general guidelines used the same according to the law, but the implementation of each hospital has a different policy according to the conditions of each hospital. Fourth, financing and supervision, the need for adequate budget for medical record data processing and supervision conducted continuously and consequently^[12].

Based on the results of research that has been done in Muhammadiyah Hospital of Ponorogo before and after the accreditation survey, the researchers found some differences in the level of completeness. From result of analysis using Chi Square test with SPSS got result that there are some standard having statistically significant difference in completeness of medical record before and after accreditation survey. These standards are PFR 6.4 ($p = 0.001$), ASC 7.1 ($p = 0.018$), AOP 1.6 ($p = 0.020$), ASC 7.4 ($p = 0.005$), MCI 19.3 ($P = 0.001$).

Patient and Family Rights 6.4 contains informed consent obtained before surgery, anesthesia, use of blood or blood products and other risk measures and treatments. In this standard there is a decrease of 66.66%, and statistically obtained significant differences before and after accreditation survey. Informed concern or approval of medical action is the approval given by the patient or immediate family after full explanation of the action of medicine or dentistry to be performed on the patient^[13].

Anesthesia and Surgical Care 7.1 contains information on risks, benefits and alternatives discussed with patients and their families or people authorized to make decisions for patients. This standard has decreased by 30%. Statistically have significant differences between before and after the accreditation survey. The importance of adequate information provided to patients and families is that they can participate in making care decisions and give consent or informed consent to the actions to be given. The information in question includes the risks of planned procedures, the benefits of planned procedures, potential complications and alternative surgical and non surgical measures available to treat patients^[2].

Assessment of Patient 1.6 contains nutritional screening and functional requirements and is consulted for further assessment and treatment is required. At this standard increased by 30%, it was statistically concluded that there was a significant difference between before and after the accreditation survey. This difference is in the form of an increase, which means the improvement of service. Based on short interviews to nursing staff and midwives in the treatment room, it was found that the functional requirements form was a new form of physical distribution and the information had not yet reached all sections. Making this new form is a process of improvement in providing services to patients, in addition to meet the accreditation standards. Functional assessment is important to identify patients requiring medical rehabilitation services or other services related to independent functional ability or to the best potential condition^[2].

Anesthesia and Surgical Care 7.4 contains patient care after surgery that is planned and documented. This standard has decreased by 26.66%, and there are statistically significant differences. Medical care and post-surgical care of each patient need to be differentiated. Forms at RSUD Ponorogo have also differentiated for medical and nursing plans. The postoperative medical plan is performed by an anesthesiologist in collaboration with the surgical doctor, while the treatment plan is performed by the operating room nurse in collaboration with the room nurse. Post surgical care planning may be initiated before surgery based on the patient's condition and patient assessment. The planned care is documented in the patient's status to ensure continued service during the recovery or rehabilitation period^[2].

Medical records in this regard are particularly important for patient safety, as the medical records in this standard are typically used as an effective means of communication between healthcare professionals. Documentation in medical records is used to reduce the potential of medical errors in providing services to patients^[14].

MCI 19.3 contains the author, date and time (if required) for each writing in the medical record. RSUD Ponorogo also requires to write date and time of writing medical record, so for every writer who fill the medical record must include name, date and time of writing. This standard has decreased by 80%, and there is a statistically significant difference between before and after the accreditation survey.

Research by Linda Widyaningrum (2013)^[15], result that there is influence pre accreditation to the completeness of medical record data of resume of inpatient in hospital Dr. Moewardi Surakarta with very strong influence power. Pre accreditation is the process of preparing to make evidence on the application and development of quality standard of service and patient safety to prepare preparations according to the standard that has been set. The result of this research shows that there is influence with very strong influence strength and correlation of positive influence, it means that the bigger influence of pre accreditation hence the bigger the completeness of medical record data of resume of inpatient. In contrast to this study, there are several standards relating to patient records that have differences in completeness between before and after the accreditation survey, but the difference is due to the number of completeness which are decreased, the difference should be the increase in the number of completeness, as evidence of improvement or at least maintain the quality of service.

In this study the sample used in assessing the completeness of the medical record is before the accreditation survey and a few months after the accreditation survey. In that range there are several factors affect the completeness of medical record in RSUD Ponorogo that changed. Factors that can cause a decrease in the completeness of medical records one of them is human resources. Human resources related to the filling of medical records include doctors, nurses, medical recorders.

In the study by Pamungkas, et al (2015)^[16] in RSUD NgudiWaluyoWlingi mentioned that the main cause of incomplete medical record document of inpatient patient is disciplinary of doctor in filling of medical record document. This is because the main priority of doctors is the service so doctors are too busy and less time to fill medical record documents. Another study which is also in line with this reason is by Pamungkas, et al (2010)^[17] in hospital of PKU Muhammadiyah Yogyakarta mentioned that the factors causing the occurrence of incomplete medical record is the limited time of charging caused by high physician workload so that the

time spent to fill the complete medical record becomes very limited, and the lack of awareness of doctors about the importance of medical record completeness.

Research by Aisyah (2013) ^[18] in RS YAP Yogyakarta, concluded that the incomplete factor of filling out the informed consent sheet is the human resources factor in this case that is the doctor and the nurse caused by some things so that the discipline is not maximal in executing the filling of informed consent sheet. In addition, because there is no punishment and reward so that the sense of responsibility and discipline of doctors is still lacking in terms of completeness of medical record.

Based on research by Mawarni&Wulandari (2012) ^[19]; in RS Muhammadiyah Lamongan, stated that one of the causes of incomplete medical records is the absence of monitoring on the completeness of medical records, so the process of filling the complete medical record can not be controlled. Monitoring aims to measure or assess a process to achieve the expected output. Good monitoring is must be done continuously. In addition, the monitoring also obtained information about obstacles or obstacles faced by officers during the filling of medical records ^[19].

Medical records are very important to maintain its completeness, accuracy and credibility, because good documentation in the medical record will protect the patient. The medical record contains information the doctor needs on the medical history given to the patient. So the incompleteness in the medical record will increase errors in the provision of therapy that can cause patients injury or threaten patient safety ^[7].

Efforts to maintain the quality of service is one of the obligations of every hospital. Accreditation is one of the efforts to maintain the quality of service. Maintaining the quality of service is a continuous program so that both before and after accreditation survey, the quality of services provided should always be maintained on an ongoing basis.

V. CONCLUSION

The completeness of the medical record at Muhammadiyah Hospital of Ponorogo based on KARS 2012, which achieved partially are ASC 7.1, AOP 1.5.1, AOP 1.6, COP 2.1, ASC 6, ASC 7.2, ACC 3.2.1, ACC 4.4 for sample ahead of accreditation survey, While in the sample after the accreditation survey, the standards achieved partially are PFR 6.4, ASC 7.1, AOP 1.5.1, AOP 1.6, AOP 2, ASC 6, ASC 7.2, ASC 7.4 and ACC 4.4. In the sample ahead to the accreditation survey, the standard that is not achieved is PFE 2.1, while for samples after the accreditation survey, the standards that are not achieved are PFE 2.1, MCI 19.3 and ACC 3.2.1.

There are some standards that have statistically significant differences in the completeness of the medical record between before and after the accreditation survey, they are PFR 6.4 ($p = 0.001$), ASC 7.1 ($p = 0.018$), AOP 1.6 ($p = 0.020$), ASC 7.4 ($p = 0.005$), MCI 19.3 ($P = 0.001$).

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