Article

The influence of knowledge and perceptions of doctors on the quality of medical records

Nining Dwi Suti Ismawati,[1,2] Stefanus Supriyanto,[3] Setya Haksama,[3] Cholicul Hadi[4]

[1]Doctoral Program of Public Health, Faculty of Public Health, Universitas Airlangga, Surabaya; [2]Dr. Soetomo General and Academical Hospital, Surabaya; [3]Health Policy and Administration Department, Faculty of Public Health, Universitas Airlangga, Surabaya; [4]Faculty of Psychology, Universitas Airlangga, Surabaya, Indonesia

Abstract

Background: Medical record reflects the quality of health services provided, which is influenced by existing resources, such as the doctors in charge. This study aims to determine whether doctors' knowledge and perceptions affect the quality of the medical record.

Design and Methods: This is a quantitative and cross-sectional study carried out at Dr. Soetomo's general and academic hospital Surabaya, Indonesia, in September and October 2020. Data were purposively obtained from a total of 45 doctors working at the hospital's inpatient service surgery ward using the questionnaire and checklist medical record quality. Furthermore, ethical clearance and doctors' informed consent were obtained, with the data statistically processed and analyzed by multiple linear regressions.

Results: The results and conclusion showed that doctors' knowledge and perceptions of the quality of medical records were influence to medical record quality (p<0.05).

Conclusions: Hospital management needs to regularly increase doctors' knowledge and perceptions by socializing and monitoring medical records.

Introduction

A medical record is a tool used by health workers to investigate or study previous medical treatment history and understand the established diagnosis for further evaluation and treatment. Good medical record keeping is important for patients to receive appropriate and continuous medical care and defend doctors facing malpractice accusations.[1] Medical record service is a professional support service activity oriented to the needs of health providers, administrators, and management facilities.[2] The existence of a medical record unit in a hospital acts as a data collection and processing center to present health information for internal and external users.[3] One of the components of health services used to determine its quality in hospitals is the availability of data/information from medical records. According to law No. 269 of 2008 concerning medical records, health workers are mandated to record patient data as evidence of medical services. The interaction and utilization of hospital resources are driven through certain processes and procedures capable of affecting good medical records quality. It comprises complete, accurate, timely, clear, and valid data that meet the legal aspects needed to support hospital health services.[4]

Professional employees with high performance are obtained by empowering the concept of engagement, as a concept and way of working, designed to ensure they are committed to the organization's goals and values. Furthermore, they are motivated to contribute to the success of the organization and increase the sense of self welfare.[5] Doctors with knowledge of the medical record have the ability to completely and properly fill patients' documents.[6] Their performance in health services can also be traced through medical records, which are influenced by several factors, motivation, leadership, organization, and word culture.[7,8] However, the report on the completeness of Dr. Soetomo Hospital's medical records from 2017 - 2019 were incomplete, unclear, inaccurate, and unable to match the quality standard. The completeness figure's achievement in 2017, 2018, and 2019 were 47.86%, 68.69%, and 80.62%. Therefore, this study aims to prove the influence of doctors' knowledge and perceptions in filling out medical records as a professional employee.

Design and Methods

This is a quantitative and cross-sectional study carried out at Dr. Soetomo general and academic hospital, Surabaya, Indonesia, in September and October 2020. The population and sample comprise 141 doctors working in surgery wards, with 45 doctors purposively selected for this research. The dependent variables were medical records quality. The independent variables were the knowledge and perceptions of doctors, with data collected by questionnaire and checklist medical record quality. The questionnaire contains 13 questions of knowledge and perceptions each. The medical record quality checklist was carried out on 90 documents after obtaining ethical clearance and doctors' consent. Furthermore, the data were processed and analyzed statistically by multiple linear regressions.

Significance for public health

The medical record is the benchmark, and an important instrument used to support health services. Therefore, this paper describes the influence of doctors' knowledge and their perceptions on the quality of medical records.

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Results and Discussions

In this study, the influence of the independent variables [knowledge (X_1) and perception (X_2)] on the dependent variable (quality of medical records (Y)) was analyzed simultaneously using multiple linear regression tests that showed in Table 1. The results of the analysis showed that knowledge and perception had a significant effect on the quality of medical records with p-value <0.05. The significance value of X_1 and X_2 are 0.030 and 0.000, respectively. When viewed from the direction of its influence on the dependent variable, perception has a positive effect on the quality of medical records while knowledge has a negative effect on the quality of medical records. The following is the regression equation model from this study, $Y = 82.270 - 0.625 X_1 + 0.426 X_2$.

The influence of the responsible care doctor (DPJP) knowledge and perceptions on the quality of medical records, seen from the results of multiple linear regression analysis, shows that the R value is 0.564, which means that the effect of knowledge and perception on the quality of medical records is 56.4%. Coefficient of determination (R-square) is a value used to see the extent to which the model formed can explain the actual conditions. The R-square value from the model is equal to 0.318, which means that the percentage of the dependent variable (quality of medical records) is 31.8% influenced by the knowledge and perceptions of doctors about medical records and 68.2% is influenced by other factors not examined in this study.

Based on the results of the regression model that has been obtained which is $Y = 82,270 - 0.625 X_1 + 0.426 X_2$, with a determination coefficient is 31.8%. The constant value of 82.27 means that if the independent variables of knowledge (X_1) and perception (X_2) are equal to 0 then the quality of the medical records of dr. Soetomo hospital amounting to 82,270. The coefficient of knowledge is 0.625 and negative means that each value decreases, the quality of medical records decreases by -0.625 and *vice versa* as long as other variables appear constant. The perception coefficient value is 0.426 and positive means that there is an increase of 1 point of perception, it will increase the quality of medical records by 0.426 as long as other variables appear constant. So it can be ignored that the doctor's perspective is the dominant factor affecting the quality of medical records.

Perception has a significant positive effect on the quality of medical records. A good doctor's perception of medical records improves the quality of medical records. Perception of work, which is the result of examining the five senses of humans in accordance with the condition of the surrounding environment, gives comfort to work and tends to improve performance.[9] In this study, the perception assessment consisted of a medical record, an assessment of the supervised, monitoring, and evaluation systems. A good perception of the medical record system indicates acceptance, thereby indicating the ability to improve performance.[10] Perceptions of the usefulness and convenience of the medical record system in either category affect the intention to use the medical record system maximally.[11] The availability of a short medical record speeds up the document filling process. A study carried out by Setiadani *et al.* stated that factors affecting the quality of medical records include the availability of materials and machines in stationery forms.[12] This study showed that without doctors' direct supervision, there is a possibility of obtaining differences in perceptions regarding filling up medical records. The existence of periodic supervision activities tends to maintain service quality in high standard, with the ability to pay attention to service users' characteristics.[13-16] Superiors or supervisors act as part of the first level of management in charge of controlling performance as well as the quality of health service.[17-19]

In this study, knowledge significantly affects the quality of medical records. Good knowledge will improve the quality of medical records, but there is good knowledge are unable to encourage optimal performance of filling out medical records. This occurs when doctors have a high workload, lack of organizational support and lack of communication. Furthermore, medical record knowledge among doctors can be enhanced through training/workshops. The research carried out on resident doctors reported an increase in the quality of medical record documents after training activities/workshops.[20-22]

A similar study in an Ethiopian hospital stated that the presence of training interventions significantly increased the completeness of filling in medical records.[23] Dewi and Agustina stated that medical officers' compliance, such as those in charge, is lacking due to their business. Therefore, there is incompleteness in filling up medical records documents. This also means that data, such as signatures, date, time, and complete diagnosis, are sometimes missed or forgotten when filling out documents due to illegible writing.[24] The difference in knowledge level is one of the reasons for the incomplete filling of medical records.[25]

Table 1. The influence of knowledge and perception on medical records quality multiple linear regression.

Model	Unstandardized coefficients		Coefficient Standardized coefficients	t	p-value
	B	Std. Eror	Beta		
Constant	82.270	2.688		30.601	0.000
Knowledge	-0.625	0.278	-0.386	-2.245	0.030
Perception	0.426	0.098	0.744	4.334	0.000
Model Summary					
R	R square	Adjusted R square	Std. error	Durbin-Watson	
0.564	0.318	0.285	2.49873	2.231	
ANOVA					
Model	Sum of squares	Mean square	F	p-value	
Regression	122.210	61.105	9.787	0.000	
Residual	262.234	6.244			

Conclusions

In conclusion, doctors' knowledge and perceptions affect the medical records quality with a significant value less then 0.05. Furthermore, hospital management needs to increase doctors' knowledge and perceptions by socializing and monitoring medical records' evaluation regularly to study further and determine other visible factors.

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