



Importance of quality of medical record: Differences in Patient Safety Incident Inquiry results according to assessment for quality of medical record

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INTRODUCTION & AIM

Introduction

There are several methods to measure adverse events. Among these, medical record review is considered the gold standard for identifying adverse events and is the most widely applied method for assessing their occurrence and causes because it utilizes previously collected data. However, the quality of the medical record should be considered when using medical record review methods to identify adverse events, as poor quality can compromise the validity and utilization value of the findings.

Aim

Although various retrospective medical record review studies have been conducted to identify adverse events [1], few have examined the impact of medical record quality on them. Against this backdrop, we analyzed whether there were differences in the characteristics of screening criteria and adverse events according to the quality of medical records assessed in the patient safety incident investigation (PSII), conducted to identify the status of patient safety at the national level in Korea.

METHOD

Sources

The first PSII was conducted in 2019 [2, 3] using a three-stage retrospective medical record review approach based on the methodology of the Harvard Medical Practice Study. The PSII included 7,500 patients and collected information on patient characteristics, eligibility for screening criteria, adverse event occurrence, causality and preventability of adverse events.

Medical record quality

PSII assessed medical record quality through an independent review by two nurses and two physicians. The assessment was based on a 4-point scale (1: very inappropriate; 2: somewhat inappropriate; 3: appropriate; 4: very appropriate).

Statistical analysis

Chi-square tests were used to investigate potential differences in PSII outcomes based on medical record quality. Specifically, we analyzed whether there was a difference in the presence or absence of screening criteria and the presence of adverse events based on the medical record quality evaluated by the reviewers.

RESULTS

Presence or absence of screening criteria based on medical record quality

In cases where the medical record was deemed inadequate, at least one screening criterion was more likely to be identified (88.8%) compared to cases where it was deemed adequate (55.7%) (P-value<0.001) (Table 1).

Table 1. Differences in the presence or absence of screening criteria according to the quality of medical records

Screening criteria	Total	Quality of medical records ¹⁾				χ ² (p)
		Inadequate (1-2 points)		Adequate (3-4 points)		
		n	%	n	%	
Yes	4,315	142	88.8	4,173	55.7	69.7 (<0.001)
No	3,341	18	11.3	3,323	44.3	
Total	7,656	160	100.0	7,496	100.0	

¹⁾The quality of medical records is the minimum value for the first reviewers.

Identification of adverse events based on medical record quality

Adverse events were identified in 23.8% (38) of cases where the medical record quality was judged inadequate by the reviewer, compared to 11.5% (863) of cases where the medical record quality was adequate. In other words, there was a statistically significant higher rate of adverse events associated with inadequate medical record quality (P-value<0.001) (Table 2).

Table 2. Differences in the detection of adverse events according to the quality of medical records

Adverse event	Total	Quality of medical records ¹⁾				χ ² (p)
		Inadequate (1-2 points)		Adequate (3-4 points)		
		N	%	N	%	
Yes	901	38	23.8	863	11.5	22.593 (<0.001)
No	6,755	122	76.3	6,633	88.5	
Total	7,656	160	100.0	7,496	100.0	

¹⁾ The quality of medical records is the minimum value for the first reviewers.

CONCLUSIONS

This study utilized national-level data from the PSII to investigate whether there were differences in the characteristics of screening criteria and adverse events depending on the quality of the medical record. The study found that when the medical records were of inadequate quality, the identification of screening criteria and adverse events increased.

Medical record review is a commonly used method to estimate the magnitude of adverse events. There has been some concern that medical record review may underestimate the incidence of adverse events when the quality of medical records is not assured. However, our study found no evidence to support this concern.

REFERENCES

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