

## REVIEWS

# The perception of healthcare employees and the impact of healthcare accreditation on the quality of healthcare in Korea

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**Received:** August 3, 2017

**Accepted:** October 12, 2017

**Online Published:** October 27, 2017

**DOI:** 10.5430/jha.v6n6p20

**URL:** <https://doi.org/10.5430/jha.v6n6p20>

## ABSTRACT

**Objective:** In order to encourage more hospitals to participate in the accreditation, there needs to be “substantial evidence of the effectiveness of accreditation”. The aim of this study was to identify and analyze healthcare employees’ perceptions of hospital accreditation and the impact of hospital accreditation on the quality of healthcare in Korea.

**Methods:** Eight electronic databases were searched between June and July 2016. Of the initially identified 392 abstracts, 14 empirical studies on healthcare accreditation in Korea were selected based on the inclusion criteria. These were retrieved and analyzed.

**Results:** The 14 studies assessed healthcare employees’ perception of hospital accreditation as well as the impact of hospital accreditation on the quality of healthcare. The results were classified into four categories according to perception (Need, Purpose, Intent, and Relevance of standards), and into five categories according to the impact of accreditation (Patient safety and healthcare quality, Satisfaction with hospital employees, Leadership, Organizational culture, and Managerial performance). Findings showed that healthcare employees’ had good understanding of the purpose, need, and intention of the healthcare accreditation system, but indicated that limitations exist with the accreditation standards. Moreover, evidence showed that healthcare accreditation in Korea has made a positive impact on “patient safety and healthcare quality”, “leadership” and “organizational culture”.

**Conclusions:** Healthcare accreditation has had a positive overall impact on hospitals and has improved the quality of healthcare as well as patient safety. However, more rigorous research and more diverse research methods are required to determine its long-term effect.

**Key Words:** Accreditation, Employee perception, Impact, Korea

## 1. INTRODUCTION

The system of evaluating healthcare organizations in Korea began in 2004. However, due to a perceived lack of independence and objectivity in the evaluation process, severe pressure on hospitals, and excessive competition between hospitals, the exercise received criticisms. Hence, a new healthcare accreditation system was introduced in Korea, in

November 2010.<sup>[1,2]</sup> This system is supported by the Medical Service Act and is performed in 4-year cycles. Accredited hospitals are expected to perform self-investigations every year to ensure continuous quality management. As of April 2017, of 1,737 health organizations, 342 have been accredited, with many additional hospitals being involved in the healthcare accreditation system.

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However, healthcare accreditation is an onerous process from the perspective of the hospitals since it requires a huge investment of time and resources. Thus, it may be challenging to encourage the participation of hospitals in the accreditation system.<sup>[3]</sup> Nevertheless, increasing numbers of hospitals now participate in the accreditation process, as hospitals having begun to recognize the process as necessary for healthcare improvements. Thus, in order to encourage the participation of more hospitals, there needs to be “substantial evidence of the effectiveness of accreditation”. Considering its short history, it is challenging to gather sufficient evidence about the performance of the accreditation system in Korea. Moreover, the accreditation performance records are also fragmented. Nonetheless, we aim to present a review of the relevant academic papers published to date. Thus, the aim of this study was to identify and analyze the perception of healthcare employees on hospital accreditation, and the impact of hospital accreditation on the quality of healthcare in Korea.

## 2. METHODS

### 2.1 Search strategies

This study was conducted between June 2016 and July 2016, and the literature was summarized using a bibliographic management program (Endnote, version X7). We searched the national databases, including the Korea Education & Research Information Service, National Assembly Library, National Digital Science Library, Korean Medical Database and Korean studies Information Service System. We also searched international science databases, such as Ovid-Medline, Embase, and the Cochrane library. The search was not restricted to but included all literature related to hospital accreditation. The national database search was conducted to identify all the material that had key words or titles related to “healthcare accreditation” or “hospital accreditation” until July 9, 2016. An additional search was performed using the terms “patient safety” or “healthcare quality improvement”. A foreign database search was conducted using the terms “accreditation” and “Korea” until June 30, 2016.

### 2.2 Study selection

In total, 392 relevant papers were found using this data search strategy. However, 378 were subsequently excluded (101 due to duplication, 272 after screening the titles and abstracts, and 5 after full-text review). Thus, 14 papers were selected for the analysis (see Figure 1).

The studies included in this review were based on a voluntary accreditation system targeting short-term stay hospitals. Thus, studies that were based on geriatric long-term care hospitals and psychiatric hospitals, which required compulsory accreditations, were excluded. Other studies which reported

only the abstracts or which had been published more than once were also excluded. Moreover, gray literature (technical reports) was excluded.

### 2.3 Data extraction

Studies were included if they met the selection criteria of this study, which included detailed information on the following:

- Healthcare employees’ perception of accreditation was determined by the support of healthcare employees for the self-assessment of accreditation.<sup>[4]</sup> In this study, the review of literature was performed to assess healthcare employees’ perception of healthcare accreditation, using four factors: “purpose”, “need”, “intent” and “relevance of standards”.
- Impact of healthcare accreditation: To determine the impact of accreditation, factors such as: “Patient safety and healthcare quality”, “Satisfaction of hospital employees”, “Leadership”, “Organizational culture” and “Managerial performance” were assessed. These factors were selected in order to focus on the primary goal of accreditation, which is to improve patient safety, and the quality of healthcare services.<sup>[5]</sup>

## 3. RESULTS

### 3.1 Characteristics of the included research

A total of 14 articles were found eligible, based on the inclusion criteria for this literature review and were included in the analysis. In total, just one article was published in 2011, while the remaining 13 articles were published either in 2013 or after<sup>[6-19]</sup> and all 14 articles were non-experimental descriptive studies that investigated the perception of hospital accreditation and the relationships between different factors. The characteristics of the included studies are shown in Table 1 while the results from the analysis are summarized in Table 2.

### 3.2 Healthcare employees’ perception of healthcare accreditation

Based on the literature review, 4 studies that investigated healthcare employees’ perception of healthcare accreditation were identified. The 4 studies explored the purpose, intent, need, and relevance of the accreditation standards.<sup>[8,9,13,19]</sup> Healthcare employees were aware of the “purpose” and “intent” of the accreditation and recognized them as positive. However, healthcare employees showed a degree of disagreement regarding the “relevance of standards”, with the least agreement in this category.<sup>[8,13,19]</sup> Moreover, a study that compared accredited and non-accredited hospitals reported that employees of accredited hospitals exhibited a better positive perception about the “purpose”, “intent” and “need” for

healthcare accreditation than employees of non-accredited hospitals.<sup>[13]</sup> However, the perception of the “relevance of standards” was not different among employees at the 2 types of hospitals.<sup>[13]</sup> Perception of healthcare accreditation was positively correlated with “managerial performance”, “health service quality management”, “patient safety management activity”, “infection control performance” and “professional self-concept”.<sup>[9, 13, 19]</sup> Conversely, perception of healthcare

accreditation had a negative correlation with “job stress”.<sup>[18]</sup>

### 3.3 Impact of healthcare accreditation on the quality of healthcare

The impact of healthcare accreditation on the quality of healthcare was investigated in all 14 studies. Factors examined included “patient safety and healthcare quality”, “satisfaction of hospital employees”, “leadership”, “organizational culture” and “managerial performance”.<sup>[6-19]</sup>

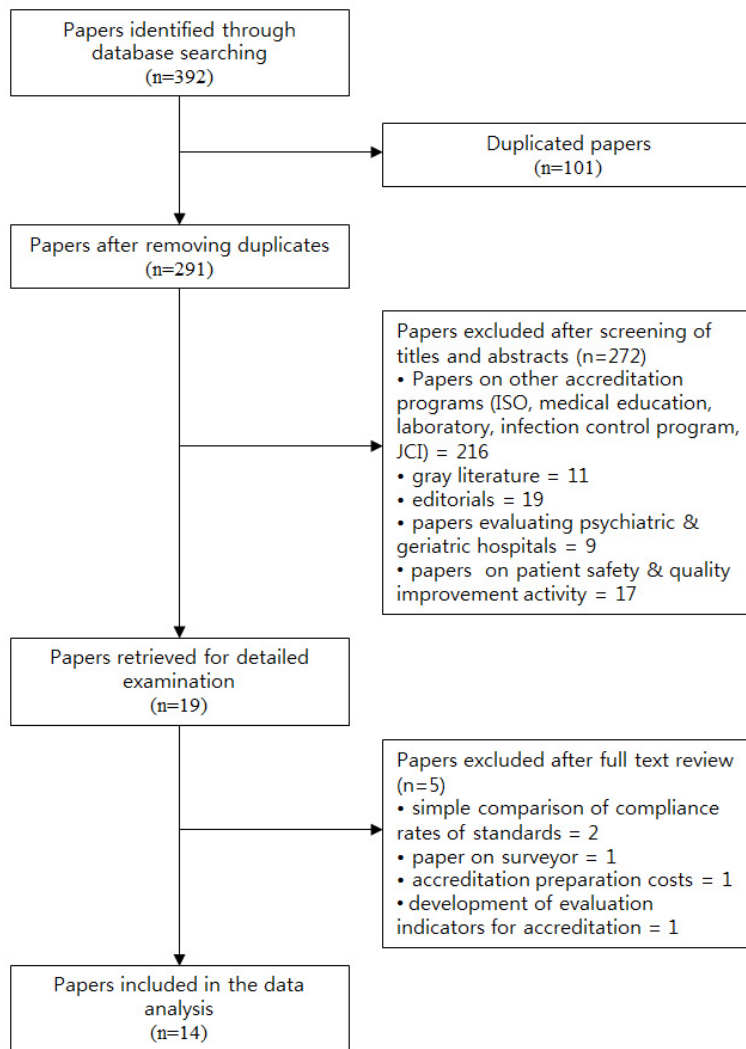


Figure 1. Flow chart of the study selection process

#### 3.3.1 Patient safety and healthcare quality

The impact of healthcare accreditation on patient safety and healthcare quality was reported in 9 studies.<sup>[6-9, 13, 14, 16, 18, 19]</sup> Overall, healthcare employees reported positive changes in patient safety and healthcare quality. Perceptions of the effect of accreditation varied according to employees’ participation in the accreditation process, and according to the number of beds in the hospitals.<sup>[6, 7, 14]</sup>

A study compared healthcare institutes pre- and post-accreditation and showed that accreditation improved the quality of healthcare and patient safety.<sup>[16]</sup> A majority of non-managerial staff and managers reported that patient safety and healthcare quality improved after accreditation.<sup>[6]</sup> Patient safety and healthcare quality was higher in hospitals with < 300 beds compared with those with > 300 beds.<sup>[7]</sup> Furthermore, 3 studies reported notable changes in infection

management after accreditation.<sup>[14, 16, 18]</sup> Therefore, accreditation may improve the structural factors related to infection control, leading to improvements in performance. The

greatest change in infection control factors was observed in hand-washing performance rates.<sup>[18]</sup>

**Table 1.** Characteristics of the 14 studies included in the present analysis (n = 14)

Author [Ref]	Year	Setting	Number of subjects		Perception				Impact					
			Hospital	Emp	Need	Purpose	Intent	RI	Qual /Safety	Emp Sat.	Leadership	Org. Culture	MP	
Kim Y.H. <sup>[6]</sup>	2011	AMI I, II	FGI 14 Ques 42	14 750						○		○	○	○
Yoo J.Y. & Lee J.W. <sup>[7]</sup>	2015	AMI II, III	6	377						○			○	○
Kim M.J. & Choi J.S. <sup>[8]</sup>	2015	AMI II	1	230	○	○	○	○	○	○				○
Kim Y.S. & Part K.Y. <sup>[9]</sup>	2014	AMI I	4	242	○	○	○	○	○	○				
Woo J.S., et al. <sup>[10]</sup>	2013	AMI I, II	23	714							○	○		○
Hwang B.J. & Kim J.Y. <sup>[11]</sup>	2015	AMI II	40	146							○			○
Lee H.S. & Yang Y.J. <sup>[12]</sup>	2014	AMI, Non-AMI I, II	4/4	150/150							○			○
Lee H.S. & Jeun Y.J. <sup>[13]</sup>	2015	AMI, Non-AMI I, II	4/4	150/150	○	○	○	○	○	○				○
Lee H.T. <sup>[14]</sup>	2013	AMI, Non-AMI II	3/3	341						○				
Lee H.T. <sup>[15]</sup>	2014	AMI, Non-AMI II	3/3	341							○	○		
Yeun Y.R. <sup>[16]</sup>	2013	AMI II Accreditation pre-post	1	405						○	○			
Kim J.Y., et al. <sup>[17]</sup>	2015	AMI I, II	29	430										○
Jeong S.Y., et al. <sup>[18]</sup>	2015	AMI I, II	50	50						○				
Hong M.H. & Park J.Y. <sup>[19]</sup>	2016	AMI II	1	210	○	○	○	○	○	○	○			

Note. I, II, and III indicate Superior general hospital, General hospital and Hospital, respectively. Emp = Employees; RI = Relevance of Standards; Org = Organizational; MP = Managerial performance; AMI = Accredited medical institution; FGI = Focus group interview; Ques = Questionnaire

“Patient safety and healthcare quality” was positively correlated with “organizational culture”. The 2 factors were also positively correlated with “managerial performance”.<sup>[7]</sup>

**3.3.2 Satisfaction of hospital employees**

Six studies reported that accreditation had an impact on the satisfaction of hospital employees.<sup>[8, 11, 12, 15, 16, 19]</sup> “Satisfaction of hospital employees” was measured as “satisfaction of hospital employees with superiors and colleagues”, “satisfaction with rewards” and “job satisfaction”. The results were different for each study. For the “satisfaction of hospital employees”, accredited hospitals performed significantly better than non-accredited hospitals<sup>[12]</sup> while in another study, it was reported that results improved after accreditation.<sup>[16]</sup>

In contrast, findings of another study showed that accreditation did not affect the “satisfaction of hospital employees”,<sup>[11]</sup> and the differences between accredited hospitals and non-accredited hospitals were not statistically significant.<sup>[15]</sup> In some studies, “satisfaction of hospital employees” scored

the least.<sup>[8, 9]</sup> For example, within the standards of the “satisfaction of hospital employees” factor, “satisfaction with rewards” scored the least. Hospital employees cited incentive payments and getting recognition for job performance as rewards for accreditation. In this, they felt that there was not enough reward for their efforts.<sup>[11, 12, 19]</sup>

**3.3.3 Leadership**

Of the 3 studies in which the impact of accreditation on leadership was measured, all of them showed that accreditation caused changes in leadership.<sup>[6, 10, 15]</sup> Managers recognized more positive changes in the leadership than non-managerial staff and healthcare employees recognized a greater change in the leadership of department leaders than hospital directors.<sup>[6]</sup> In studies comparing the accredited and non-accredited hospitals, leadership was rated higher in the accredited hospitals. In particular, there was a significant difference in the “effort made by the leader to improve the quality of service”, and accreditation had a significant positive correlation with leadership.<sup>[15]</sup>

**Table 2.** Key results of the impact of healthcare accreditation in Korea

Thematic categories	Relevant references	Key finding
Patient safety and healthcare quality	[6]	• Accreditation improved “patient safety and healthcare quality” and managers and non-managerial staff responded saying that there was a positive change after accreditation.
	[7]	• Following accreditation, the change in the degree of “patient safety and healthcare quality” was higher in hospitals with < 300 beds than hospitals with > 300 beds.
	[8]	• Accreditation had positive impact on healthcare quality.
	[9]	• Higher perception of accreditation increased activities associated with patient safety.
	[13]	• “Health service quality management” was higher in accredited hospitals than in non-accredited hospitals.
	[14]	• “Health service quality management” was higher in accredited hospitals than in non-accredited hospitals, and medical institute employees had the highest perception of “improvement of patient safety” due to accreditation.
	[16]	• Following accreditation, “patient safety and healthcare quality” improved. Within “patient safety and healthcare quality”, “infection control and management” exhibited the greatest improvement, followed by “Continuous quality improvement” and “Care delivery system and evaluation”.
	[18]	• Accreditation improved the structural factors of infection control, leading to improvements in performance rates. Hand-washing exhibited the greatest increase in infection control performance rates.
	[19]	• There was a positive correlation between the perception of accreditation and infection control performance.
	Satisfaction of employees	[8]
[11]		• Accreditation did not correlate with “Satisfaction of hospital employees” .In particular, “Satisfaction with rewards” exhibited the lowest correlation.
[12]		• “Satisfaction of hospital employees” was higher in accredited hospitals than in non-accredited hospitals, and accreditation had a positive effect on satisfaction. Whether a hospital was accredited affected “Satisfaction with rewards” within “Satisfaction of hospital employees”.
[15]		• There was no difference in “Job satisfaction” between accredited and non-accredited hospitals, although accreditation and job satisfaction did not exhibit a significant relationship.
[16]		• “Job satisfaction” improved after accreditation.
[17]		• “Satisfaction of hospital employees” was low. In the specific standards, “positive attitude to the hospital” and “reward for effort had the lowest scores.
Leadership	[6]	• Managers and non-managerial staff responded that there was a positive change in “leadership” after accreditation.
	[10]	• Following accreditation, a greater change in leadership was observed in transactional leadership, and “patient safety and healthcare quality”, and “leadership” affected non-financial performance.
	[15]	• Leadership was rated higher in accredited hospitals compared with non-accredited hospitals. In particular, there was a significant difference in “leaders efforts to improve service quality”, thus accreditation had a positive effect on leadership.
Organizational culture	[6]	• Managers and non-managerial staff indicated that there was a positive change in “Organization culture” after accreditation.
	[7]	• Following accreditation, the change in the degree of “Organizational Culture” was higher in the hospitals with < 300 beds than hospitals with > 300 beds.
	[10]	• Accreditation affected organization culture. Organization culture had a significant effect on non-financial performance.
Managerial performances	[6]	• Healthcare employees rated non-financial performance (“performance efficiency” and “employee encouragement”) more positively than financial performance (“rate of increase of in- and out-patients” and “profit increase and cost reduction”).
	[7]	• “Patient safety and healthcare quality” and “Managerial performance” were positively correlated. Accreditation had no direct financial impact but it indirectly affected financial performance through “Organizational culture”.
	[8]	• The impact of accreditation on managerial performance was moderate degree.
	[10]	• For managerial performance, accreditation did not significantly influence financial performance (“rate of increase of in- and out-patients” and “profit increase and cost reduction”); however, accreditation significantly influenced non-financial performance (“performance efficiency” and “employee encouragement”)
	[11]	• Accreditation was not correlated with “Managerial performance”.
	[12]	• The “Managerial performance” of accredited hospitals was higher than of non-accredited hospitals, thus accreditation had a positive effect “Performance efficiency” within “managerial performance” was significantly affected by accreditation status.
	[13]	• “Managerial performance” was higher in accredited hospitals than non-accredited hospitals.
	[17]	• Accreditation had a significant effect on financial performance and non-financial performance.

Following accreditation, 2 measures (transactional and transformational leadership) were used to determine changes in leadership. Using 3 and 4 standard measures, respectively, transactional leadership that values the rules and procedures, and transformational leadership that values charisma and innovation were determined. The changes in transactional

leadership were greater than in transformational leadership. Notably, “patient safety and healthcare quality” and “leadership” affected non-financial performance, which was assessed using the “efficiency of performance” and “employee encouragement” parameters.<sup>[10]</sup>

### 3.3.4 Organizational culture

The impact of accreditation on organizational culture was measured in 3 studies. Hospital employees recognized that accreditation had a positive impact on organizational culture.<sup>[6,7,10]</sup> A smaller proportion of non-managerial staff than managers responded that there was a positive change in organizational culture after accreditation.<sup>[6]</sup>

In particular, accreditation had the greatest effect on improving “human relations - team culture”. “Hierarchical culture” exhibited the least change.<sup>[6,7,10]</sup> In other words, staff teamwork was considered important in the hospital and the staff increased their consideration and concern for one another.

Following accreditation, increases in “patient safety and healthcare quality” increased with improvements in “organizational culture”.<sup>[7]</sup> “Patient safety and healthcare quality” and “organizational culture” improved non-financial performance (“improvement in performance efficiency” and “improvement in employee encouragement”).<sup>[10]</sup> However, “organizational culture” did not significantly affect financial performance (“rate of increase of in- and out-patients” and “profit increase and cost reduction”).<sup>[7,10]</sup>

### 3.3.5 Managerial performance

Seven studies investigated the impact of accreditation on managerial performance. Managerial performance was measured as financial performance (“rate of increase of in- and out-patients” and “profit increase and cost reduction”) and non-financial performance (“improvement in performance efficiency” and “improvement in employee encouragement”).<sup>[6,7,10-13,17]</sup> Those 5 studies that examined financial and non-financial performance separately found that only non-financial performance was improved.<sup>[6,10,12,13,17]</sup>

Many healthcare employees recognized that financial performance associated with accreditation cannot be measured or is not affected,<sup>[6,7,10,11]</sup> and should be evaluated from a long-term perspective.<sup>[6]</sup> Thus, these employees believed that accreditation does not directly affect managerial performance. Some studies showed that accreditation had no direct financial impact, but that accreditation indirectly affected financial performance through the “organizational culture”.<sup>[7,10]</sup>

## 4. DISCUSSION

Overall, the results of this study show that accreditation has had a positive impact on Korean hospitals, and has improved quality and patient safety. However, it does not appear that accreditation has directly improved financial performance and the satisfaction of hospital employees. Korean financial performance studies have predominantly been conducted on employees rather than on hospital executives, and the results

are less accurate and reliable when measured by surveys. However, there are some aspects in which accreditation affects the entire system and thus it may be difficult then to set the starting and ending points, and to carry out quantitative measurement.<sup>[20]</sup> Therefore, the effect can be estimated by measuring the loss in cost due to poor quality and the gain due to quality improvement, and increased benefits resulting from the quality improvement activities.<sup>[21]</sup>

The Korean accreditation system aims to improve the overall maintenance and management of hospitals, thereby improving medical care and performance.<sup>[5,22]</sup> In this study, workers agreed that the accreditation system is necessary and that accreditation improves patient safety. In addition, healthcare employees felt that accreditation increased interest and support for the improvement of the quality achieved by the leaders, the sense of community among the hospital staff, and the consideration and concern for one another. Since the accreditation standard emphasizes the involvement of all employees and the interest and support of the leaders, through a multidisciplinary approach including leadership interviews, these results are consistent with the “intent” of the accreditation system.

Smaller hospitals, in particular, recognized the changes in patient safety and healthcare quality improvement due to accreditation, compared with larger hospitals.<sup>[7]</sup> Hospitals with > 300 beds underwent healthcare evaluations before the current accreditation system was introduced, and they achieved several key improvements following the previous accreditation.<sup>[23]</sup>

Although accreditation did not appear to directly influence financial performance, the influence of accreditation on financial performance via improvements in organizational culture was significant. Although accreditation does not directly measure the organizational culture,<sup>[4,24]</sup> accreditation facilitates a positive organizational culture, and a positive organizational culture is believed to increase financial performance.

However, in actual application, it was recognized that the accreditation standard did not conform to hospital environment requirements, and employee satisfaction with the accreditation was low. Accreditation should be implemented in a way that improves the quality of patient safety and healthcare services, and should not be detached from reality.<sup>[26]</sup> Therefore, it is necessary to reflect the opinions of the hospitals in the development of the standards in order for employees to fully understand the intent and purpose of the standards, to establish a compensation system and to reduce job stress, to increase the satisfaction of the employees.

Since public interest in the quality of medical services has increased in Korea, the Korean government has evaluated

general hospitals and hospitals with over 300 beds, since 2004. The first attempt at evaluation contributed to improvements in the structural aspects of facilities, such as equipment and personnel. However, evaluations from external organizations alone did not lead to continuous improvements in the quality of medical care. Moreover, self-assessment efforts to improve the quality of hospital staff and address problems with the quality of medical care were not evaluated. By applying standard criteria and an evaluation system that classified hospitals by scale and function, large hospitals in metropolitan areas received better scores than hospitals that did apply those criteria. The lack of objectivity and fairness of the previous system were cited as reasons for the loss of credibility in the evaluation of medical institutes.<sup>[25]</sup> Therefore, an improvement to the system that guaranteed professionalism, independence, and autonomy was required. Hence, the Ministry of Health and Welfare revised the Medical Law in July 2010 to introduce the self-regulated healthcare accreditation system. In addition, the “Korea Institute for Healthcare Accreditation” was formed, which is an authorized body for the participation of service providers, consumers, experts, and governments.<sup>[1,26]</sup>

Healthcare accreditation is an indicator of the quality of medical care, and this system is being implemented in various countries worldwide.<sup>[27,28]</sup> The ultimate goal of accreditation is to provide high quality and safe care to the consumer by promoting positive changes in medical institutions.<sup>[29]</sup> The findings presented here suggest that accreditation is an effective tool for improving the quality of healthcare.<sup>[23,30,31]</sup> In other systematic reviews, accreditation programs are consistently found to facilitate improvements in medical institutions and healthcare quality.<sup>[32–34]</sup>

The standards included in this study are intended to determine whether the goals and purpose of the accreditation system are being achieved well. In the future, it will be necessary to carry out additional research to determine how accreditation affects patients’ well-being as well as research

to evaluate outcome indicators, and cost-effectiveness studies.

All of the existing Korean studies have surveyed healthcare employees. Thus, in the future, studies should measure and compare other stakeholder perspectives. For example, with the new culture focused on the medical consumer,<sup>[26,35]</sup> future studies on the effects of accreditation should focus on them as well.

A limitation of this study is that, due to the presence of various dependent variables, the evidence could not be presented through meta-analysis. In addition, the participants of the study as well as its scope were restricted to minor hospitals, and only extended to some occupations.

## 5. CONCLUSIONS

Some empirical studies found that accreditation improves patient safety, including mortality, morbidity, and the incidence of infection,<sup>[32,36–39]</sup> and this needs to be applied to domestic research. However, the ability to generalize from the results of this study is limited because the history of Korea’s accreditation system is short and few relevant studies exist. In the future, it will be necessary to perform various studies, including stakeholder research and empirical studies on the achievement of accreditation. Effort must be made to reduce job stress and to prepare compensation policies at the national level, including a reward system at the individual medical institute level. Unfortunately, the current accreditation standard does not fit the reality of the hospital environment, and employee satisfaction with the accreditation is low. Therefore, it is necessary to incorporate the opinions of healthcare employees when developing standards to ensure that employees fully understand their intent and purpose, and to establish a compensation system as well as to reduce job stress.

## CONFLICTS OF INTEREST DISCLOSURE

The authors declare they have no conflicts of interest.

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