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LITERATURE REVIEW

The influence of nurse leadership style on the culture of patient safety incident reporting: a systematic review

Yusriawati Yusuf[1,2]

Andi Masyitha Irwan[1]

Author details can be found at the end of this article

Correspondence to:
Andi Masyitha Irwan;
citha_ners@med.unhas.ac.id

Abstract

Evidence suggests that incidents related to patient safety and medical error often go under-reported in hospitals worldwide. This study reviewed the literature regarding the prevalence of patient safety incident reporting and how different styles of leadership affected healthcare staff's willingness and intention to report medical errors. A total of five studies met the inclusion criteria for this review. Analysis showed that staff are generally hesitant to report patient safety incidents. The studies also identified three types of leadership: transformational, transactional and coaching. Four of the five studies discussed transformational leadership, of which three found a positive association between this leadership style and increased patient safety incident reporting. Coaching was also found to be an effective leadership style, although transactional leadership was found to be ineffective in increasing patient safety incident reporting. Overall, intervention is needed to overcome barriers to error reporting in hospitals, with further study required to identify the optimal leadership behaviours to facilitate this.

Key words: Incident reporting, Leadership style, Patient safety, Reporting culture

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Introduction

Medical errors and patient safety are still major issues for many hospitals in the world. Each year around 98 000 patients die and 1.5 million are injured because of medical errors (Cherry and Jacob, 2014; Forrest, 2016). Other reports have suggested that between 200 000 and 440 000 deaths in hospitals are related to patient safety issues worldwide each year (James, 2013; Elkin et al, 2016).

In Indonesia, incidents related to patient safety have various causes. Najihah (2018) found that 9.26% were related to clinical procedures, 9.26% to medication and 5.15% to avoidable falls, while 14.41% were labelled unexplained events. A study in Semarang, Indonesia, found 63 cases of near-injury incidents, unexpected events and sentinel events (in which the patient experiences serious harm or death) in one psychiatric hospital over 15 months. These were caused by insufficient supervision from managers, lack of reporting of safety concerns by nurses and low motivation from staff (Ningsih et al, 2017).

Despite the use of incident reporting systems, the culture of patient safety reporting is still lacking (Gong et al, 2017). Archer et al (2017) found that around 50–96% of patient safety incidents in the United States (US) are not reported, with the main obstacles to reporting being fear of adverse consequences, overcomplicated reporting processes and systems, and the nature of the incidents themselves. Interestingly, in Indonesia, public hospitals were shown to have a higher rate of incident reporting (16%) than private hospitals (12%) (Mulyana, 2013; Gunawan et al, 2015).

Analysing adverse patient safety incidents through comprehensive data collection is a crucial first step to improving patient safety (Elkin et al, 2016; Singh and Sittig, 2016). The Institute of Medicine recommends that this research should focus on the reporting of incidents by healthcare staff (Mitchell et al, 2016). Raising awareness of the value of patient safety measures and encouraging leadership that facilitates an open and fair reporting culture are also important and, as such, form part of Indonesia's 'Seven steps towards hospital patient safety' plan (Yasmi and Thabrany, 2015).

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In healthcare organisations, good leadership is key to ensuring the best quality of care (Huber, 2010). Therefore, the creation of safe nursing services requires effective nurse leadership and management. Simanullang (2018) found that head nurses could have a significant effect on patient safety culture and incident reporting. These leaders must recognise the limitations of human factors and the possibility of error, and take a proactive approach to prevent mistakes in response (Murray, 2017).

Many studies have investigated strategies for better incident reporting, management support and leadership. However, to the authors' knowledge, there is a lack of literature on how leadership styles in nursing, based on leadership theory, can improve patient safety incident reporting culture. Therefore, this study reviewed the literature, looking specifically at research design, patient safety incident reporting and leadership style, based on leadership theory.

Leadership theory

The three styles of leadership discussed in this article are transformational, transactional and coaching leadership.

Transformational leadership is practiced by leaders who aim to mobilise staff members and organisations by identifying areas that require change, creating innovative plans to make these changes and implementing them through collaborative work across teams. This style of leadership is an integral part of the Full Range of Leadership model (Suratno et al, 2018). According to Lin et al (2015), a transformational leader helps their subordinates to share a vision and uses common goals to motivate their team. The emphasis is on encouraging staff members to think about old problems in new ways. Therefore, transformational leadership is often seen as ideal for the complex and rapidly changing work environment that is often experienced in healthcare (Lin et al, 2015).

Transactional leadership aims to maximise personal interest and respect, emphasising interpersonal dependence and regular performance reviews to maintain the status quo by working in accordance with policies and procedures (Sullivan, 2013). Rewards, active management (reinforcement) and passive management (negative feedback) are the three main characteristics of transactional leadership (Manning, 2016).

The coaching leadership approach is less widely used, but can have a significant impact on self-efficacy, job engagement and innovative behaviour (Park, 2018). This style of leadership aims to develop the problem-solving skills of staff and empower them to make changes.

Methods

A systematic literature search was performed using six electronic databases: PubMed, Wiley, Science Direct, Proquest, Directory of Open Access Journals and Google Scholar. Search terms included those related to nursing leadership style and the culture of patient safety incident reporting. Search keywords were based on the PICOT (patient, intervention, comparison, outcome, time) framework (Eriksen and Frandsen, 2018). Terms included 'nurse' or 'nurse', 'nursing leadership style' or 'leadership style', and 'patient safety reporting culture' or 'incident reporting' or 'reporting culture'. In addition, free search terms were combined with Boolean operators and adapted for each database to build a search string.

Articles were included in the review if they focused on styles or methods of leadership and the influence of nurse leadership on the culture of patient safety incident reporting. Only articles published in English between January 2015 and January 2019 were included. Duplicate publications and non-specific publications relating to nurse leadership style were excluded.

A total of 148 articles were identified from the six databases, of which the majority (114) were excluded as irrelevant to the research question. A further 10 were excluded as duplicate publications and five as studies about non-hospital nurses. The methodological quality of the remaining 19 articles was assessed using the critical appraisal tools from the Centre for Evidence-Based Medicine (2011) and the Centre for Evidence-Based Management (2014). This led to a further 14 being excluded, leaving a total of five eligible studies, all of which were cross-sectional.

Prevalence of patient safety incident reporting

The prevalence of patient safety incident reporting varied across the five studies. Ko and Yu (2015) surveyed 289 nurses across five hospitals in South Korea, using a tool developed by Kim (2010) to assess staff intention to report errors. This tool consists of three questions:

- If you committed an error that had no adverse effect on patients in your current work situation, would you report the error?
- If your colleague committed an error with no adverse effect on patients in your current work situation, would you report the error?
- Do you share information regarding errors or malpractice with others?

Participants were asked to answer each question using a scale of 0 (never) to 10 (always). Ko and Yu (2015) found that the mean average score across the three questions was 6.12 (standard deviation=2.35), with a Cronbach alpha value of 0.83. When asked about incident reporting at their hospital, respondents stated that only the more minor medical errors were typically reported and that seeing a colleague being punished for an error made them more likely to refrain from reporting an incident in the future. In contrast, Farag et al (2017) found that participants were most likely (71.8%) to report more serious errors that they perceived as having a greater potential to cause harm to patients, whereas only 54.9% said they would report errors that were not potentially dangerous to patients and 25.4% would report errors that were caught and corrected before the consequences reached the patient.

In terms of factors influencing nurses' decision to report incidents, Jafree et al's (2016) study of 309 nurses in Pakistan found that nurses who were aged over 30 years, were married, on a higher salary or had permanent contracts at the hospital were more likely to report incidents. However, Farag et al (2017) found that emergency department nurses became less willing to report incidents as their years of experience increased.

The studies suggested that external factors also influence nurse reporting of patient safety incidents. In a survey of 1171 clinicians from 19 intensive care units in Abu Dhabi, Edrees et al (2017) found that 81% of respondents stated that hospital leadership and regulatory bodies had the greatest influence on their likelihood of reporting patient safety incidents. Similar to Ko and Yu (2015), obstacles to reporting of incidents found in Edrees et al's (2017) study included fear of causing trouble, a culture of blame, complex reporting procedures, high workload and lack of support. Zaheer et al (2015) also found staff were more likely to report incidents if the process of reporting was easy and straightforward.

Overall, the rate of incident reporting was low across the five studies. This is in accordance with other research that has found evidence of underreporting of medical errors, particularly by less experienced nurses (Africa and Shinners, 2019). Lack of knowledge and the assumption that it is better to correct a mistake than report it are some of the factors found to decrease staff member's intention to report incidents (Hughes and Blegen, 2008; Heard et al, 2012; Harsul et al, 2019).

Influence of nurse leadership style on incident reporting

Three different leadership styles were identified in the five articles. Transformational leadership was discussed in four of the five studies (Edrees et al, 2017; Farag et al, 2017; Jafree et al, 2016; Zaheer et al, 2015), while transactional leadership and coaching leadership were identified in Farag et al (2017) and Ko and Yu (2015) respectively.

Support and supervision are key characteristics of transformational leadership. Jafree et al (2016) found that nurses were significantly more likely to report incidents if they felt that their lead nurse was supportive and had good managerial abilities. Similarly, Zaheer et al (2015) found that a workplace culture of openness fostered by participative leadership increased the likelihood of patient safety incident reporting, while a low level of supervision and support from leaders (a 'hands off' approach) led to staff feeling less inclined to report incidents.

Edrees et al (2017) found that support and supervision from those who staff had direct and frequent contact with, such as hospital management, was the most influential factor in encouraging staff to report incidents. Therefore, they concluded that hospital and ward

leaders should adopt a transformational leadership style by collaborating with and protecting their subordinates.

The case for transformational leadership is supported by the literature. Huber (2010) found that transformational leadership results in greater staff commitment, satisfaction and effectiveness than other leadership styles, as well as playing a role in wider organisational culture. Other studies have also shown the superiority of transformational leadership over other styles, such as transactional leadership, in terms of its ability to inspire and motivate staff (Marshall, 2011; Sullivan, 2013). Meanwhile, Hartanto and Warsito (2017) described a head nurse who exercised characteristics of transformational leadership to develop a patient safety incident reporting system that allowed staff to report incidents, with full support from senior management, without fear of being blamed or punished.

In contrast, Farag et al (2017) presented both transformational and transactional leadership styles, but found no correlation between the former and willingness to report errors, and only a weak correlation between the latter and willingness to report errors. Instead, the receipt of feedback regarding an error and a sense of trust in peers were associated with an increased willingness to report errors. As another alternative, Ko and Yu (2015) found that a coaching style of leadership was positively correlated with increased safety incident reporting ($P<0.001$). This suggests that achieving a culture of patient safety is not only about supervision and support from leaders, it also requires staff to be empowered and a good level of communication to exist within and between employee levels.

Recommendations

Good reporting of patient safety incidents is crucial to healthcare organisations, as it increases awareness of potential risks and allows measures to be implemented to ensure that incidents do not reoccur. Therefore, reporting is key to learning (Komite Keselamatan Pasien Rumah Sakit, 2015). The generally low rate of incident reporting seen in this review, and the various barriers identified, suggest that intervention is needed to encourage staff to report errors. Jafree et al (2016) noted that the absence of a formal error tracking system made it difficult to maintain a culture of voluntary error reporting, so this may be a good place to start. Okafor et al (2015) found that implementing a web-based reporting system that avoided penalising staff for errors was useful in increasing the rate of incident reporting. Once reported, incidents should be investigated with the aim of understanding the safety issue and the general pattern of errors for the sake of learning, rather than blaming (Phipps et al, 2017).

In terms of leadership, research suggests that various styles can be used to encourage and direct subordinate staff towards shared goals (Huber, 2010; Sullivan, 2013). The results of this review suggest that there is strong evidence for transformational leadership being the optimal style for facilitating good patient safety incident reporting.

Limitations

All five studies included in this review used a cross-sectional, descriptive design. In future, it may be beneficial for studies into patient safety incident reporting culture to use different approaches, although cross-sectional studies are beneficial for stimulating discussion and providing the basis for further research (Polit and Beck, 2017, 2018). This study also only included a small number of articles and just three types of leadership style. A wider look at the literature and different types of leadership style may therefore be helpful in investigating the optimal leader characteristics for a true culture of patient safety incident reporting.

Conclusions

This literature reviews suggests that many healthcare staff are hesitant to report patient safety incidents and medical errors, making it difficult for teams and organisations to learn from these mistakes and prevent them reoccurring. The main barriers to reporting included fear of being punished for making an error and unsuitable reporting systems. Further analysis of leadership styles found that transformational, transactional and coaching leadership behaviours were present in the studies, with transformational leadership being

Key points

- Patient safety incidents and medical errors are under-reported, leading to lost opportunities to learn and enhance patient safety.
- The five studies reviewed demonstrated an overall low level of patient safety incident reporting among hospital staff.
- Transformational leadership was found to be positively associated with increased patient safety incident reporting in three of the five studies, with coaching leadership found to be beneficial in one other study.
- Intervention is required to increase patient safety incident reporting, with further research needed to investigate how leadership styles can facilitate this in practice.

the most common and the most effective, although this was not unanimous across the five studies. Overall, this study demonstrates the need for more effective leadership to facilitate a culture of patient safety incident reporting, with further research required into exactly how this could be achieved.

Author details

[1]Faculty of Nursing, Hasanuddin University, Makassar, Indonesia

[2]Community Health Center of Kaledupa, Wakatobi, Indonesia

Conflicts of interest

The authors declare that there are no conflicts of interest.

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