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Using Multiple Strategies to Improve Sleep Quality in Patients with Liver Transplant After Surgery

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Abstract

Background & problems: *An average of 52% of patients in our unit report poor sleep every month. Poor sleep is a factor associated with prolonged postoperative recovery time, disorientation, anxiety, comorbidities, and prolonged hospitalization.*
Purpose: *This project was implemented to establish a sleep quality care intervention for patients after liver transplant surgery and then to evaluate its effectiveness.*
Resolutions: Intervention items included doing relaxation exercises before bed, using traffic light cards as sleep aids, using sleep treasure boxes, implementing nighttime sleep protection, and offering sleep hygiene guidance. Also, sleep quality care education and training were provided to medical staff.
Results: *Average sleep assessment scores for patients in our ward increased from 51.1 mm (indicative of poor sleep) pretest to 81.2 mm (indicative of good sleep) posttest. Also, the nursing staffs' implementation rates in terms of sleep quality care and correct cognitive sleep care increased to 100% and 90.5%, respectively, posttest.*
Conclusions: *The post-operative sleep quality care intervention for patients with liver transplant includes various auxiliary sleep care strategies to effectively improve patient sleep quality and may be incorporated into the post-operative sleep care provided to patients recovering from liver transplantation surgery.*

Keywords: *intensive care; liver transplant; sleep quality.*

INTRODUCTION

The balance of quality versus cost, as well as technology versus humanity, has become extremely complex in the health-care sector, placing increasing demands on doctors' roles. These issues require excellent leadership to take the helm of health-care institutions (HIs). Doctors were previously regarded as less suitable for leadership roles because of the concern that their background training could have resulted in them becoming "heroic lone healers" (Lee, 2017). The growth of management and the application of new business approaches known as New Public Management in the 1980s pushed this perception even further (Martinussen and Davidsen, 2021). However, the emphasis on patient-centered care and efficiency in clinical outcomes implies that doctors are now increasingly being groomed for leadership roles. Since the global pandemic of COVID-19, there has been a greater emphasis on the significance of effective leadership and management in the health-care sector. HIs all over the world are facing a challenging future due to rising operating costs and higher expectations of the quality of health-care services. To deliver a high-quality health-care service, leaders of HIs must plan and manage their resources wisely and strategically, besides being the central figures that guide staff in the everyday operation of the institutions.

In some countries, the majority of medical background leaders work as "hybrid leaders," managing a clinical workload alongside their management responsibilities (Hamilton et al., 2008;

Kippist and Fitzgerald, 2009). This is because the medical field has traditionally been less accepting of doctors who give up clinical work (Opdahl Mo, 2008). In the UK National Health Service (NHS), increasing doctors' participation in leadership is thought to potentially improve institutional performance, especially when doctors occupy positions of authority within an HI that allow them to participate in managerial decisions (Ham and Dickinson, 2008; Kirkpatrick et al., 2023). On the other hand, only a small number of HIs were led by doctors in the USA (Angood and Birk, 2014) despite evidence showing that leaders with a medical background are beneficial in hospital management (Kirkpatrick et al., 2023). One possible explanation for this situation is that non-medical leaders offer more expertise necessary to effectively lead the HI from administrative, organizational, and financial perspectives because of their background education and training in business or finance (Schwartz and Pogge, 2000). In India, most hospital chief executive officers (CEOs) are doctors, but non-medically related management skills such as leadership, team-building, interpersonal skills, and communication have not been given due attention (Gayathri and Warrier, 2022). As a result, some postulated that certain leaders of the medical profession were preoccupied with protecting their positions and inept at taking organizational decisions, potentially creating an environment prone to malpractice and corruption (Kumar, 2015). In Malaysia, the Ministry of Health (MOH) is the biggest health-care provider in the country. Under the ministry, a health-care worker, particularly a doctor, is generally the leader of HIs such as hospitals or district health offices. Previously, some of the leaders were appointed as the head of a health-care institution based on their seniority in service and management skills (Mastura, 2008). In recent years, the majority of health-care leaders in hospitals or district health offices are Public Health Physicians or hold a relevant postgraduate qualification such as a Master's in Health Management, Master's in Business Administration, or Master's in Law (Mohd, 2021; Razak, 2021).

The "Theory of Expert Leadership" (TEL) suggests that organizations perform more effectively when led by individuals with a deep understanding of the core business of their organizations (Goodall, 2012). According to TEL, expert leadership (EL) is a function of three factors:

Inherent knowledge (IK), which is obtained through technical knowledge of the core-business activity, attained through education and practice, combined with high ability in the core-business activity.

Industry experience (IE), which equates to time and experience in the core-business industry.

Leadership capabilities (LC), which includes the experience of management and leadership acquired through education and training (Goodall, 2012).

Thus, leaders' IK, as well as their industry experience and leadership capabilities, is hypothesized to be positively connected with organizational performance. In other words, TEL supports the evidence that it is necessary to have a health-care professional background to lead a health-care institution. However, with the increasing demands and challenges in health-care systems, the diversity of functions and responsibilities that fall to medical leadership has expanded, necessitating an individual with a broader range of training and competence than merely a senior officer. One of the debated topics in the field of competent leadership is how much core business knowledge leaders need to have to perform effectively, especially in specialized fields such as health care.

In general, while medical health-care professionals receive specialized training to hone their technical skills, effective leadership training is frequently overlooked. It is critical to have effective leadership at all levels for an organization to obtain better performance (Hogan and Kaiser, 2005). This review aimed to summarize the state of the current literature and to identify gaps that will provide direction for future research regarding the association between leaders with medical backgrounds and health-care institutional performance. We exclusively looked for quantitative empirical studies reporting on leadership performance that included both medical and non-medical leaders to

objectively answer the research question and to minimize confounders associated with comparisons in health care.

MATERIAL AND METHODS

We conducted a scoping review based on the methodology developed by Arksey and O'Malley (Westphaln et al., 2021) and refined by Levac et al. (2015) with enhanced guidance from the Joanna Briggs Institute Manual (The Joanna Briggs Institute, 2015). Furthermore, this paper adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) extension for scoping reviews (Tricco et al., 2018).

Stages of a Scoping Review

Stage 1: Formulating the research question. In view of the varying performance of HIs under the helm of people with different leadership backgrounds, we intended to establish an understanding of how dynamic leadership backgrounds may influence HI performance. Based on these objectives, the research question of this review is: Are HIs better managed by a leader of medical or non-medical background?

Stage 2: Identifying relevant studies. The search strategy was developed by the research team, including various keywords and relevant synonyms such as "performance," "impact," "medical," "physician," "doctor," "leader," "healthcare institutions," and "hospital." The final search string was: (performance or impact) and (physician or medical or doctor or leader) and (healthcare institution or hospital). To qualify as a medical leader, a leader must have been trained in medicine (MD).

Inclusion criteria: Articles published in English; study setting in an HI (hospital); quantitative study; published between 2000 and 2022; full text available.

Exclusion criteria: Articles written in languages other than English; study settings other than hospitals; qualitative studies, commentaries, essays, reviews, and consensus statements; publications before 2000 or after 2022; full texts not available.

Three databases were searched: PubMed, Ovid Medline, and Google Scholar. No quality appraisal was performed, in accordance with standard scoping review methodology.

Stage 3: Selecting the literature: Two investigators independently screened titles and abstracts based on predetermined inclusion and exclusion criteria. Full texts of relevant publications were retrieved and reviewed against the same criteria. Disagreements were resolved by a third reviewer.

Stage 4: Charting the data: Data extracted from selected articles were entered into Microsoft Excel and analyzed. Two investigators extracted data independently to ensure accuracy, consistency, and comprehensiveness, resolving discrepancies via discussion and consensus.

Stage 5: Collating, summarizing, and reporting results. Relevant findings were organized into themes and prioritized based on relevance to the research questions.

RESULTS

Out of 48 studies from full-text screening, 8 studies met the inclusion criteria. Most included studies originated from the USA (Bai and Krishnan, 2015; Goodall, 2011; Mkandawire, 2017; Tasi et al., 2017), followed by two from the UK (Veronesi et al., 2013, 2015), one from Germany (Kaiser et al., 2020), and one from the Arab World (Fares et al., 2018). All studies were quantitative and used a comparative cross-sectional study design (leaders with medical backgrounds versus non-medical backgrounds) utilizing convenience sampling.

All eight studies compared HI performance under leaders with and without a medical background, though different types of performance indicators and outcomes were measured. Four studies reported higher performance in HIs led by leaders with medical backgrounds (Bai and Krishnan, 2015; Goodall, 2011; Veronesi et al., 2013, 2015), while one did not (Fares et al., 2018).

Conversely, one study reported no significant difference between leadership background and HI performance (Mkandawire, 2017). Finally, two studies reported mixed outcomes regarding the association between medical leadership and HI performance (Kaiser et al., 2020; Tasi et al., 2017).

DISCUSSION

Health-care systems comprise multiple professional groups, departments, and specializations interacting in complex, nonlinear ways. The lack of concordance between hospital employees and management staff can result in conflict, poor decision-making, dissatisfaction, and subsequently poor patient care standards (Bai and Krishnan, 2015; Goodall, 2011; Tasi et al., 2017; Veronesi et al., 2013). To optimize leadership in these settings, multifaceted leadership techniques are vital.

According to TEL, a health-care professional background is valuable for leading a health-care institution. For example, statistics show that top hospitals in the USA are more likely to be led by individuals with medical backgrounds ("America's 100 best hospitals, according to Fortune," 2021; Harder, 2021). While direct comparisons are challenging due to varied performance metrics across studies, half of the reviewed studies indicated superior performance under medical leadership (Bai and Krishnan, 2015; Goodall, 2011; Veronesi et al., 2013, 2015).

Management Style

Being a skilled management leader alone may not suffice to ensure optimal HI performance. Medical and non-medical leaders often hold differing organizational goals. Medical leaders typically adopt a patient-oriented management style (Gupta, 2019) focused on improving care quality and patient satisfaction. Conversely, non-medical leaders with business or economic backgrounds may focus more heavily on operational effectiveness and financial outcomes rather than individual patient care (Goodall, 2011).

Hospital Performance: Patient Satisfaction

Patient satisfaction is a key performance indicator directly linked to improved health-care quality and lower readmission rates (Al-Abri and Al-Balushi, 2014; Protomastro, 2016). In the UK NHS, clinical leadership is viewed as vital because clinician-managers can actively participate in critical institutional decisions (Ham and Dickinson, 2008). Competent health-care leaders positively influence patient satisfaction by fostering cooperation, teamwork, mutual support, and communication (Bruning, 2013).

Hospital Performance: Financial Performance

While most literature supports the advantages of medical leadership, one reviewed study reported poorer financial performance among HIs led by medical leaders (Kaiser et al., 2020). Non-medical leadership models may reorient hospital goals toward profitability (Gupta, 2019). While financial return may be less critical in heavily subsidized or non-profit systems, profit generation remains crucial for increasing operational efficiency in private HIs. Further empirical research with robust financial indicators is warranted.

Hospital Performance: A Web-Based Perspective

The single study reporting lower HI performance under medical leadership used web-based indicators (visibility, size, rich files, and scholar publications) from the Arab World (Fares et al., 2018). Because activity was measured purely through web presence, it remains inconclusive whether non-medical leaders are truly more effective in actual clinical settings.

Leadership Effectiveness: Task-Relevant Qualifications

One reviewed study found no significant differences between non-medical and medical leaders regarding hospital net income, patient experience ratings, and mortality rates (Mkandawire, 2017). This aligns with the Situational Leadership Theory, suggesting effective leadership is task-relevant and adaptable to team maturity regardless of professional background (Graeff, 1983).

Although health-care professionals recognize the value of medical leaders, many lack formal leadership training (Chen, 2018; Ghiasipour et al., 2017). While experiential learning remains primary, formal training can significantly strengthen core competencies, particularly in financial management and cost control, ensuring a balance between fiscal sustainability and quality patient care.

LIMITATIONS

The limitations of this scoping review stem primarily from the scoping technique itself, including the absence of quality appraisal for included studies, potential interpretation bias, and the exclusion of non-English or non-quantitative studies. Additionally, no studies reflected the experiences of low- and middle-income countries (LMICs). Due to varied performance measures across studies, direct comparisons remain inherently challenging.

CONCLUSION

Like medicine, the field of management and leadership requires ongoing refinement, education, experience, and dedication. Overall, findings indicate that medical professionals drive superior HI performance by aligning institutional policies with a core "patient-first" philosophy. However, equipping medical leaders with robust management training is vital to optimize their leadership styles within complex health-care environments. Further peer-reviewed research, particularly from LMICs, is warranted to establish clearer links between institutional performance and leadership backgrounds.

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