护理杂志
Journal of Nursing
Volume 72 Number 3
ISSN: 0047-262X

Enhancing Dietary Awareness Accuracy in Hematology Patients Using Visualization and Game-Based Learning

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Abstract

Background & problems: *During cancer treatment, hematology patients often experience treatment interruptions, reduced tolerance, and increased morbidity due to improper or insufficient dietary intake, which negatively impact their quality of life and, in severe cases, increase mortality rates. A situational analysis revealed the accuracy rate of dietary knowledge among hematology patients in our hospital to be only 66.3%. The factors affecting this low rate of accuracy were identified as: nursing staff underestimating the importance of dietary education, inconsistent and poorly implemented dietary education, and the absence of dietary knowledge assessments and appropriate educational tools necessary to reinforce patient understanding. Moreover, the hospital lacked a standardized educational process and audit system. Furthermore, due to case selection criteria, dietitians were unable to provide nutritional counseling to every patient.*
Purpose: *A project was developed and implemented to increase the correct dietary knowledge rate among hematology patients from 66.3% to above 87.9%, and to raise the completion rate of dietary education by nursing staff for hematology patients from 58.3% to above 85%.*
Resolutions: *The project utilized cloud technology with QR codes combined with educational posters and leaflets, game-based teaching tools (such as the fruit traffic light and nutrition-matching games), patient sharing sessions, group health education, and on-the-job training.*
Results: *The accuracy rate for dietary knowledge among the hematology patients increased from 66.3% to 91.2%, and the completion rate for dietary education by nursing staff increased from 58.3% to 90%, achieving the objectives of this project.*
Conclusions: *This project effectively improved the overall rate of dietary knowledge accuracy among hematology patients, demonstrating positive outcomes. Based on this success, the program will be incorporated into the unit's group health education activities and conducted every three months. In addition to benefiting patient dietary choices, the program should reduce the time nurses spend on dietary education in clinical settings significantly.*

Keywords: *dietary education; diverse educational methods; game-based teaching; hematology patients.*

INTRODUCTION

Leadership in healthcare settings is a fundamental determinant of both organizational performance and the well-being of healthcare professionals. It plays a pivotal role in shaping organizational culture, emphasizing the need to develop behaviors, strategies, and qualities essential for effective leadership. The role of physician leadership is uniquely complex due to the dual responsibilities of clinical expertise and administrative oversight. Unlike non-clinical managers, physician leaders must navigate the intricacies of patient care while ensuring the efficient operation of healthcare organizations. Moreover, physician leadership is central to fostering a culture of high-quality patient care, facilitating team collaboration, and supporting the personal and professional

development of the medical workforce. While leadership development programs can enhance organizational performance and improve patient outcomes, physician leadership education is often inconsistently integrated into undergraduate medical curricula.

As with leadership research in general, scholarship has historically focused more on constructive leadership. Effective physician leadership is characterized by successful communication, trust, emotional intelligence, fairness, collegial respect, collaborative decision-making, and the ability to support and develop others. Previous research emphasizes the importance of supportive, transparent, and competent leadership in creating a positive work environment. Conversely, detrimental leadership can manifest in various ways, all of which severely undermine organizational effectiveness. Research highlights a strong link between leadership styles and the quality of patient care, emphasizing the vital role of leadership in ensuring well-coordinated and integrated care delivery for both patients and healthcare professionals. Leadership in healthcare is also argued to be a contextually influenced and context-producing practice, where failure to establish a quality workplace ultimately undermines patient care and results in significant negative outcomes, including staff turnover.

Furthermore, physician leaders' behavior significantly impacts the well-being and burnout of the physicians they lead. Although leaders may exhibit a mix of constructive and destructive behaviors—indicating that leadership encompasses a range of actions rather than being purely positive or negative—little attention has been paid to specific archetypes of poor physician leadership and their contributions to organizational culture. Experiencing both constructive and destructive behaviors from the same leader can be more stressful than experiencing only destructive behavior. Furthermore, a destructive leader struggles to inspire trust and motivate followers, which is fundamental to remember given the global shortage of physicians. Therefore, exploring the specific characteristics of detrimental physician leadership is vital for addressing these challenges and improving healthcare system functioning.

THEORETICAL FRAMEWORK

Good and Bad Physician Leadership

There is a limited but growing body of research examining constructive and destructive physician leadership. Healthcare leadership often aligns with transformational leadership, a form of constructive leadership which highlights that supportive, motivational, and emotionally intelligent leaders foster positive work environments and improve patient outcomes. Transformational leadership is characterized by idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, and a focus on caring. Physician leaders who embody these traits serve as role models, inspiring, challenging, and supporting their subordinates.

The distinction between effective and ineffective leaders reveals a fundamental experiential dichotomy that sets leaders apart from other professionals. Most studies on effective leadership assert that leadership has a moral purpose, with leaders generally aiming for positive outcomes. However, leaders may sometimes act unethically, publicly endorsing ideas they privately oppose or hiding information for personal gain. Thus, even leaders considered effective may resort to manipulation in an effort to avoid autocracy or shield their followers from emotional burdens.

Destructive leadership manifests in harmful behaviors such as abusive, absentee, despotic, narcissistic, toxic, petty tyrannical, psychopathic, authoritarian, incompetent, bullying, laissez-faire, exploitative, insincere, insular, and undermining actions, which create an unhealthy work environment. These negative behaviors lead to decreased job satisfaction, higher stress levels, increased staff turnover, and a negative impact on commitment to work, employee well-being, and individual performance. They also worsen attitudes toward leadership and satisfaction with leaders.

In healthcare, behaviors such as micromanagement, emotional unavailability, and public humiliation foster a culture of fear and mistrust, ultimately harming both staff well-being and patient care. Leadership lacking empathy, communication, and respect fosters an environment where

physicians feel undervalued and overworked, with detrimental effects on their mental health. For example, physician burnout is exacerbated by poor leadership, as a clear link has been established between burnout and work overload, lack of control, insufficient recognition, lack of support and trust, unresolved conflicts, and perceived injustice.

Another key aspect of leadership in healthcare is equity and fairness. Leadership that perpetuates discrimination—whether based on gender, race, or other factors—creates a toxic work environment that undermines morale. Studies have highlighted the persistence of gender disparities in healthcare leadership, where female physicians often experience inequitable treatment in terms of pay, career advancement, and workload distribution. In this study, detrimental leadership is defined as actions involving detrimental or unethical methods of influence that harm the organization or its employees or pursue goals conflicting with the organization's legitimate interests.

The current study aims to deepen the understanding of how negative leadership behaviors recur and affect healthcare professionals by exploring the lived experiences of physicians at various hierarchical levels. The dark-side perspective helps correct a positivity bias in leadership research and provides insights for improving team, organizational, and national performance by minimizing the selection of the wrong people for leadership roles and enhancing the self-awareness and self-management of those in leadership roles. As actions, motivation, and behavior can be influenced by perceptions, these insights provide a foundation for developing strategies to address leadership failures, improve physician leadership education, and mitigate the harmful effects of poor leadership in healthcare settings.

DATA AND METHODS

The subjects of this empirical study were physicians of the Central Finland Health Care District, in which approximately 800 physicians are employed. Informants were invited to participate voluntarily via an internal email. All participants were eligible for inclusion, as the study's objective was to identify elements of detrimental physician leadership as perceived by members of the medical profession.

The data for this qualitative study were collected through semi-structured interviews with 50 Finnish physicians representing various hierarchical levels, including 14 residents or specializing physicians, 13 specialists, eight heads of departments, and 15 chief physicians working for a large Finnish central hospital. This composition provided a representative sample of the population of interest. Interviews were conducted in person and in Finnish to enhance reliability.

The interview instrument contained questions designed to explore perspectives on physician leadership from multiple angles, enabling participants to share their personal experiences broadly. Data specifically related to negative leadership were extracted for this study. To ensure content validity, the interview instrument was informed by a literature review and pretested by the research team to evaluate reliability, clarity, and potential ambiguities.

Inductive content analysis followed by thematization was used to examine the data. The analytical process comprised four steps:

1. Immersing oneself in the data by reading transcripts multiple times to achieve a comprehensive understanding.

2. Developing initial codes based on recurrent themes and significant statements related to detrimental leadership.

3. Grouping similar codes into categories to identify patterns reflecting the experiences and perceptions of negative leadership.

4. Organizing the identified archetypes into broader themes that encapsulated various aspects of poor physician leadership.

Methodological rigor was enhanced through researcher triangulation, where the analysis was conducted twice and subsequently reviewed by both authors to reduce potential bias. Interviews were

primarily conducted in person at the participants' offices between April and June 2017 and between July and August 2018. All participants were informed about the purpose of the study and their right to withdraw at any time. Participant identities were kept confidential, and interviews were coded using alphanumeric identifiers. The interviews were digitally recorded, transcribed, and systematically coded, producing 619 pages of text.

ETHICAL STATEMENT

This study follows national and international ethics standards for non-medical research with human participants, adhering to guidelines set forth by the Finnish National Board on Research Integrity and the data protection regulations of the European Union. Ethics approval was granted by the Central Finland Care District officials. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

RESULTS

The main themes of detrimental leadership and the archetypes of poor leaders embedded within them are categorized into four major areas: lack of support and accessibility, authoritarianism and abuse of power, incompetence and ineffectiveness, and unfairness and discrimination.

Lack of Support and Accessibility

This theme encompasses absent leaders, characterized by physical or emotional absence, a lack of presence, and unavailability when support is needed, as well as dismissive leaders, who show little concern for the well-being, contributions, or feedback of their subordinates. Both absent and dismissive leaders contribute to a profound sense of isolation among physicians, particularly in challenging clinical situations, which intensifies stress and dissatisfaction.

Participants frequently reported instances where supervisors were physically distant or emotionally unavailable during critical events, such as patient mortality or severe career distress. Rather than providing constructive psychological or professional support, supervisors often responded with indifference or dismissive platitudes, leaving junior physicians to manage high-stress environments entirely on their own.

Authoritarianism and Abuse of Power

This theme captures the misuse of leadership authority, characterized by autocratic decision-making, bullying, and manipulation. Autocratic leaders make unilateral decisions without consultation or transparency, often altering schedules, contracts, or operational guidelines with little to no notice.

Bullying leaders rely on intimidation, public shaming, and psychological harassment to assert control, frequently humiliating subordinates in front of peers or targeting those lower in the medical hierarchy. Furthermore, manipulative leaders compromise fairness by engaging in favoritism, unethical hiring practices, and nepotism—such as creating specialized positions to accommodate the spouses of preferred candidates while bypassing standard, transparent application processes.

Incompetence and Ineffectiveness

This theme focuses on leaders who lack essential domain knowledge or actively shirk professional responsibilities. Incompetent leaders frustrate subordinates by failing to grasp key administrative or operational aspects of their roles—such as misunderstanding salary structures or human resource policies. When confronted with discrepancies or valid staff concerns, these leaders may react defensively or aggressively, slamming fists on tables or dismissing legitimate inquiries.

Additionally, some leaders cover up their own lack of engagement by manipulating work schedules to avoid active duties, leaving clinical staff unsupported.

Unfairness and Discrimination

Gender discrimination, pay disparities, and inequitable workload distributions are central to this theme. Female physicians reported persistent discriminatory practices, particularly regarding hiring, promotions, and maternity leave. Participants noted instances where job interviewers inquired inappropriately about family planning, and where employment contracts were abruptly terminated upon the commencement of maternity leave. Furthermore, career advancement plans were frequently sidelined based on assumptions surrounding potential motherhood, while male colleagues received preferential treatment for similar clinical suggestions. Unfair leaders also imposed disproportionate workloads and negligible compensation increases, reinforcing a toxic and inequitable workplace environment.

DISCUSSION

This study identified seven archetypes of leadership behavior: absent, dismissive, autocratic, bully, manipulative, incompetent, and unfair. These archetypes reflect four broader themes of negative leadership: lack of support and accessibility, authoritarianism and abuse of power, incompetence and ineffectiveness, and unfairness and discrimination.

The findings demonstrate that a leader's behavior and leadership style directly affect the well-being, morale, and work satisfaction of individual physicians. Aligning with previous literature, leadership in healthcare is shaped by contextual factors and encompasses a spectrum of actions ranging from constructive to destructive. Destructive leadership behaviors significantly harm organizational culture, diminish clinical effectiveness, exacerbate the global physician shortage through increased turnover, and ultimately compromise the quality of patient care.

Incompetence and lack of transparency

Leaders who shirk responsibilities and fail to fully engage in their roles leave others to assume their duties, a phenomenon consistent with absentee leadership where individuals hold formal titles but contribute minimally. Consequently, led physicians experience a distinct lack of guidance and support when supervisors are physically or emotionally unavailable. Furthermore, physicians express profound frustration over leadership’s inadequate understanding of clinical and administrative processes. This reinforces the principle that effective medical leadership requires a hybrid mastery of both managerial and clinical competencies. Incompetent leadership frequently manifests through unilateral decision-making and a failure to consult frontline staff, fostering environments of opacity, mistrust, and widespread disengagement where professionals ultimately choose to leave toxic workplaces.

Exploitation and Workload Management

Exploitation represents another prevalent organizational failure, characterized by leaders assigning excessive workloads without regard for the capacity or well-being of their subordinates. Medical professionals frequently report being pressured to assume additional responsibilities without adequate compensation or structural support. Excessive workloads combined with poor leadership oversight are significant drivers of burnout, which heavily compromises mental health. Factors influencing engagement and burnout include workload demands, operational efficiency, resource availability, a sense of professional purpose, organizational culture, autonomy, flexibility, social support, community, and work-life balance. Physician burnout not only accelerates staff turnover but also severely compromises patient safety, care coordination, and overall satisfaction. When concerns

regarding heavy workloads are dismissed or trivialized by management, the exploitative nature of such behavior becomes starkly apparent, emphasizing the urgent need for supportive leadership structures to mitigate burnout.

Bullying and Psychological Harassment

Instances of public humiliation, intimidation, and deliberate belittling of subordinates represent severe forms of destructive leadership. Such behaviors are well-documented catalysts for psychological harm, hostile work environments, heightened turnover, and reduced job performance. Bullying strips followers of their autonomy and sense of control, drastically intensifying workplace stress. These accounts highlight the detrimental impact of toxic behavior on healthcare delivery, a vulnerability magnified by the ongoing global shortage of medical professionals.

Gender Discrimination and Inequity

Gender discrimination remains a persistent structural issue, with female physicians frequently reporting experiences of being patronized, marginalized, or passed over for professional opportunities based on their gender. These findings mirror wider medical literature documenting systemic gender disparities, particularly within leadership and academic ranks. Female professionals express acute frustration over being judged on their potential for motherhood or subjected to biased evaluations during interviews. Such biases undermine equity and inclusion in healthcare systems, creating toxic environments where female clinicians feel undervalued and under-compensated, ultimately driving up attrition rates.

Absence of Emotional Support and Compassion

A critical deficit in poor leadership is the absence of empathy and emotional support during times of personal or professional distress. Leaders who are emotionally unavailable or indifferent fail to recognize the high-stress nature of medical environments—particularly given elevated burnout and psychological distress rates among healthcare workers. While emotionally intelligent leaders significantly boost team morale and resilience during crises, leaders who lack compassion contribute to a culture of emotional neglect. When staff face traumatic events, such as patient mortality or complex clinical challenges, encountering dismissive or cold leadership reactions severely exacerbates stress and emotional exhaustion.

STRENGTHS, LIMITATIONS, AND FUTURE RESEARCH

The qualitative design utilizing semi-structured interviews enabled an exhaustive exploration of participants' perspectives, yielding rich insights into the mechanics of poor leadership. The diverse participant sample, spanning multiple hierarchical levels from residents to chief physicians, ensured broad representation across the medical profession.

Despite these strengths, several methodological limitations must be acknowledged. While inductive content analysis provided a rigorous framework for categorizing leadership archetypes, reliance on retrospective self-reported data introduces potential bias, as participants may underreport certain experiences due to apprehension regarding professional consequences. Additionally, focusing exclusively on Finnish physicians restricts the immediate generalizability of the findings to other cultural contexts or non-medical healthcare professions. Future research should prioritize cross-cultural comparative studies to test the universality of these leadership archetypes, alongside longitudinal analyses tracking the long-term impact of destructive leadership on clinician well-being, organizational turnover, and patient care outcomes.

CONCLUSION

This study highlights profound systemic challenges stemming from poor physician leadership across various organizational tiers. The qualitative analysis categorizes seven distinct leadership archetypes—absent, dismissive, autocratic, bully, manipulative, incompetent, and unfair—nested within four overarching themes: lack of support and accessibility, authoritarianism and abuse of power, incompetence and ineffectiveness, and unfairness and discrimination.

These destructive behaviors manifest through a lack of transparency, workload exploitation, psychological harassment, bullying, and gender-based inequity. Because a leader's style directly dictates staff well-being, morale, and retention, organizations must actively address these dynamics. Given that leaders frequently oscillate between constructive and destructive actions, targeted leadership development programs are essential. By explicitly recognizing and confronting the manifestations of poor leadership, healthcare organizations can better foster environments that prioritize collaborative, supportive, and effective medical governance.

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