

IMPROVING LEADERSHIP SKILLS AMONG HOSPITAL PHARMACISTS. A LITERATURE REVIEW

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Abstract

Leadership in hospital pharmacy is important for enhancing the delivery of pharmaceutical care and ensuring patient safety. Recent studies have underscored the complexities within pharmacy leadership, highlighting the importance of tailored strategies to boost leadership competencies, foster effective succession planning, and optimize pharmacist job satisfaction globally. The present review synthesizes findings from previous studies exploring leadership development, succession planning, cultural influences on leadership styles, and job satisfaction among pharmacists working in the hospital pharmacy. A systematic review was conducted by searching PubMed, Scopus, Web of Science, and Google Scholar, using combinations of keywords such as “leadership”, “hospital pharmacy”, “pharmaceutical services”, and related terms. Boolean operators (AND, OR) were used to refine searches and ensure broad coverage of the topic. The included studies were conducted between 2012 and 2024. A total of seven studies were eligible for the evaluation. There is a need for educational interventions that broaden students' perspectives on leadership, emphasizing collaborative influence and goal achievement beyond managerial tasks. The results' emphasis on key skills and attitudes necessary for successors, coupled with the modest succession readiness rate underscores the ongoing efforts required to ensure sustainable leadership in pharmacy departments. The findings advocate for self-assessment among preceptors to improve interactions with students, fostering more cooperative relationships aligned with evolving leadership paradigms. Therefore, the study's findings support the concerted efforts to establish formal succession planning frameworks that ensure organizational stability and cultivate future pharmacy leaders. Disparities in satisfaction related to experience levels and workplace settings highlight areas for improvement, particularly in optimizing working conditions and leadership practices to sustain high levels of job satisfaction among pharmacists. Addressing these complexities requires tailored approaches that enhance leadership competencies, promote effective succession planning, and create supportive work environments conducive to hospital pharmacist satisfaction and professional growth.

Rezumat

Leadership-ul în sectorul farmaciilor din spitale este important pentru îmbunătățirea acordării de asistență farmaceutică și pentru asigurarea îngrijirii pacienților. Studiile recente subliniază complexitatea acestui domeniu, evidențiind importanța strategiilor adaptate pentru stimularea competențelor de conducere, promovarea unei planificări eficiente a succesiunii și optimizarea satisfacției profesionale a farmacistului, la nivel global. Cercetarea prezintă sintetizează constatările din studii care explorează dezvoltarea *leadershipului*, planificarea succesiunii responsabilităților de lider, influențele culturale asupra stilurilor de *leadership* și satisfacția profesională în rândul farmaciștilor din spitale. Au fost luate în considerare PubMed, Scopus, Web of Science și Google Scholar, utilizând combinații de cuvinte cheie precum „*leadership*”, „*hospital pharmacy*”, „*pharmaceutical services*” și termeni înrudiți. Au fost utilizați operatori booleani (AND, OR) pentru rafinarea căutărilor și dezvoltarea subiectului. Perioada considerată a fost 2012 – 2024, cu un total final de șapte studii. Perspectivile studenților cu privire la abilitățile din domeniul de *leadership* se realizează prin influența colaborativă și prin atingerea obiectivelor dincolo de sarcinile manageriale. Evidențierea rezultatelor privind abilitățile și atitudinile cheie necesare succesorilor, împreună cu procentul modest de pregătire pentru succesiunea celor care vor prelua sarcinile, subliniază eforturile continue necesare pentru a asigura un *leadership* durabil. Observațiile susțin auto-evaluarea în rândul preceptorilor pentru a îmbunătăți interacțiunile cu studenții, ceea ce favorizează relații de cooperare mai apropiate de paradigmele de conducere în curs de desfășurare, susținându-se eforturile concertate de a stabili cadre formale de planificare a succesiunii care să asigure stabilitatea organizațională și să cultive viitorii lideri din farmaciile de spital. Disparitățile în ceea ce privește satisfacția legată de nivelurile de experiență și condițiile de muncă evidențiază domeniile care necesită îmbunătățiri, în special în optimizarea factorilor instituționali și a practicilor de conducere pentru a susține niveluri ridicate de satisfacție profesională în rândul acestor specialiști. Soluționarea acestor complexități necesită abordări personalizate care să îmbunătățească competențele de *leadership*, să promoveze o planificare eficientă a succesiunii responsabilităților și să creeze medii de lucru favorabile care să stimuleze satisfacția și dezvoltarea profesională a farmaciștilor din spitale.

Keywords: leadership, hospital pharmacy, pharmaceutical services

Introduction

The increase in life expectancy, the increase in the number of chronic patients, and the need to provide health services to a growing population necessitate hospitals to find effective management strategies in order to ensure high-quality medical services while maintaining profitability. The specialised literature has highlighted several significant issues that hospitals face. First, specialised literature has estimated the number of leaders in hospital pharmacies, predicting a drastic decrease in the management staff due to the need to maintain high medical service standards. Secondly, it is evident that the existing staff are reluctant to occupy pharmaceutical leadership positions in a hospital [8].

An aging pharmacy workforce needs to be replaced with efficient and well-trained leaders, pharmacists who want this position and who are willing to undergo continuous training for this position, who can make a difference in quality and cost, and who deliver to patients. Considering these reasons, hospital pharmacy leadership is essential to improving patient safety, reducing errors, containing costs, and promoting health. A study coordinated by White identified the fact that 80% of pharmacy managers and 76% of pharmacy middle managers would change jobs (many of them moving to retail operations) or retire within a decade, creating the need for 7,000 positions to be needed between 2005 and 2015 [27, 28]. Seven years later, the same author identified the fact that 30% of practitioners indicated an interest in seeking a leadership position during their career; meanwhile, 62% of pharmacy students showed an interest in pharmacy leadership [26]. These data served as a starting point for many universities around the world to introduce various courses for the development of leadership skills in the training curriculum of pharmacy students [9, 12]. Leadership in hospital pharmacy is a crucial aspect of ensuring the delivery of high-quality pharmaceutical care within healthcare settings. Various institutions and organizations offer specialised residency programs and training opportunities to develop leadership skills in pharmacy professionals [22]. For example, the Massachusetts General Hospital, Texas Children's Hospital, and the University of Illinois Health System provide programs focused on Health-System Pharmacy Administration and Leadership. These programs aim at training pharmacists in areas such as pharmacy operations, automation, sterile compounding, process improvement, and residency training [2, 5].

Moreover, some programs, such as the one offered by the University of Kentucky, integrate pharmacy administration and leadership training with a master's degree program, thereby providing a comprehensive educational experience. The American Society of Health-System Pharmacists (ASHP) recognizes the significance of pharmacy practice leadership in promoting

the pharmacist's role in patient care and healthcare delivery [16]. Graduates of specialised residency programs in Health Pharmacy Administration and Leadership are well-prepared to assume leadership positions in hospital pharmacy settings. They are equipped with skills in project management, productivity enhancement, and systematization [21]. These programs lay the foundation for continued growth in management and leadership abilities, enabling pharmacy professionals to lead pharmacy teams effectively and contribute to the overall success of healthcare organizations.

Leadership in hospital pharmacy is essential for optimizing pharmaceutical care delivery and ensuring patient safety. Specialised residency programs and training opportunities play a vital role in developing the leadership skills of pharmacy professionals, enabling them to take on leadership positions within hospital pharmacy settings and contribute to the advancement of pharmacy practice [25]. Additionally, initiatives such as the Healthcare Leadership Series offered by Columbia Business School provide a platform for healthcare industry leaders to share their insights and experiences, further emphasizing the importance of leadership development in healthcare settings. Thus, the present study aims at conducting a comprehensive literature review on leadership in hospital pharmacy, exploring the various aspects and outcomes associated with leadership training and its impact on healthcare delivery.

Pharmacy leaders typically advance through on-the-job training, which remains a prominent route to leadership today. According to a survey conducted in 2009, involving 205 health-system pharmacy leaders, on-the-job training was identified as the primary method for developing leadership skills, whether they had completed residency training or not [19]. Respondents also highlighted other avenues to leadership, such as mentorship, personal life experiences, and assuming leadership roles within professional organizations. The study authors emphasized that mentorship, networking, and on-the-job training were essential components for cultivating effective leadership in pharmacy.

Lately, pharmacy education has integrated leadership development directly into the Doctor of Pharmacy (PharmD) curriculum. This evolution ensures students have ongoing leadership opportunities over their four years of study, as outlined by the Accreditation Council for Pharmacy Education (ACPE). ACPE guidelines mandate that admissions criteria for PharmD candidates consider their leadership qualities. Additionally, the institutions are required to establish student government or committees to foster leadership, professionalism, and communication skills.

Professional student organizations play a pivotal role by offering leadership experiences through committees, student officer roles, and involvement in initiatives like patient care projects, business plan competitions, and clinical skills competitions [14]. Pharmacy fraternities

complement these efforts with seminars focused on leadership development and by providing leadership positions. Moreover, faculty, staff, and preceptors are crucial in nurturing the leadership and professionalism of PharmD candidates. Programs and longitudinal tracks specifically dedicated to leadership further enhance these educational efforts across pharmacy colleges. The American Society of Health-System Pharmacists (ASHP) aligns with ACPE standards and emphasizes leadership development in the PharmD curriculum, pharmacy internships, and residency programs or equivalents. Their position statement promotes mentorship for current leaders and prepares practitioners for leadership roles by focusing on administrative, managerial, and leadership skills. ASHP advocated for pharmacy colleges to enhance leadership training, introduce combined degree programs, and encourage student participation in leadership conferences, residency programs, and medication safety and management experiences. These principles are supported by the American Association of Colleges of Pharmacy (AACP) [14].

Materials and Methods

This literature review aimed at synthesizing current research on leadership within hospital pharmacy settings. The review process involved several systematic steps to identify relevant studies and extract pertinent information. The following subsections outline the methodology employed:

Search Strategy

A comprehensive search strategy was developed to identify relevant literature on leadership in hospital pharmacy. Electronic databases including PubMed, Scopus, Web of Science, and Google Scholar were searched using combinations of keywords such as “leadership”, “hospital pharmacy”, “pharmaceutical services”, and related terms. Boolean operators (AND, OR) were used to refine searches and ensure broad coverage of the topic.

Study Selection and Data Extraction

Initially, studies were screened based on their titles and abstracts to assess their relevance to the topic of leadership in hospital pharmacy. Studies not written in English were excluded at this stage. Full texts of potentially relevant articles were then retrieved and further assessed against inclusion criteria.

Data extraction was performed using a structured form to capture key information from each included study. The extracted data included study objectives, methods, key findings related to leadership in hospital pharmacy, and any theoretical frameworks or models used to analyse leadership behaviours or outcomes.

Inclusion and Exclusion Criteria

Articles were included if they focused on leadership roles, styles, challenges, or outcomes specifically within the context of hospital pharmacy settings. Studies exploring leadership in other healthcare contexts (*e.g.*, community pharmacy or general healthcare management) were excluded unless they provided direct relevance or comparison to hospital pharmacy settings. The included studies were conducted between 2012 and 2024.

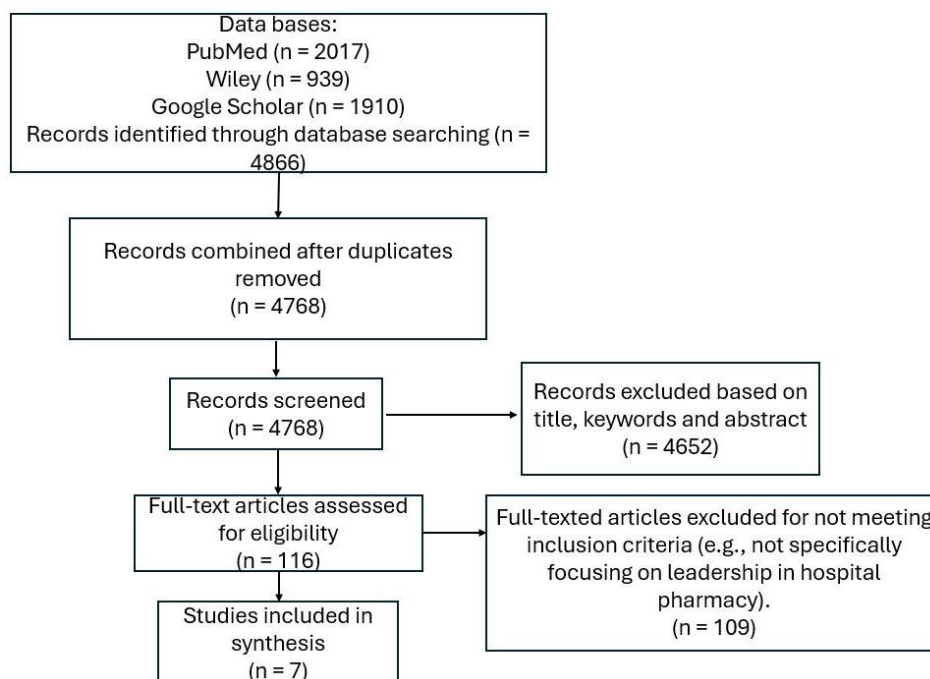


Figure 1.
Flow diagram

Synthesis of Results

Findings from the included studies were synthesized thematically to identify common themes, patterns, and discrepancies related to leadership in hospital pharmacy. This synthesis is aimed at providing a comprehensive overview of the current state of knowledge, including emerging trends or gaps in research (Figure 1).

Results*Study Selection*

Study selection was conducted using the Google Scholar and PubMed databases. Studies specifically focusing on leadership in hospital pharmacies were selected. In total, 7 studies were found that met the inclusion criteria and were considered for the present review, as presented in Table I.

Table I
Study characteristics

Authors(s) and Year	Title	Country	Number of participants	Instruments used	Type of study
Zeineddine <i>et al.</i> , 2023	The association of management and leadership competencies with work satisfaction among pharmacists in Lebanon	Lebanon	415	Leadership Skills Questionnaire Short Index of Job Satisfaction (SIJS)	Cross-sectional
Anuratpanich, 2015	Pharmacy Leadership Development: A case study of JCI accredited private hospitals in Thailand	Thailand	Not specified an exact number	The research questionnaires were organised into four groups of questions: General Information: This section included 7 items related to the type of hospital, highest education level, interest in becoming a department head, amount of training hours, formal development efforts by supervisors, and self-development methods. The questions were a mix of fill-in-the-blank, multiple-choice, and yes/no responses. Current Development for Succession Preparation: This section allowed for more than one answer and covered the types of courses and development options available. Necessary Knowledge-Skills-Attitude for Successors: This consisted of 3 sections with open-ended questions. Succession Readiness Level of the Successors: Rated by their current department head on a 1-5 scale.	Mixed approach
Dumont <i>et al.</i> , 2018	Leadership Succession Preparedness and Sense of Urgency in Canadian Hospital Pharmacy	Canada	83	Online Survey Tool: Conducted using REDCap, comprising 22 questions (1 icebreaker, 15 on succession planning, 5 demographics and 1 call to action).	Survey-based Descriptive study
Tran <i>et al.</i> , 2023	Job satisfaction of hospital pharmacists in a representative province in Mekong Delta, Vietnam	Vietnam	235	Self-Administered Questionnaire – included four dimensions with 37 items in total: work environment, leadership and colleagues, internal regulation, income, and benefits, work, training, and promoting opportunities Overall, Job Satisfaction (OJS) – seven items assessing overall job satisfaction.	Cross-sectional
Al-Diery <i>et al.</i> , 2024	Empowering early career pharmacists: Unleashing non-clinical competencies through pharmacy residency	Australia	22	Semi-structured interviews	Qualitative
Khanfar <i>et al.</i> , 2012	Cultural Differences in Leadership Styles of Pharmacists Preceptors	USA	506	The Style Questionnaire – contains a total of 20 items using a 5-point Likert scale to assess agreement with certain behaviors. Demographic Scale	Cross-sectional
Murry <i>et al.</i> , 2024	An Exploratory Qualitative Study of Student Pharmacists Perspectives on Leadership	USA	32	4 open-ended questions about leadership	Qualitative

Study Characteristics

A total of 7 studies were included in our literature review. The studies were conducted between 2012 and 2024, in different countries such as the USA (N = 2), Lebanon (N = 1), Thailand (N = 1), Canada (N = 1), Australia (N = 1), and Vietnam (N = 1). All studies focused on leadership in hospital pharmacies. Most of the studies were cross-sectional (N = 4), followed by qualitative studies (N = 3).

Leadership Instruments and Other Tools

Leadership Skills Questionnaire measures three types of leadership skills with 6 questions each, such as administrative, interpersonal, and conceptual [17]. This tool comprises 18 items, each measured on a 5-point Likert scale ranging from 1 (not true) to 5 (very true). After summing up, a higher score indicated a higher level of leadership.

Leadership Development and Succession Planning. This survey questionnaire was developed by authors using information from articles on leadership development and succession planning [3]. Its content and face validity were verified with the heads of pharmacy departments in other public hospitals, achieving a Cronbach's alpha coefficient of 94%. The questionnaire included four groups of questions: general information (7 items), current development for succession preparation (multiple-choice), necessary knowledge, skills, and attitudes for successors (open-ended), and succession readiness level rated by department heads (1 - 5 scale).

The Style Questionnaire consists of 20 questions using a 5-point Likert scale to measure agreement with specific behaviours [15]. Ten questions assess task orientation, and ten assess relationship orientation. The scoring of the leadership style questions was divided into two subscales: task-oriented and relationship-oriented behaviours. Task behaviour involved defining duties, giving directions, and setting goals, while relationship behaviour involved communication, listening, encouragement, and coaching. Each subscale consisted of 10 questions, with scores ranging from 10 to 50. A score of 40 or more indicated high engagement, while a score of 39 or less indicated low engagement. The four leadership styles identified are: (1) Authoritarian: high task, low relationship; (2) Delegator: low task, low relationship; (3) Participator: low task, high relationship; and (4) Salesperson: high task, high relationship.

Another instrument used to measure leadership was a dimension from a questionnaire that was a part of a broader survey that assessed various factors influencing hospital pharmacist job satisfaction [24]. This questionnaire included four key dimensions, such as the work environment, leadership and colleagues, internal regulation, income, and benefits, work, training, and promoting opportunities. Each dimension was composed of several items, with a total of 37 items across all four dimensions. The items represented issues that

might impact job satisfaction, with the leadership and colleagues' dimension specifically measuring aspects related to leadership within the hospital pharmacy context.

Other tools

The Short Index of Job Satisfaction was used to assess work satisfaction. It is a 5-item self-report psychometric instrument, where participants responded on a 5-point scale as follows: 1 (strongly disagree), 2 (disagree), 3 (undecided), 4 (agree), and 5 (strongly agree) [23]. A high total score indicated high job satisfaction.

Another instrument for measuring job satisfaction was used [24]. Items were designed based on the job satisfaction assessment tool published by the Vietnam Ministry of Health. The instrument consisted of 7 items rated on a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

Pharmacy Leadership Development

The study conducted by Anuratpanich [3] explored development in a Joint Commission International standard (JCI) accredited private hospital, known for its trustworthiness and professionalism. It identified a deficiency in succession readiness, impacting leadership management consistency, crucial for maintaining care and service standards. The low inclination to become department heads emerged as a significant issue, potentially hindering succession preparedness in public hospital pharmacies. Recommendations include establishing a systematic leadership development process tailored to hospital pharmacy contexts, supported by national associations like the Association of Hospital Pharmacy (Thailand). Private hospitals prioritize high standards of care and safety under JCI accreditation. Effective department heads are pivotal in multidisciplinary teams, necessitating robust development efforts. The study employed survey questionnaires among department heads of JCI-accredited hospitals, revealing key development methods, knowledge areas, skills, and attitudes deemed essential for successors.

Key findings include the predominance of on-the-job and formal training, focusing on professional and leadership-management knowledge. Critical successor skills include decision-making, systematic thinking, and communication. Desired attitudes for successors encompass moral integrity, positive thinking, good governance, and diversity acceptance. Succession readiness among current successors was found to be 28.6%, indicating ongoing efforts were crucial for sustaining pharmacy department excellence.

In conclusion, the study underscored the necessity for continuous leadership development and succession planning to ensure the future sustainability and effectiveness of pharmacy departments in both private and public healthcare settings.

Perspectives on Leadership

Murry and their colleagues [18] conducted a qualitative study aimed at delving into the perceptions of leadership

among student pharmacists, focusing on their understanding of leadership characteristics and behaviours, as well as identifying instances where they observed or demonstrated leadership. Data were gathered from 32 students enrolled in a pharmacy leadership elective who submitted reflective writings on their definitions of leadership, descriptions of leadership traits, observations of leadership in practice, and instances where they felt they exhibited leadership.

Through an inductive constant comparative analysis using NVivo, the researchers categorised the reflection into three main themes: leader characteristics, leading behaviours, and leadership contexts. In terms of leader characteristics, the students identified specific traits and attributes which they associated with effective leaders, such as communication skills, integrity, and decision-making abilities. The leading behaviours category encompassed the actions and behaviours that students believed were indicative of leadership. Examples included taking initiative, motivating others, and managing tasks or projects. However, regarding leadership contexts, the students discussed the contexts in which they observed or enacted leadership. This included formal roles like leadership positions within organizations or teams, as well as informal settings where they took charge during group projects or clinical rotations.

An overarching theme emerged from the analysis termed “Leadership Contradictions”, highlighting discrepancies between students' conceptual understanding of leadership and their practical examples. While students could articulate leadership characteristics and behaviours theoretically, their examples often emphasized roles with formal titles or task-focused responsibilities. This discrepancy suggested that students might initially equate leadership primarily with managerial roles or specific task-oriented duties, potentially overlooking leadership's broader aspects of influence, collaboration, and goal achievement.

The study concluded by suggesting that additional educational interventions might be necessary to broaden students' perspectives on leadership. These interventions could include diverse activities and experiences designed to demonstrate that leadership extends beyond formal positions. Emphasizing leadership's role in influencing and supporting team goals collaboratively could better prepare future pharmacists to effectively lead within interdisciplinary healthcare teams.

On the same note, Al-Diery and their colleagues [1] conducted a qualitative study through semi-structured interviews. This study demonstrated that competency development in pharmacy residency is perceived to be most effective when there is a clear program structure with guidance for pre-defined activities, tasks, and outcomes, complemented by skills-building courses or modules to help consolidate the necessary knowledge and skills to achieve that competency. Of

the competencies evaluated, pharmacy residency had its biggest impact on the “conducting education” competency because it had clear pre-defined objectives and activities that were known to be effective for competency development, such as precepting, teaching, and presenting to different staff. It was further strengthened with a clinical education course which helped give residents a baseline understanding of how to teach and conduct education prior to gaining experience on the job. Residency was not perceived to support the development of leadership and innovation competencies in the same manner. In conclusion, future research is needed to evaluate the feasibility and impact of introducing leadership skills-building courses and the potential embedment of pharmacy residents with quality improvement experts to help support competency development during pharmacy residency.

Cultural Differences in Leadership Styles

The study conducted by Khanfar and their colleagues on cultural differences in leadership styles of pharmacist preceptors focused on pharmacist preceptors' leadership styles, highlighting their roles in multicultural teams and patient care [15]. The survey of 131 preceptors, evenly split between genders, revealed predominant selling leadership styles, though shifts towards participative and delegating styles were noted. Cultural factors such as multilingualism and managerial roles significantly influenced leadership styles, particularly in task orientation. Understanding these dynamics can mitigate conflicts and enhance teamwork effectiveness. The findings supported self-assessment among preceptors to improve interactions with students, fostering cooperative relationships. Overall, the study has provided valuable insights for enhancing pharmacist leadership and preparing for healthcare reforms like the Affordable Care Act.

Leadership Succession Preparedness

In their research about leadership succession preparedness in hospital pharmacy, Dumont and their colleagues conducted an environmental scan of Canadian hospital pharmacy leaders [7]. They aimed at gathering a contemporary, nationwide measure of succession planning readiness and to glean insights from pharmacy leaders across the country. The study utilised an online survey to collect data from 83 respondents, including pharmacy leaders from various Canadian hospital settings. Only 16% of respondents reported having a formal succession plan in their pharmacy departments, and a similar percentage were aware of designated successors. The overwhelming majority (85%) perceived succession planning as rare or non-existent across Canadian hospital pharmacy departments.

Despite the low implementation rate, 72% of the respondents acknowledged the necessity of succession planning for their own leadership positions. The study identified key barriers to effective succession planning,

including the absence of formal structures or tools, challenges in plan implementation, unionization issues, and limited career progression pathways within the pharmacy departments. Conversely, factors facilitating succession planning efforts included strong existing leadership and a pool of capable potential successors. They underscored the critical need for proactive measures to establish and enhance succession planning in Canadian hospital pharmacy departments. They emphasized that fostering effective leadership transitions not only ensured organizational stability but also cultivated the next generation of pharmacy leaders, thereby advancing the profession as a whole.

Leadership and job satisfaction of hospital pharmacists

Tran and their colleagues [24] conducted a study aimed at assessing job satisfaction among hospital pharmacists in Vinh Long province, Vietnam, a representative area of the central Mekong Delta, with a focus on factors influencing satisfaction. Conducted as a cross-sectional survey from August to September 2022, it achieved a high response rate of 97.1% with 235 participants. Key findings indicated that 80.4% of pharmacists reported job satisfaction. Factors significantly influenced satisfaction included working conditions, leadership styles, and benefits. Pharmacists with 3 - 5 years of experience, with over 5 years of experience, with no additional duties beyond primary responsibilities, and those working in private healthcare facilities were notably more likely to be satisfied with their job.

Moreover, another study found that leadership competencies among pharmacists were positively linked to job satisfaction, consistent with similar findings from studies in the Netherlands and Texas [11, 29]. Regional differences within Lebanon affect these competencies, likely influenced by urbanization and socioeconomic factors. Pharmacists generally excel in problem-solving and resource management, which is consistent with findings from international studies [13]. Personal characteristics, such as marital status, significantly predict management competencies, with married pharmacists showing lower levels, possibly due to increased domestic responsibilities [6]. Surprisingly, there was no significant difference in leadership skills between pharmacy students and graduates, suggesting effective curriculum integration [10].

Contrary to some global findings, higher education levels did not consistently correlate with increased job satisfaction among Lebanese pharmacists, highlighting issues such as recognition and remuneration discrepancies [4, 20]. Further research is needed to validate these findings and explore additional factors influencing leadership and job satisfaction in pharmacy practice.

Discussion

The studies reviewed provide valuable insights into leadership development, succession planning, cultural

influences on leadership styles, and job satisfaction among pharmacists. Each study contributes unique perspectives that collectively enhance our understanding of the complexities within pharmacy leadership and the factors influencing pharmacist job satisfaction.

Anuratpanich [3] highlighted deficiencies in succession readiness within JCI-accredited private hospitals, underscoring the critical need for structured leadership development and support from professional associations. Murry *et al.* revealed student pharmacists' nuanced perceptions of leadership, identifying discrepancies in their conceptualization *versus* practical examples, necessitating educational interventions to broaden leadership perspectives [18].

Khanfar *et al.* [15] explored cultural influences on pharmacist preceptors' leadership styles, emphasizing shifts towards participative and delegating styles amidst multicultural contexts.

Dumont *et al.* [7] reported limited succession planning readiness among Canadian hospital pharmacy leaders, advocating for systemic improvements to ensure organizational stability.

Tran *et al.* [24] found high job satisfaction among hospital pharmacists in Vinh Long province, Vietnam, influenced by favourable working conditions and leadership practices

Anuratpanich's study [3] emphasized the critical need for robust leadership development and succession planning in hospital pharmacy settings, particularly in JCI-accredited private hospitals. The findings underscored a deficiency in succession readiness, posing challenges to maintaining consistent leadership-management standards essential for quality care. The identified barriers, including a reluctance among pharmacists to assume department head roles, highlighted the necessity for tailored leadership development programs and structural support from national pharmacy associations like the Association of Hospital Pharmacy (Thailand). The study's emphasis on key skills and attitudes necessary for successors, coupled with the modest succession readiness rate, underscored the ongoing efforts required to ensure sustainable leadership in pharmacy departments.

Murry *et al.* [18] provided insights into student pharmacists' perceptions of leadership, revealing a nuanced understanding of leadership characteristics and behaviours. Their qualitative approach highlighted discrepancies termed "Leadership Contradictions" where students often equated leadership with formal roles or task-oriented responsibilities, potentially overlooking leadership's broader aspects. This gap suggests a need for educational interventions that broaden students' perspectives on leadership, emphasizing collaborative influence and goal achievement beyond managerial tasks. Such interventions could better prepare future pharmacists to navigate complex interdisciplinary healthcare teams effectively.

The study conducted by Al-Diery and colleagues [1] through qualitative analysis of pharmacy residency programs provided valuable insights into competency development and its implications for pharmacy practice. The findings emphasized the importance of the educational programs in developing this competency in pharmacists, mentioning the crucial role of activities and tasks that can develop the “conducting education” competency. Also, by integrating the clinical skills in practical settings, pharmacists can be better equipped to teaching, disseminating knowledge and conducting research in order to adjust themselves to diverse groups of audience.

However, the study also revealed a perceived gap in the development of leadership and innovation competencies within pharmacy residency programs. Unlike the clear support seen for educational competencies, leadership and innovation skills were not reported to receive comparable attention or structured development pathways. This finding suggests a potential area for improvement in residency curriculum design and implementation.

Khanfar *et al.* [15] explored cultural influences on leadership styles among pharmacist preceptors, noting predominant selling leadership styles with emerging shifts towards participative and delegating styles. The study underscored the impact of cultural factors such as multilingualism and managerial roles on leadership orientations, particularly in task-oriented settings. Understanding these dynamics is crucial for mitigating conflicts and enhancing teamwork effectiveness within multicultural pharmacy environments. The findings advocate for self-assessment among preceptors to improve interactions with students, fostering more cooperative relationships aligned with evolving leadership paradigms.

Dumont *et al.* [7] conducted an environmental scan of Canadian hospital pharmacy leaders, revealing a stark reality of limited succession planning readiness across pharmacy departments. Despite acknowledging the necessity of succession planning, a minority of respondents reported having formal succession plans or designated successors. The identified barriers, including structural deficiencies and unionization issues, underscored systemic challenges requiring proactive solutions to foster effective leadership transitions. The study's findings advocate for concerted efforts to establish formal succession planning frameworks that ensure organizational stability and cultivate future pharmacy leaders.

Tran *et al.* [24] investigated job satisfaction among hospital pharmacists in Vinh Long province, Vietnam, identifying significant influences from working conditions, leadership styles, and employment benefits. The high job satisfaction reported among pharmacists underscored the importance of supportive work environments in enhancing professional fulfilment. However, disparities in satisfaction related to experience

levels and workplace settings highlighted areas for improvement, particularly in optimizing working conditions and leadership practices to sustain high levels of job satisfaction among pharmacists.

The study conducted by Zeineddine *et al.* [29] provided insightful findings regarding leadership competencies and their impact on job satisfaction among pharmacists. Their research highlighted a positive correlation between leadership competencies and job satisfaction, which aligned with similar conclusions drawn from studies conducted in other regions based on similar factors and research criteria (such as the Netherlands and Texas) [11]. The positive relationship identified suggested that pharmacists who possessed strong leadership skills tended to experience higher levels of job satisfaction. This finding under-scored the importance of leadership development within pharmacy education and professional training programs. Effective leadership in pharmacy practice is likely to enhance organizational effectiveness, team dynamics, and overall the job fulfilment among pharmacists. However, the study's findings also prompted further exploration into specific aspects of leadership that contributed most significantly to job satisfaction among pharmacists. It would be beneficial for future research to delve deeper into the types of leadership behaviours or skills that correlate most strongly with positive job outcomes in pharmacy settings.

Conclusions

The collective findings from these studies underscore the multidimensional nature of leadership in pharmacy practice and its profound impact on job satisfaction. Addressing these complexities requires tailored approaches that enhance leadership competencies, promote effective succession planning, and create supportive work environments conducive to pharmacist satisfaction and professional growth. Future research should continue to explore these dynamics across diverse pharmacy settings, informing evidence-based strategies to optimize pharmacy leadership and workforce outcomes globally.

Conflict of interest

The authors declare no conflict of interest.

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