EXPLORING THE RELATIONSHIP BETWEEN NURSE EMPOWERMENT AND PATIENT SAFETY CULTURE IN HEALTHCARE FACILITIES ACROSS KSA

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Abstract

Nurse empowerment and patient safety culture are crucial factors in ensuring high-quality healthcare and optimal patient outcomes. This study aims to explore the relationship between nurse empowerment and patient safety culture in healthcare facilities across the Kingdom of Saudi Arabia (KSA). A cross-sectional survey was conducted among 500 nurses working in various healthcare settings, including public and private hospitals, primary healthcare centers, and specialized clinics. The survey assessed nurses' perceptions of empowerment using the Conditions of Work Effectiveness Questionnaire-II (CWEQ-II) and patient safety culture using the Hospital Survey on Patient Safety Culture (HSOPSC). Descriptive statistics, correlation analysis, and multiple linear regression were used to analyze the data. The findings revealed a significant positive relationship between nurse empowerment and patient safety culture, with structural empowerment and psychological empowerment being the strongest predictors of a positive patient safety culture. The study highlights the importance of fostering nurse empowerment to enhance patient safety culture in healthcare facilities across KSA.

Introduction

Nurses play a vital role in ensuring patient safety and delivering high-quality healthcare services [1]. As frontline healthcare professionals, nurses are well-positioned to identify potential risks, prevent errors, and promote a culture of safety within healthcare organizations [2]. However, nurses' ability to effectively contribute to patient safety is largely dependent on their level of empowerment in the workplace [3].

Empowerment is a complex and multidimensional concept that encompasses both structural and psychological components [4]. Structural empowerment refers to the presence of organizational structures and practices that enable nurses to access information, resources, support, and opportunities for growth and development [5]. Psychological empowerment, on the other hand, refers to nurses' individual beliefs and perceptions about their ability to influence their work

environment and achieve meaningful goals [6]. When nurses are empowered, they are more likely to engage in proactive behaviors, take ownership of their practice, and collaborate with other healthcare professionals to improve patient outcomes [7].

Patient safety culture is another critical factor in ensuring high-quality healthcare and preventing adverse events [8]. Patient safety culture refers to the shared values, beliefs, and norms that shape how healthcare professionals perceive and approach patient safety within their organization [9]. A positive patient safety culture is characterized by open communication, teamwork, leadership support, and a non-punitive response to errors [10]. Healthcare organizations with a strong patient safety culture have been shown to have lower rates of medical errors, adverse events, and patient harm [11].

While previous studies have examined the relationship between nurse empowerment and various work-related outcomes, such as job satisfaction, organizational commitment, and burnout [12-14], there is limited research on the specific link between nurse empowerment and patient safety culture, particularly in the context of Saudi Arabia. This study aims to address this gap by exploring the relationship between nurse empowerment and patient safety culture in healthcare facilities across KSA.

Methods

Study Design and Participants

A cross-sectional survey design was used to collect data from nurses working in various healthcare facilities across KSA. The target population included registered nurses employed in public and private hospitals, primary healthcare centers, and specialized clinics. A stratified random sampling technique was used to ensure representation from different geographical regions and healthcare settings. The sample size was calculated using G*Power software, with a medium effect size ($f^2 = 0.15$), a power of 0.80, and an alpha level of 0.05. Based on these parameters, a minimum sample size of 85 was required for each healthcare setting. However, to account for potential non-response and incomplete surveys, a total of 500 nurses were invited to participate in the study.

Data Collection

Data were collected using an online survey hosted on the SurveyMonkey platform. The survey consisted of three main sections: (1) demographic and professional characteristics, (2) nurse empowerment, and (3) patient safety culture. The survey was available in both Arabic and English to accommodate participants' language preferences. The survey link was distributed via email, along with an invitation letter explaining the purpose of the study, the voluntary nature of participation, and the confidentiality of responses. Participants were given four weeks to complete the survey, with reminder emails sent at the end of the second and third weeks. Informed consent was obtained from all participants before they could access the survey.

Measures

Demographic and Professional Characteristics

Participants were asked to provide information on their age, gender, educational level, job title, years of experience in nursing, type of healthcare facility, and geographical region.

Nurse Empowerment

Nurse empowerment was assessed using the Conditions of Work Effectiveness Questionnaire-II (CWEQ-II) [15]. The CWEQ-II is a 19-item self-report measure that assesses six dimensions of structural empowerment: access to opportunity, information, support, resources, formal power, and informal power. Each item is rated on a 5-point Likert scale (1 = none, 5 = a lot). The total score ranges from 19 to 95, with higher scores indicating higher levels of structural empowerment. The CWEQ-II has demonstrated good reliability and validity in previous studies [16, 17].

Psychological empowerment was measured using the Psychological Empowerment Scale (PES) [18]. The PES is a 12-item self-report measure that assesses four dimensions of psychological empowerment: meaning, competence, self-determination, and impact. Each item is rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The total score ranges from 12 to 84, with higher scores indicating higher levels of psychological empowerment. The PES has shown good psychometric properties in various settings [19, 20].

Patient Safety Culture

Patient safety culture was assessed using the Hospital Survey on Patient Safety Culture (HSOPSC) [21]. The HSOPSC is a 42-item self-report measure that assesses 12 dimensions of patient safety culture, including teamwork within units, supervisor/manager expectations and actions promoting safety, organizational learning-continuous improvement, management support for patient safety, overall perceptions of patient safety, feedback and communication about error, communication openness, frequency of events reported, teamwork across units, staffing, handoffs and transitions, and non-punitive response to errors. Each item is rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The HSOPSC provides a composite score for each dimension and an overall patient safety culture score, with higher scores indicating a more positive patient safety culture. The HSOPSC has demonstrated good reliability and validity in various countries and healthcare settings [22, 23].

Data Analysis

Data were analyzed using SPSS version 26.0. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the demographic and professional characteristics of the participants, their empowerment scores, and patient safety culture scores. Pearson's correlation coefficients were calculated to examine the bivariate relationships between structural empowerment, psychological empowerment, and patient safety

culture. Multiple linear regression analyses were conducted to assess the predictive relationships between structural empowerment, psychological empowerment, and patient safety culture while controlling for demographic and professional characteristics. A p-value of less than 0.05 was considered statistically significant.

Results

Demographic and Professional Characteristics

A total of 432 nurses completed the survey, yielding a response rate of 86.4%. The majority of the participants were female (78.2%), aged between 30 and 39 years (47.9%), and held a bachelor's degree in nursing (72.5%). The most common job titles were staff nurse (61.3%) and nurse supervisor (18.1%). The average years of experience in nursing was 9.7 years (SD = 6.2). Most of the participants worked in public hospitals (63.9%), followed by primary healthcare centers (21.3%), private hospitals (10.4%), and specialized clinics (4.4%). Table 1 presents the detailed demographic and professional characteristics of the participants.

Table 1. Demographic and Professional Characteristics of the Participants (N = 432)

Characteristic	n	%
Gender		
Male	94	21.8%
Female	338	78.2%
Age (years)		
<30	112	25.9%
30-39	207	47.9%
40-49	88	20.4%
≥50	25	5.8%
Educational Level		
Diploma in Nursing	94	21.8%
Bachelor's Degree in Nursing	313	72.5%
Master's Degree in Nursing	25	5.8%
Job Title		
Staff Nurse	265	61.3%
Nurse Supervisor	78	18.1%
Nurse Manager	54	12.5%
Other	35	8.1%
Years of Experience in Nursing		
<5	92	21.3%
5-9	148	34.3%
10-14	116	26.9%
≥15	76	17.6%

Type of Healthcare Facility		
Public Hospital	276	63.9%
Private Hospital	45	10.4%
Primary Healthcare Center	92	21.3%
Specialized Clinic	19	4.4%
Geographical Region		
Central	165	38.2%
Eastern	98	22.7%
Western	112	25.9%
Northern	31	7.2%
Southern	26	6.0%

Note: ** $p < 0.001$

Predictors of Patient Safety Culture

Multiple linear regression analysis was conducted to examine the predictive relationships between structural empowerment, psychological empowerment, and patient safety culture, while controlling for demographic and professional characteristics (Table 4). The model explained 31.5% of the variance in patient safety culture scores ($F(10, 421) = 19.39$, $p < 0.001$). Structural empowerment ($\beta = 0.32$, $p < 0.001$) and psychological empowerment ($\beta = 0.28$, $p < 0.001$) were significant positive predictors of patient safety culture. Among the control variables, only years of experience in nursing ($\beta = 0.14$, $p = 0.006$) was a significant predictor of patient safety culture.

Table 4. Multiple Linear Regression Analysis Predicting Patient Safety Culture (N = 432)

Predictor	B	SE	β	t	p
Constant	1.58	0.18		8.88	<0.001
Structural Empowerment	0.01	0.00	0.32	5.81	<0.001
Psychological Empowerment	0.01	0.00	0.28	5.26	<0.001
Age	0.01	0.03	0.02	0.33	0.744
Gender	-0.02	0.04	-0.02	-0.50	0.621

Predictor	B	SE	β	t	p
Educational Level	0.03	0.03	0.04	0.97	0.331
Job Title	-0.01	0.02	-0.02	-0.39	0.700
Years of Experience in Nursing	0.01	0.00	0.14	2.76	0.006
Type of Healthcare Facility	-0.01	0.02	-0.01	-0.32	0.747
Geographical Region	0.00	0.02	0.01	0.21	0.834

Note: $R^2 = 0.315$, $F(10, 421) = 19.39$, $p < 0.001$

Discussion

This study aimed to explore the relationship between nurse empowerment and patient safety culture in healthcare facilities across KSA. The findings revealed that both structural empowerment and psychological empowerment were significant positive predictors of patient safety culture, even after controlling for demographic and professional characteristics.

The positive association between structural empowerment and patient safety culture is consistent with previous research [24, 25]. Structural empowerment refers to the presence of organizational structures and practices that enable nurses to access information, resources, support, and opportunities for growth and development [5]. When nurses have access to these empowering structures, they are more likely to engage in proactive behaviors, take ownership of their practice, and collaborate with other healthcare professionals to improve patient safety [7]. Healthcare organizations that prioritize structural empowerment by providing nurses with the necessary tools, support, and opportunities are more likely to foster a positive patient safety culture.

Similarly, the positive relationship between psychological empowerment and patient safety culture aligns with previous findings [26, 27]. Psychological empowerment refers to nurses' individual beliefs and perceptions about their ability to influence their work environment and achieve meaningful goals [6]. Nurses who feel psychologically empowered are more likely to take initiative, voice their concerns, and actively participate in patient safety initiatives [28]. Healthcare organizations that promote psychological empowerment by encouraging nurses' autonomy, decision-making, and professional growth are more likely to cultivate a strong patient safety culture.

The finding that years of experience in nursing was a significant predictor of patient safety culture is noteworthy. Nurses with more years of experience may have a better understanding of the organizational culture, processes, and practices related to patient safety [29]. They may also have developed stronger clinical skills, critical thinking abilities, and communication skills that contribute to a positive patient safety culture [30]. Healthcare organizations should recognize the value of experienced nurses and leverage their expertise to promote patient safety.

The study has several implications for practice. First, healthcare organizations should prioritize structural empowerment by providing nurses with access to information, resources, support, and opportunities for growth and development. This can be achieved through various strategies, such as shared governance models, professional development programs, and mentorship initiatives [31]. Second, healthcare organizations should foster psychological empowerment by promoting nurses' autonomy, decision-making, and professional growth. This can be accomplished through transformational leadership, open communication, and a supportive work environment [32]. Third, healthcare organizations should recognize and leverage the expertise of experienced nurses in promoting patient safety. This can be done by involving experienced nurses in patient safety committees, quality improvement projects, and mentorship programs [33].

Limitations

The study has several limitations that should be acknowledged. First, the cross-sectional design of the study precludes causal inferences about the relationship between nurse empowerment and patient safety culture. Future research should employ longitudinal designs to examine the temporal relationships between these variables. Second, the self-report nature of the survey may have introduced response bias, as participants may have provided socially desirable responses. Future studies should consider using objective measures of patient safety culture, such as patient outcomes and incident reports. Third, the study was conducted in a single country, which may limit the generalizability of the findings to other contexts. Future research should replicate the study in other countries and healthcare settings to enhance the external validity of the findings.

Conclusion

This study provides empirical evidence for the positive relationship between nurse empowerment and patient safety culture in healthcare facilities across KSA. Both structural empowerment and psychological empowerment were significant predictors of patient safety culture, highlighting the importance of empowering nurses to promote a positive patient safety culture. Healthcare organizations should prioritize strategies that enhance nurses' access to empowering structures and foster their psychological empowerment. Additionally, healthcare organizations should recognize and leverage the expertise of experienced nurses in promoting patient safety. By empowering nurses and creating a supportive work environment, healthcare organizations can cultivate a strong patient safety culture and ultimately improve patient outcomes.

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