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The Patient Safety Management Activities of Hospital Nurses: An Importance and Performance Analysis

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ABSTRACT

Background: To improve patient safety performance, medical personnel may utilize patient safety systems to perform patient safety nursing activities and suggest future directions for improvement. Patient safety nursing activities refer to systematic activities taken to prevent injuries or accidents during diagnosis, treatment, and other medical services.

Purpose: This study was designed to analyze the importance placed by hospital nurses on patient safety management activities and their actual performance of these activities.

Methods: An importance and performance analysis of patient safety management activities was conducted on 163 nurses with over 1 year of experience working at one of three hospitals in South Korea. Data were collected using questionnaires prepared based on criteria related to nurse-implemented patient safety management activities (three areas, 15 categories, 104 questions).

Results: The average score for the importance of the developed patient safety management activities was 3.65 (*SD* = 0.14), and the average performance score was 3.42 (*SD* = 0.211). Using distinct importance and performance analysis frames, items corresponding to the "concentrate here" area included "securing enough human resources," "provide training for employees," "efforts to prevent violence in institutions and establish a proper organizational culture," "a rapid response system to urgent patient conditions," "checking the correct patients," and "CPR team operating regulations."

Conclusion/Implications for Practice: The indicators for most patient safety management activities indicate their strong performance in South Korean nursing workplaces. To further improve the patient safety management practices of hospital nurses, nursing managers should create nursing work environments that promote safety activity performance efficacy.

KEY WORDS:
importance, performance, patient safety, nurses.

Introduction

Patient safety is defined as "the absence of preventable harm to a patient and reduction of risk of unnecessary harm associated with health care to an acceptable minimum" (World Health Organization [WHO], 2023). Because all patients have a basic right to receive healthcare in a safe medical environment, increasing recognition of the importance of patient safety has catalyzed the formation of international and national quality and safety alliances to set related priorities and shape supportive policies (Hibbert et al., 2023).

The 2018 WHO report that 42.7 million adverse preventable events occur worldwide has raised global patient safety concerns (WHO, 2018). Patient safety, a growing concern among medical professionals, led to the declaration of the first World Patient Safety Day in September 2019 to raise awareness of the importance of patient safety across the globe (Maryville University, 2023). In South Korea, under the Patient Safety Act promulgated in 2016, all medical institutions are responsible for protecting their patients and improving the quality of provided medical services (Korea Institute for Healthcare Accreditation, 2022). Medical personnel use patient safety systems to implement patient safety nursing activities and make suggestions for improving patient safety. In this study, patient safety nursing activities refer to systematic activities taken to prevent injuries and accidents during diagnoses, treatments, and the provision of other medical services (Agency for Healthcare Research and Quality, 2018).

Nurses play an important role in improving patient safety because they account for a major proportion of the healthcare workforce and interact regularly with patients (Gwen & Jane, 2015; Warburton, 2009). With the growing importance of nurses in patient safety management activities, studies on patient safety management activities have been conducted in South Korea since 2010 (Paek & Jeon, 2021). Importantly, a positive relationship between perceived importance of patient safety management and the effectiveness of patient

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safety management activities has been identified in nurses (Park, 2020). However, to date, few studies have investigated the performance of nurses with regard to patient safety management activities. Although a significant difference in recognition of the importance and the performance of patient safety management in nurses was identified in one prior study, only nurses from one hospital were included (Hwang et al., 2016). Thus, additional research on this issue is required.

Importantly, the patient safety management activities investigated in previous studies do not include all of the varied tasks involved in clinical nursing. Moreover, the scope of work areas covered in each study is different. Thus, comparisons among study results are difficult. Criteria for evaluating medical institutions in terms of patient safety have been proposed, but the diverse roles targeted (e.g., doctors, nurses, medical institution workers, and medical institutions) necessitate a focus on patient safety management activities for nursing work. Therefore, inspecting the patient safety management activities provided by hospital nurses is crucial to improving hospital care quality, ensuring patient safety, and providing efficient patient safety care.

Importance–performance analysis (IPA) has the advantage of being visually easier to distinguish and use than other advanced analytical techniques as well as of providing useful information that enables practitioners with cost and time limitations to prioritize tasks (Abalo et al., 2007; Hammit et al., 1996). A comparative analysis of importance and performance to confirm the degree of perception of patient safety management activities by hospital nurses may be expected to simplify the process of identifying issues in need of improvement. In this study, IPA was used to identify important but relatively low-performance items among the many safety management activities of general hospital nurses to provide a practical basis for improving patient safety. Also, the evidence provided by this study may be used to conduct IPAs of hospital nurses' patient safety management activities in order to achieve more effective patient safety nursing.

Methods

Study Design

A descriptive quantitative cross-sectional design using a survey methodology was adopted to identify the importance hospital nurses place on safety management activities and their level of success in performing these activities.

Measures

Patient safety management activity items

(1) Select Patient Safety Management Activity Items: A comprehensive list of indicators was compiled from authoritative sources and validated using expert review. According to the Organization for Economic Cooperation and Development (Slawomirski et al., 2017), key performance indicators for patient safety include adherence to established safety practices and processes (e.g., hand hygiene compliance) and measurable outcomes (e.g., readmission, infection, and mortality rates). In addition, patient-reported measures, including complaints and patient experience, are crucial in assessing the effectiveness of safety management activities.

To accommodate both international standards and domestic healthcare needs, the Ministry of Health and Welfare of Korea (2018), the Seoul National University Hospital (2020), and the Agency for Healthcare Research and Quality (2021) in the United States and the United Kingdom were consulted in this study to identify relevant patient safety indicators. Furthermore, the National Health Services (2021) evaluation standards for medical institutions, the hospital certification standards of the Korea Institute for Healthcare Accreditation (2021), and the WHO Patient Safety Assessment Manual (WHO, 2020) were reviewed to ensure alignment with global best practices.

(2) Expert Panel Review and Content Validity Assessment: To validate the selected indicators and ensure their relevance to nursing work, an expert group comprising five nursing professors with research expertise in patient safety and five nurses with extensive clinical experience was formed. The content validity index (CVI) was calculated based on expert item ratings for relevance, clarity, and comprehensiveness based on a 4-point Likert scale, with 4 indicating *strong agreement* and 1 indicating *strong disagreement*. Items with a CVI score of > .8 were deemed to have high content validity (Hair et al., 2009).

The significant factors of influence on the patient safety management activities of hospital nurses were determined using the abovementioned indicator selection and validation process, ensuring questionnaire items accurately reflect the multifaceted nature of patient safety in healthcare settings and the specific context of hospitals in South Korea.

Types of importance–performance analysis grids

Martilla and James (1977) used the IPA 4-point Likert scale not only for management and marketing strategies but also as a method of simultaneously analyzing how "importance" and "performance" are perceived as key factors (Figure 1), with higher scores indicating a more positive perception by nurses of item importance. In terms of performance, higher performance scores correlate with a more positive perception of performance. The results of the analysis were divided into quadrants based on the mean values of importance and performance, respectively representing activities that (a) should be continued as is, (b) are in need of intensive development, (c) have a low priority, and (d) are overdeveloped (Gould et al., 2002). An IPA partition modified by Abalo et al. (2007) was used in this study. This method identifies item-specific importance, performance values, and attributes as targets for improvement measures to further emphasize "concentrate here" (Figure 2).

Participants and Data Collection

This study targeted nurses with more than 1 year of work experience at three general hospitals located in three regions in

Figure 1

The Original Partitions of the Importance–Performance Analysis Grid (as in Martilla & James, 1977)

South Korea. Participation was voluntary. Using the G*Power 3.1.9.7 program, the sample size of the participants was calculated as 128 to achieve a power of .80, an effect size of 0.5, and a significance level of .05. From January 19 to 25, 2022, an online survey was completed by 164 participants regarding the importance and performance of patient safety management activities. The study was approved by the institutional review boards and hospital nursing departments of each hospital. The nursing departments in the hospital that approved this study guided the recruitment notice with a URL linked to the online survey.

Data Analysis

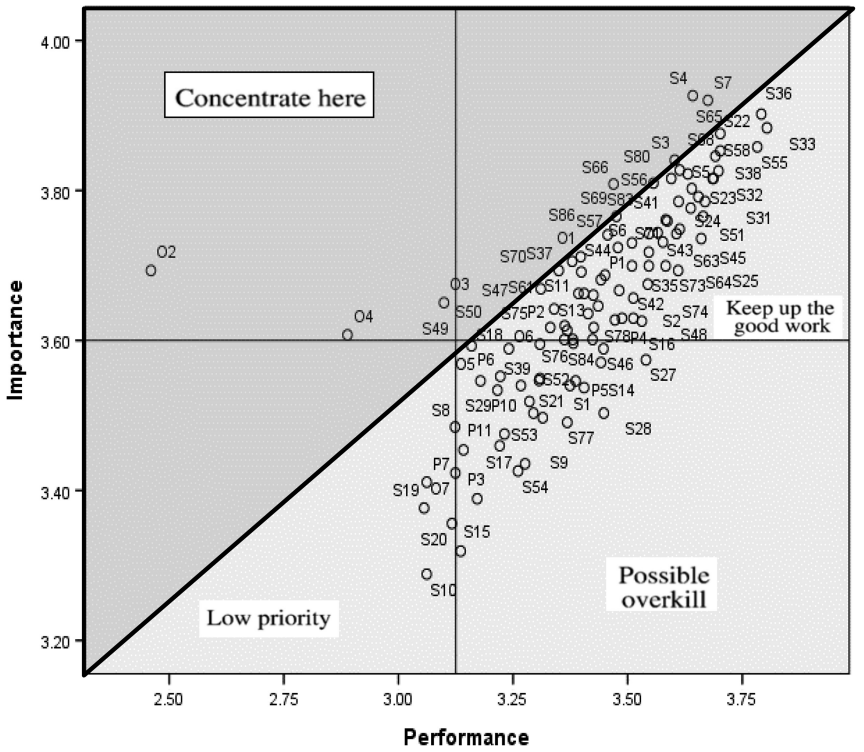
The data were analyzed using IBM SPSS Statistics 25.0 (IBM Corp., Armonk, NY, USA). The content validity of patient safety management activities was evaluated using the item-CVI and scale-CVI scores, and the reliability of patient safety management activities items was verified using Cronbach's alpha coefficients. The importance and performance of patient safety management activities were calculated as means and standard deviations, and the difference in perception between importance and performance was analyzed using Abalo et al.'s (2007) *t* test of the IPA matrix.

Ethical Considerations

Approval was obtained from the institutional review board of CHA Hospital (No. 2021-12-045-002). The researchers explained the purpose of the study and the data collection method to the representative of each hospital's nursing department, and official administrative approval was obtained

Figure 2

The Partitions of the Importance–Performance Analysis Grid (as in Abalo et al., 2007) and Importance–Performance Analysis Results (Refer to Table 2 for the legend)



from the nursing departments of the participating hospitals. The participants in this study were all volunteers who provided informed consent. This study was conducted in line with ethical principles for national and international health science research established under the Helsinki Declaration.

Results

Participants' General Characteristics

Data from 163 of the 164 submitted surveys were analyzed, with one survey excluded from consideration due to incomplete responses. Data on participant characteristics (i.e., gender, educational level, and type of medical institution) were collected. Women accounted for 92% (n = 150) of the sample, 55.8% (n = 91) were in their 20s, 81% held bachelor's degrees (n = 132), 98.2% (n = 160) held a general hospital worker or higher position, and 68.1% (n = 111) worked as general nurses. In terms of clinical experience, 33.7% (n = 55) had worked for more than 3 years and less than 5 years, and 44.2% (n = 72) had worked for more than 1 year and less than 3 years in their current department. Finally, 50.9% (n = 83) worked in special wards.

Content Validity Index and Reliability Scores for Patient Safety Activities

To assess perceptions of patient safety management activities, a preliminary questionnaire was developed based on the findings/recommendations of previous studies. The preliminary item list, encompassing four areas, 17 categories, and 125 items, was configured to simultaneously measure both perceived importance and performance. The average CVI score for the items was .99. After expert group review, the final questionnaire encompassed three areas, 15 categories, and 104 items. The 21 eliminated items were either associated with a low CVI score or were not adequately related to patient safety nursing. This 104-item questionnaire included 86 items related to safe evidence-based clinical practices ("Area S": communication, nursing process, examination, transfusion, medication, pain, surgery/procedure, emergency, falling, bedsore, infection), 11 items related to respect and protect patient rights ("Area P": patient rights, patient participation), and seven items related to organizational management ("Area O": human resource management, quality/performance management). Reliability analysis for the final tool was conducted, and the Cronbach's alpha for this study was .983. (Table 1)

Table 1

Reliability Analysis of Patient Safety Management Activities (N = 163)

Category/Item	Cronbach's α
Safe, evidenced-based clinical practices	
Communication	.867
Nursing process	.901
Examination	.882
Transfusion	.806
Medication	.927
Pain	.845
Surgery/procedure	.882
Emergency	.857
Falling	.893
Bedsores	.898
Infection	.886
Total by category	.979
Respect and protect patient rights	
Patient rights	.890
Patient participation	.865
Total by category	.924
Organizational management	
Human resource management	.806
Quality/performance management	.896
Total by category	.894
Total	.983

Importance and Performance Analysis of Patient Safety Activities

The average importance and performance scores for patient safety management activity items were, respectively, 3.65 ± 0.14 and 3.42 ± 0.21. In terms of area scores, these scores were, respectively, 3.67 ± 0.14 and 3.47 ± 0.17 for Area S, 3.54 ± 0.10 and 3.29 ± 0.14 for Area P, and 3.60 ± 0.10 and 3.07 ± 0.31 for Area O (Table 2).

The coordinate points for the 104 items were plotted on a plane based on the x- and y-axes, and the mean values for all of the items and for performance were used as the split line to create a four-sector grid plot (Figure 1). As shown in Figure 2, items O2, 3, 4, S4, 7, 66 fell into the "concentrate here" area; items O1, P1, 2, 4, 8, S2, 5, 6, 11, 12, 16, 22, 23, 24, 25, 31, 32, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 47, 48, 50, 51, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73, 74, 75, 78, 80, 81, 82, 83, 85, 86 fell into the "keep up the good work" area; items O5, 6, P3, 5, 6, 9, 10, 11, S1, 9, 13, 14, 15, 17, 18, 21, 26, 27, 28, 29, 30, 39, 46, 49, 52, 53, 54, 77 fell into the "possible overkill" area; and items P7, S10, 19, and 20 fell into the "low priority" area. Items O7, S3, 8, 76, 79, and 84 were located along the boundary between two areas.

Discussion

Ensuring patient safety is prioritized in many countries, and global awareness of this issue is being promoted by the WHO World Alliance for Patient Safety (Emanuel et al., 2009). Nurses play a vital role in maintaining and promoting patient safety due to the nature of their work (Ammouri et al., 2014).

Table 2

Perceived Importance and Actual Performance of Patient Safety Management Activities (N = 163)

Area/Category	Item	Importance		Performance		*t*	*p*
		M	*SD*	*M*	*SD*		
1. Safe evidenced-based clinical practices (S)							
Communication	S1. Sharing records and information when changing the patient's doctor	3.49	0.59	3.37	0.65	2.39	.018
	S2. Sharing records and information between medical staff when the patients transfer to the department/ward	3.63	0.51	3.53	0.59	2.34	.020
	S3. Reporting system for changes in patient condition	3.84	0.39	3.60	0.54	5.91	< .001
	S4. A rapid response system to urgent patient conditions	3.93	0.29	3.64	0.53	6.84	< .001
	S5. Sharing information on the patient's condition during shift	3.80	0.43	3.64	0.52	4.60	< .001
	S6. Sharing patient records with the medical staff	3.72	0.46	3.48	0.60	5.52	< .001
	S7. Checking the correct patients	3.92	0.27	3.67	0.53	6.45	< .001
	S8. The procedure of oral and telephone prescriptions	3.49	0.62	3.12	0.78	6.29	< .001
	S9. The procedure of PRN	3.44	0.62	3.28	0.64	3.15	.002
	S10. Listing abbreviations and symbols related to approval/prohibition	3.28	0.70	3.06	0.79	4.71	< .001
	S11. Countermeasures against inaccurate prescriptions that are easy to confuse	3.64	0.52	3.41	0.61	5.98	< .001
	S12. Registration and monitoring of patient allergic reactions	3.69	0.46	3.45	0.67	5.21	< .001
	S13. Response to medical device alarm sounds	3.60	0.53	3.38	0.69	4.98	< .001
	Total by category	3.65	0.19	3.43	0.19	11.26	< .001
Nursing Process	S14. Patient initial evaluation regulations and procedures	3.54	0.52	3.41	0.59	3.15	.002
	S15. Establishing a nursing plan for patients	3.33	0.66	3.14	0.76	3.77	< .001
	S16. Records of nursing process according to changes in the patient's condition	3.63	0.52	3.51	0.58	3.09	.002
	S17. Re-establishment of the nursing plan according to the patient's condition change	3.46	0.64	3.22	0.74	4.88	< .001
	S18. Sharing treatment and nursing plans for patients among medical staff	3.59	0.58	3.24	0.78	6.55	< .001
	S19. Explaining the nursing plan to the patient	3.38	0.63	3.05	0.77	6.63	< .001
	S20. Establishing a discharge nursing plan according to the patient's condition	3.36	0.61	3.12	0.77	5.31	< .001
	S21. Completing nursing records	3.54	0.56	3.37	0.60	3.95	< .001
	Total by category	3.48	0.12	3.26	0.16	7.31	< .001
Examination	S22. Accurate patient confirmation before examination	3.86	0.35	3.70	0.49	5.18	< .001
	S23. Safe procedure for sample acquisition and examination nursing	3.79	0.43	3.67	0.49	3.97	< .001
	S24. Pre-examination preparation and pre-information verification procedure	3.77	0.42	3.64	0.51	4.44	< .001
	S25. Procedure for confirming sample suitability	3.70	0.46	3.58	0.55	3.31	.001
	S26. Procedure for storing and abolition of samples	3.50	0.58	3.29	0.67	4.95	< .001
	S27. Reporting the examination results	3.57	0.58	3.54	0.56	1.06	.290
	S28. Reporting when the examination results are changing	3.50	0.59	3.45	0.59	1.49	.139
	S29. Safety education related to examination	3.53	0.56	3.22	0.71	6.41	< .001
	S30. Safety management procedures related to examination	3.55	0.56	3.30	0.60	6.15	< .001
	Total by category	3.64	0.14	3.49	0.18	5.12	.001
Transfusion	S31. Safe blood management procedures	3.80	0.45	3.65	0.57	4.21	< .001
	S32. Safe pre-, middle, and post-transfusion nursing procedures	3.82	0.43	3.69	0.53	4.25	< .001
	S33. Accurate patient identification procedure before medication of blood products	3.88	0.32	3.80	0.41	3.47	.001
	S34. Clinical practice to reduce blood loss and blood transfusion demand	3.61	0.58	3.37	0.73	6.00	< .001
	S35. Safe and appropriate blood product prescription procedures	3.70	0.50	3.55	0.61	4.33	< .001
	Total by category	3.76	0.11	3.61	0.16	5.50	.005

Table 2

Perceived Importance and Actual Performance of Patient Safety Management Activities (N = 163), Continued

Area/Category	Item	Importance		Performance		t	p
		M	*SD*	*M*	*SD*		
Medication	S36. Accurate patient identification before medication	3.90	0.30	3.79	0.45	4.01	< .001
	S37. Explanation of and training in medication	3.69	0.50	3.35	0.70	7.28	< .001
	S38. Checking the necessary information about the drug	3.85	0.36	3.69	0.54	4.47	< .001
	S39. Regulations and procedures for self-subscription management of inpatients	3.53	0.55	3.27	0.71	4.75	< .001
	S40. Precautions for taking high-risk drugs and countermeasures against side effects	3.78	0.43	3.61	0.57	5.17	< .001
	S41. Treatment and infection control procedures for injections	3.76	0.44	3.59	0.56	4.85	< .001
	S42. Regulations and procedures for storing medicines	3.66	0.53	3.51	0.60	4.65	< .001
	S43. Storage and management of emergency/drug/high-risk/cautionary medicines	3.75	0.45	3.61	0.59	3.94	< .001
	S44. Safety and clean management when preparing medicines	3.69	0.46	3.41	0.60	6.30	< .001
	S45. Labeling when preparing medicine	3.73	0.45	3.58	0.56	4.34	< .001
	S46. Safe disposal after using medicine	3.58	0.58	3.45	0.61	3.71	< .001
	S47. Monitoring system for adverse drug reactions	3.66	0.52	3.40	0.64	6.69	< .001
	S48. Report according to procedures in case of adverse drug reactions	3.67	0.50	3.55	0.55	3.95	< .001
	S49. Drug interaction confirmation system	3.59	0.51	3.17	0.86	7.43	< .001
	S50. Regulations on chemotherapy	3.62	0.52	3.33	0.75	5.80	< .001
	S51. Accurate medication record	3.74	0.46	3.66	0.50	2.49	.014
	Total by category	3.70	0.10	3.50	0.17	8.38	< .001
Pain	S52. Pain management nursing records	3.55	0.55	3.39	0.61	3.83	< .001
	S53. Pain management according to pain evaluation results	3.49	0.58	3.31	0.65	4.58	< .001
	S54. Performance of pain re-evaluation when patient condition changes	3.43	0.61	3.26	0.72	3.58	< .001
	Total by category	3.49	0.06	3.32	0.06	24.83	.002
Surgery/ procedure	S55. Accurate patient, surgical/procedure name, and surgical site confirmation regulations	3.86	0.35	3.78	0.43	2.74	.007
	S56. Marking the surgical/procedure area	3.81	0.40	3.56	0.64	5.76	< .001
	S57. Patient's participation in indicating surgical/procedure sites	3.74	0.47	3.47	0.68	5.76	< .001
	S58. Verification procedure before surgery/procedure	3.82	0.38	3.69	0.55	3.95	< .001
	S59. Confirmation procedure right before surgery/procedure	3.82	0.39	3.63	0.61	4.71	< .001
	S60. Regulations for patient safety during surgery/procedure	3.73	0.44	3.51	0.60	5.83	< .001
	S61. Checking and recording the patient's skin condition before and after surgery/procedure	3.67	0.50	3.42	0.70	5.22	< .001
	S62. The coefficient of surgery/procedure	3.76	0.44	3.66	0.51	3.53	.001
	S63. Countermeasures procedures in case of inconsistency in surgical/procedure coefficients	3.74	0.48	3.61	0.58	4.07	< .001
	S64. Procedures and records for handling samples during/after surgery/procedure	3.69	0.51	3.61	0.56	3.08	.002
	Total by category	3.76	0.06	3.59	0.11	7.14	< .001
Emergency	S65. CPR regulations	3.88	0.33	3.70	0.50	5.36	< .001
	S66. CPR team operating regulations	3.81	0.41	3.47	0.67	7.07	< .001
	S67. Managing supplies and medicines necessary for CPR	3.82	0.39	3.69	0.52	4.22	< .001
	S68. Using a defibrillator in a timely manner	3.83	0.38	3.62	0.54	5.62	< .001
	S69. Response to internal emergencies	3.77	0.43	3.48	0.63	6.41	< .001
	S70. Response to external emergencies	3.67	0.50	3.31	0.70	6.67	< .001
	Total by category	3.79	0.07	3.54	0.15	6.66	.001

Table 2

Perceived Importance and Actual Performance of Patient Safety Management Activities (N = 163), Continued

Area/Category	Item	Importance		Performance		*t*	*p*
		M	*SD*	*M*	*SD*		
Falling	S71. Regulations to prevent falls	3.72	0.48	3.55	0.57	4.46	< .001
	S72. Initial assessment using fall risk assessment tool	3.67	0.52	3.48	0.62	4.30	< .001
	S73. Falling prevention nursing for high-risk fall patients	3.70	0.47	3.51	0.61	4.94	< .001
	S74. Re-evaluation of the risk of falls in the event of a change in patient condition	3.65	0.53	3.43	0.66	4.76	< .001
	Total by category	3.68	0.03	3.49	0.05	23.66	< .001
Bedsore	S75. Regulations for preventing bedsores	3.62	0.51	3.43	0.60	5.08	< .001
	S76. Initial assessment using pressure ulcer risk assessment tool	3.60	0.51	3.38	0.59	5.30	< .001
	S77. Re-evaluation of the risk of bedsores when the patient's condition changes	3.55	0.58	3.32	0.65	5.54	< .001
	S78. Preventing bedsores for patients with high risk of bedsores	3.63	0.48	3.47	0.59	4.33	< .001
	S79. Nursing care for bedsores for patients with bedsores	3.60	0.49	3.42	0.58	4.97	< .001
	Total by category	3.60	0.03	3.40	0.06	13.37	< .001
Infection	S80. Hand hygiene	3.82	0.39	3.60	0.55	5.41	< .001
	S81. Patient management system for resistant bacteria	3.66	0.49	3.39	0.65	6.60	< .001
	S82. Infection control regulations related to medical devices	3.74	0.44	3.57	0.56	4.73	< .001
	S83. Regulations for cleaning, disinfection, and sterilization of medical instrument and equipment	3.76	0.43	3.58	0.55	5.48	< .001
	S84. Infection control regulations related to laundry	3.60	0.52	3.36	0.67	5.75	< .001
	S85. Isolation regulations for patients with infectious diseases and reduced immunity	3.74	0.44	3.55	0.60	5.22	< .001
	S86. Infection control education for patients, guardians, and regular visitors	3.70	0.47	3.38	0.73	6.23	< .001
	Total by category	3.72	0.07	3.49	0.11	11.22	< .001
Total by classification		3.67	0.14	3.47	0.17	23.47	< .001
2. Respect and protect patient rights (P)							
Patient rights	P1. Regulations on the protection of patient privacy	3.68	0.48	3.44	0.61	6.17	< .001
	P2. Regulations on the protection of rights of vulnerable patients	3.64	0.49	3.34	0.69	7.08	< .001
	P3. Regulations for managing patient complaints and grievances	3.39	0.64	3.18	0.71	3.56	< .001
	P4. Regulations for the preparation and management of consent forms of patients and guardians	3.63	0.51	3.49	0.62	3.19	.002
	P5. Safety regulations for patient's physical protection, isolation, and restraint	3.57	0.51	3.44	0.60	3.08	.002
	P6. Efforts to maintain the dignity and comfort of terminally ill patients in the dying process	3.56	0.55	3.22	0.71	6.53	< .001
	P7. Support for patient anxiety	3.41	0.58	3.06	0.74	6.56	< .001
	Total by category	3.55	0.11	3.31	0.16	7.35	< .001
Patient participation	P8. Providing information on diagnosis and treatment process to patients and guardians	3.63	0.50	3.36	0.69	5.36	< .001
	P9. Patient/guardian training on post-discharge management	3.52	0.56	3.29	0.72	4.63	< .001
	P10. Patient/guardian education to raise awareness of patient safety issues and possible problems related to the patient's health	3.48	0.56	3.23	0.66	5.32	< .001
	P11. Patients/guardians are involved in the treatment process	3.46	0.60	3.14	0.74	6.04	< .001
	Total by category	3.52	0.07	3.26	0.09	14.90	.001
Total by classification		3.54	0.10	3.29	0.14	11.66	< .001

Table 2

Perceived Importance and Actual Performance of Patient Safety Management Activities (N = 163), Continued

Area/Category	Item	Importance		Performance		*t*	*p*
		M	*SD*	*M*	*SD*		
3. Organizational management (O)							
Human resource management	O1. Safety accident management regulations for employees	3.71	0.46	3.40	0.71	6.63	< .001
	O2. Securing enough human resources	3.69	0.55	2.46	0.97	13.54	< .001
	O3. Provide training for employees	3.65	0.51	3.10	0.76	9.25	< .001
	O4. Efforts to prevent violence in institutions and establish a proper organizational culture	3.61	0.54	2.89	0.88	10.13	< .001
	Total by category	3.67	0.05	2.96	0.39	3.61	.036
Quality/performance management	O5. Patient safety management programs and systems	3.54	0.54	3.18	0.71	7.76	< .001
	O6. Patient safety accident management procedure	3.60	0.50	3.31	0.68	6.41	< .001
	O7. Patient safety-related quality improvement, research, and improvement activities	3.43	0.63	3.12	0.78	5.39	< .001
	Total by category	3.52	0.09	3.20	0.10	12.70	.006
Total by classification		3.60	0.10	3.07	0.31	4.13	.006
Total		3.65	0.14	3.42	0.21	16.40	< .001

In this study, differences in nurses' perceptions were compared by examining the perceived importance and actual performance of patient safety management activities among nurses, who interact closely with patients and play a key role in patient safety.

The results revealed the mean overall importance score (3.65) was higher than the mean performance score (3.42) for patient safety management activities and that mean importance scores were consistently higher than mean performance scores for all of the 104 items on the questionnaire. This indicates that, while nurses recognize patient safety management activities as important, actual performance of these activities falls short of the perceived optimum in actual hospital settings. The number of patients per nurse is around 5.3 in the United States and 16.3 in South Korea (Jeong, 2019), supporting the concern that busy working environments impact negatively on patient safety. As the number of patients per nurse increases, risks of patient safety issues, morbidity, and mortality increase (Phillips et al., 2021), reducing quality of care and poor patient outcomes (Mihdawi, 2020). The results of previous studies (e.g., Park, 2020) indicate a positive relationship exists between awareness of the importance of patient safety management and actualized performance of related activities. However, importance awareness generally remains higher than actual performance. Thus, fostering nursing work environments that promote this performance is necessary.

Based on the IPA-based partition classification of data in this study following Abalo et al. (2007), six items were identified in the "concentrate here" area. These included "securing enough human resources," "provide training for employees," "efforts to prevent violence in institutions and establish a proper organizational culture," "a rapid response system to urgent patient conditions," "checking the correct patients," and "CPR team operating regulations." In the "keep up the good work" area, 60 items were identified, including a number of O, P, and S items. Patient safety management activities in general hospitals in South Korea are reportedly already being handled well via regulations governing employee safety accident management, patient rights, patient information sharing among medical staff, and examination-related procedures. General hospitals in South Korea are regularly subject to certification evaluation by medical institutions and regularly focus on patient safety due to the influence of certification evaluation (Korea Institute for Healthcare Accreditation, 2021). This fact explains the significant number of O, P, and S items (28 items) in the "possible overkill" area addressing patient safety accident systems and procedures, patient grievance management regulations, training on patient safety issues, and prescription procedures. Finally, four items were identified in the "low priority" area, including "support for patient anxiety," "listing abbreviations and symbols related to approval/prohibition," "explaining the nursing plan to the patient," and "establishing a discharge nursing plan according to the patient's condition." Although the above items are essential for patient safety management activities, the participants viewed these contents as reflecting both low importance and low performance. In addition to shortages in manpower, another explanation for this may be that the participating hospitals exhibited relatively high severity but yet remained general hospitals rather than a tertiary referral centers. Moreover, each nurse is tasked with overseeing 10–12 patients per shift. Thus, reducing the patient-to-nurse ratio will be critical to helping nurses better appreciate the significance of supporting patient anxiety, explain nursing plans to patients, and devise

and effectively execute discharge nursing plans based on patient conditions.

According to the IPA Initial Analysis Framework (27, Figure 1), "concentrate here" includes "O2: securing enough human resources," "O3: Provide training for employees," and "O4: efforts to prevent violence in institutions and establish a proper organizational culture." These items are included in the "human resource management" category, which is similar to previous studies on fostering cultures of patient safety in medical institutions.

Also, the 28 items in "possible overkill" include "quality/performance management," "patient rights," "patient partition," "communication," "nursing process," "examination," "medication," "pain," and "bedsores." This indicates hospital nurses who are accustomed to hospital certification evaluation excessively perform item-related patient safety management activities due to their emphasis in medical institution certification evaluation standards (Korea Institute for Healthcare Accreditation, 2021). Hence, it is necessary to take a closer look at these items.

A previous analysis (Kim et al., 2020) of the importance and performance of patient safety management activities of Korean nurses similarly showed higher importance than performance and indicated that the impact of the nurse-to-patient ratio on workforce and work intensity should be considered as a factor in the differences between importance and performance of patient safety management activities (Kim et al., 2020). Thus, to enhance the level of patient safety management activity performance, the nursing work environment should be improved. The importance of this study and its findings is its establishment of a basis for more effective patient safety nursing by identifying the specific patient safety management activities performed by hospital nurses and analyzing the differences between the perceived importance and actual performance of these activities.

Limitations and Implications for Practice

Study limitations include potential constraints on generalizing the research findings, the risk of subjectivity bias in the expert panel's content validity assessment, possible constraints in the scope of selected patient safety management activity items, and the temporal relevance of research findings and standards. Thus, care should be taken when interpreting the study's results. Follow-up studies should be conducted in more hospitals to determine the most effective patient safety management activities. The role of nurses in patient safety management activities is important, and higher awareness of the importance of patient safety management activities is positively associated with performance. The results of this study confirmed the patient safety management activities of hospital nurses and established a basis for providing more effective patient safety nursing by analyzing differences between perceived importance and actual performance of related activities. To effectively improve patient safety management among hospital nurses, it will be necessary to create a nursing work environment that is more conducive and positive toward nurse performance of patient safety management activities.

Conclusions

Patient safety management activities are essential to providing effective and safe nursing care to patients. In this study, a patient safety management activity tool that may be used in various hospitals was developed and implemented. Two IPA analysis frames were employed to identify items corresponding to the "concentrate here" area ("securing enough human resources," "provide training for employees," "efforts to prevent violence in institutions and establish a proper organizational culture," "a rapid response system to urgent patient conditions," "checking the correct patients," and "CPR team operating regulations") as well as "keep up the good work," "possible overkill," and "low priority" areas. With the exception of several items identified as needing improvement, patient safety management activities were found to be performed at a satisfactory level in the context of the nursing work environment in South Korea.

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Critical revision of the article: SY

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