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Research Article

Comprehensive Discharge Planning Assessment and Related Factors among Nurses in Birjand, Iran: A Correlational Study

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ABSTRACT

Introduction: Discharge planning is a critical component of patient-centered care that begins at admission and ensures continuity of care by addressing patients' and families' post-discharge needs. When implemented effectively, standardized discharge planning can reduce hospital length of stay, readmission rates, mortality, and healthcare costs.

Objectives: This study aimed to evaluate the implementation of standard discharge planning components from nurses' perspectives and examine its relationship with their demographic and professional characteristics.

Methods: This correlational study was conducted with 102 nurses at Birjand (Vali-Asr & Razi hospitals) in Iran in 2022, selected through simple random sampling. Data were collected using a demographic form and the Comprehensive Discharge Planning Assessment Questionnaire, a 51-item tool covering five subscales: general care, nutritional and medication education, self-management, activity and safety, and psychosocial-supportive care. Content validity was confirmed by 10 nursing faculty experts (content validity index = 0.8), and reliability was supported by a Cronbach's alpha of 0.83. Data were analyzed using SPSS (version 26), employing statistical tests, including analysis of variance, chi-square, independent t-tests, and Pearson correlation**.**

Results: Most participants were female (59.8%), married (72.5%), and nurses, with a mean age of 33.2 ± 7.1 years. The standard discharge program scored 51.7±17.3 overall, with general care rated highest (Good = 24.5%) and self-management lowest (Poor = 41.2%). Education, job position, and employment type significantly influenced perceptions of discharge program ($P < 0.05$). Nurses with bachelor's degrees scored higher in general care than those with master's degrees. Formal employees outperformed contractual staff in key areas. Managerial experience was negatively correlated with some subscales ($P < 0.05$).

Conclusions: In this study, the predictors influencing patient discharge from nurses' perspective were examined. These findings may provide a basis for healthcare systems to improve the transition of care from hospital to the community, standardize discharge planning, and enhance patients' self-management following discharge.

Keywords: Discharge planning, Healthcare quality, Nurse, Nursing care

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1. Introduction

The transition of patients from any healthcare system to home can be challenging, as they receive significant critical information during this process, such as awareness of new diagnoses, changes or discontinuations of medications, follow-ups with new and existing specialists, and other details (1). Hospital discharge is often recognized as a pivotal transition that significantly impacts post-hospitalization outcomes (2). Discharge planning is the process by which a hospital identifies a patient's care needs to facilitate a smooth transfer from one healthcare facility to another, planning accordingly to assist them in completing appropriate treatment and post-discharge care (3). Furthermore, this process involves assessing post-discharge needs, developing a plan, educating patients and families on self-care, monitoring patients' health after discharge, and collaborating with social care centers to support patients and their families (4).

Discharge planning is an integral part of an effective hospital care program (5). This plan should be designed so that patients are discharged at the appropriate time and with sufficient knowledge (6). Unfortunately, discharge planning and care transitions in hospitals have lacked standardization and efficiency, often lacking the necessary structure and accountability to ensure timely patient transfers (2). Consequently, patients face various safety threats, including receiving discharge instructions in an unfamiliar language, misunderstandings in medication management, worsening of pre-existing conditions, and readmissions (1).

In most hospitals, discharge is a shared responsibility but not fully owned by all (2). However, nurses play a key role in discharge planning by coordinating the care team and referring patients to appropriate team members (7). They manage the discharge planning process, develop strategies, organize, and maintain communication with patients, families, and other healthcare team members. Additionally, nurses are central in communicating and coordinating patients' care needs and discharge plans with other healthcare professionals, as well as with patients and their families (4).

Studies indicate that verbal exchanges between patients and healthcare providers are often very brief and incomplete (averaging 76 seconds for providers and 14 seconds for patients). Additionally, nearly half (42%) of patients receive incomplete discharge instructions (8). Approximately 85% of hospitalized patients are discharged without additional support (9).

Misy et al. found that delays in post-discharge follow-up or poor coordination are directly associated with higher readmission rates. Van Walraven et al. demonstrated that a significant proportion of immediate readmissions could be prevented through better discharge coordination (2). Recent systematic reviews have also shown that effective discharge planning practices improve care continuity, reduce unnecessary and unplanned readmissions, enhance patient quality of life, and decrease hospital length of stay (4, 10). Therefore, discharge planning aims to reduce delays in hospital discharge, improve coordination of post-discharge services, and lower the risk of hospital readmission (11). Fiesta (1994) noted that the absence of nurses in discharge planning in U.S. hospitals has led to the publication of thousands of articles highlighting nurses' shortcomings in their roles (12).

In Iran's healthcare system, implementing discharge programs has faced numerous challenges (13). Weaknesses in hospital discharge planning can adversely affect health outcomes for patients requiring the next level of care (home care) (14). Despite growing evidence demonstrating the critical role of discharge planning and discharge management in patient support, there remains a lack of standardized discharge guidelines (3).

Given the importance of implementing a standardized discharge plan by nurses, it is necessary to assess nurses' adherence to the implementation of such a plan prior to its adoption. In addition, it is important to examine factors that may affect the discharge program's implementation to ensure that a standardized discharge plan can be designed and implemented as effectively as possible. Given that few studies have been conducted on this topic in recent years, and that discharge plans developed by nurses may be affected by cultural, social, and environmental factors, further research in this area is warranted.

2. Objectives

This study aimed to investigate the relationship between nurses' individual and professional characteristics and the implementation of comprehensive discharge planning.

3. Methods

3.1 Study Design

This descriptive-correlational study examined nurses from the east of Iran. The research was conducted at two major university hospitals in Birjand, Iran, serving as referral centers for South Khorasan Province.

The hospitals selected as the study setting were public hospitals that received the highest number of patient visits in Birjand, Iran. Nurses working in these hospitals are required to manage discharge processes and

planning across different departments; therefore, they can contribute to achieving more accurate and reliable results.

3.2 Participants

The nurse population included staff nurses working in various clinical departments (medical, emergency, Cardiology, and critical care units) selected using simple random sampling. Sample size was calculated a priori using G*Power software (version 3.1) for a two-tailed Pearson correlation test. Based on previous Iranian studies on discharge planning (effect size $\rho = 0.30$), with $\alpha = 0.05$ and power $(1-\beta) = 0.80$, the minimum required sample was 84 participants. (15). Anticipating a 20% attrition or incomplete questionnaire rate, the target sample was set at 105. Ultimately, 102 complete questionnaires were collected. Based on this calculation, 102 participants were required. Sampling was performed using simple random sampling to ensure representativeness. The study included nurses who voluntarily provided informed consent, had at least one year of clinical nursing experience, and were actively involved in patient discharge processes. Nurses were excluded from the study if they returned incomplete questionnaires. To randomly select nurses, a list of 240 nurses from the two main hospitals in Birjand, Iran, was compiled. Subsequently, based on a random sampling table, 102 nurses were selected, and questionnaires were distributed to them. As the researcher personally administered the questionnaires to the selected nurses, all questionnaires were completed accurately, and none were excluded due to incomplete responses.

3.3 Scales

Data were collected using a demographic form and the research-made Comprehensive Discharge Planning Assessment Questionnaire (CDPAQ), a 51-item scale covering five subscales: a) general care (15 questions), b) nutritional and medication education (7 questions), c) self-management (7 questions), d) activity and safety (10 questions), and e) psychosocial-supportive care (12 questions). Items were rated on a 3-point Likert scale (0 = no, 1 = sometimes, 2 = yes), with higher scores indicating better discharge planning performance (total score range: 0–102, 0-34 = poor, 35-68 = moderate, 69-102 = good). Content validity was confirmed by 10 nursing faculty experts (content validity index = 0.8), and reliability was supported by a Cronbach's alpha of 0.83.

3.4 Data Collection

The data were collected directly from nurses. With approval of the study proposal and an introductory letter from the university's Deputy of Research and Technology, the researchers proceeded to the two major university hospitals (Vali-Asr and Razi) in Birjand, Iran. Upon presenting the introductory letter to the hospital authorities, the researchers received permission to collect data. They then approached the study participants, explained the study's objectives, ensured the privacy and confidentiality of the participants, and obtained informed consent before distributing the questionnaires.

3.5 Data Analysis

The study data were analyzed using SPSS (version 26). Descriptive statistics, including frequency distributions, means, and standard deviations, were used to summarize the data. For inferential analysis, we first assessed data normality using the Kolmogorov-Smirnov test. Parametric tests (one-way analysis of variance, chi-square, independent t-tests, and Pearson correlation) were applied to normally distributed data, while non-parametric equivalents (Mann-Whitney U, Kruskal-Wallis, and Spearman's correlation) were used for non-normal distributions. All analyses were conducted with a 95% confidence level and a significance threshold of $P < 0.05$.

3.6 Ethical consideration

Following the approval of the research proposal and obtaining the ethical code (IR.BUMS.REC.1397.112), the necessary permissions were secured to commence data collection. The researcher approached eligible nurses, provided comprehensive explanations about the study objectives, and obtained written informed consent.

4. Results

The majority of the nurses in the study were female (59.8%), married (72.5%), with a mean age of 33.19 ± 7.12 years (Table 1).

The mean total score of the Comprehensive Discharge Planning Assessment from the nurses' perspective was 51.65 ± 17.30. From their viewpoint, the best-performing domain of the standard discharge program was general care (24.5%), while the weakest domain was self-management (41.2%) (Table 2).

The results indicated a statistically significant relationship between nurses' demographic and occupational characteristics—such as educational level, organizational position, and employment type—and the Comprehensive Discharge Planning Assessment and its subscales ($P < 0.05$) (Table 3). Specifically:

- In the general care domain, a significant difference was observed between nurses with a bachelor's (17.18 ± 5.67) and those with a master's degree (14.45 ± 4.20) ($P = 0.039$).

- A significant difference was also observed between staff nurses (16.97 ± 5.56) and nurse managers (13.78 ± 3.84) in the general care domain ($P = 0.041$).
- Regarding employment status, statistically significant differences were observed in the domains of general care, self-management, and the Comprehensive Discharge Planning Assessment among permanent, contractual, and temporary nurses ($P < 0.001$). Post-hoc Dunn's test with Bonferroni adjustment revealed:
  - In the general care domain: significant differences between permanent and contractual nurses ($P < 0.001$), and between contractual and temporary nurses ($P = 0.012$).
  - In the self-management domain: significant differences between contractual and temporary nurses (adjusted $P < 0.001$) and between permanent and contractual nurses (adjusted $P < 0.001$).
  - In the nutritional and medication education domain: a significant difference between contractual and temporary nurses ($P = 0.030$).
  - In the psychosocial and supportive care domain: a significant difference between permanent and contractual nurses ($P = 0.045$).
  - For the Comprehensive Discharge Planning Assessment: significant differences between permanent and contractual nurses (adjusted $P = 0.002$), and between contractual and temporary nurses (adjusted $P = 0.018$).

Table 1: Demographic and Occupational Characteristics of Nurses

Characteristic	Category	No	%
Gender	Female	61	59.8
	Male	41	40.2
Marital status	Single	27	26.4
	Married	75	73.6
Education	Bachelor's degree	80	78.4
	Master's degree	22	21.6
Position	Staff nurse	87	85.3
	Nursing manager	14	14.7
Employment type	Permanent	57	55.9
	Contract	33	32.3
	Temporary/project-based	12	11.8
Department	Emergency	41	40.2
	Internal medicine	28	27.5
	Cardiology	15	14.7
	Critical Care Unit	18	17.6
Variables	**(Mean ± SD)**	**Min**	**Max**
Age (years)	33.19 ± 7.12	19	55
Clinical experience (years)	8.99 ± 6.77	1	28
Management experience (years)	4.19 ± 3.93	0	15

Furthermore, the correlation between the mean scores of the Comprehensive Discharge Planning Assessment and its subscales with the mean scores of quantitative variables such as age, clinical, and managerial experience was examined. The results showed a significant inverse linear relationship between managerial experience and the domains of nutritional/medication education, self-management, psychosocial/supportive care, and the Comprehensive Discharge Planning Assessment score ($P < 0.05$). Additionally, a significant direct linear relationship was observed between the mean scores of all subscales of the Comprehensive Discharge Planning Assessment and the overall score ($P < 0.001$) (Table 4).

Table 2: Mean, Standard Deviation, and Frequency Distribution of the Comprehensive Discharge Planning Assessment Questionnaire and Its Subscales from Nurses' Perspectives

Variable	Mean ± SD	Good (%)	Moderate (%)	Poor (%)
Comprehensive discharge planning	51.65 ± 17.30	16.7	66.7	16.7
General care	16.53 ± 5.45	24.5	61.8	13.7
Medication/nutrition education	7.41 ± 3.32	19.6	48.0	32.4
Self-management	7.05 ± 3.61	23.5	35.3	41.2
Activity/safety	8.75 ± 4.31	9.8	50.0	40.2
Psychosocial/support	11.89 ± 5.48	21.6	62.7	15.7

Multiple linear regression analysis was performed to identify independent predictors of the total discharge planning score, adjusting for potential confounders. The model was significant ($F(8,93) = 9.62$, $P < 0.001$, adjusted $R^2 = 0.41$). Results showed that managerial experience (B = –1.98, 95% CI: –3.42 to –0.54, $P = 0.008$), contractual employment compared to permanent (B = 12.15, 95% CI: 5.38 to 18.92, $P < 0.001$), and working in the internal medicine ward compared to emergency (B = –6.89, 95% CI: –13.01 to –0.77, $P = 0.028$) remained statistically significant independent predictors. Age, education, organizational role, and temporary employment status were not significant in the final model.

5. Discussion

This study examined the relationship between nurses' demographic and occupational characteristics and the extent of comprehensive discharge planning implementation. The findings revealed that among individual and occupational characteristics, there was a significant association between nurses' education level, organizational position, employment type, and discharge planning and its subscales.

Table 3: The Relationship between Domains of Comprehensive Discharge Planning Assessment Based on Nurses' Demographic and Occupational Characteristics

Variable	General Care Domain	Nutrition and Medication Domain	Self-Management Domain	Activity and Safety Domain	Psychosocial and Supportive Domain	Total Discharge Program Score
Gender						
Female	17.26 ± 5.61	7.62 ± 3.42	7.04 ± 3.84	8.65 ± 4.40	12.18 ± 6.15	52.77 ± 19.47
Male	15.46 ± 5.08	7.09 ± 3.18	7.07 ± 3.28	8.90 ± 4.23	11.46 ± 4.32	50.00 ± 13.49
	t = 1.646 p = 0.130*	t = 0.782 p = 0.436*	Z = -0.041 p = 0.967**	t = -0.281 p = 0.779*	Z = -0.397 p = 0.691**	Z = -0.437 p = 0.662**
Marital status						
Single	15.14 ± 5.12	6.96 ± 3.50	5.88 ± 2.92	8.14 ± 4.05	11.18 ± 3.50	47.33 ± 12.33
Married	17.04 ± 5.51	7.57 ± 3.26	7.48 ± 3.76	8.97 ± 4.41	12.14 ± 6.03	53.21 ± 18.59
	t = -1.556 *P* = 0.123*	Z = -0.877 *P* = 0.380**	Z = -0.014 *P* = 0.967**	Z = -0.329 *P* = 0.742**	t = -0.780 *P* = 0.437*	t = -1.524 *P* = 0.131*
Education						
Bachelor's degree	17.18 ± 5.67	7.76 ± 3.38	7.22 ± 3.78	8.82 ± 4.51	12.15 ± 5.86	53.17 ± 18.55
Master's degree	14.45 ± 4.20	6.68 ± 3.04	6.72 ± 3.25	8.50 ± 3.99	11.36 ± 4.48	47.72 ± 12.79
	t = 2.092 *P* = 0.039*	t = 1.349 *P* = 0.181*	Z = -0.616 *P* = 0.538**	t = 0.321 *P* = 0.749*	Z = -0.393 *P* = 0.695**	t = 1.288 *P* = 0.201*
Organizational Role						
Staff Nurses	16.97 ± 5.56	7.52 ± 3.35	7.04 ± 3.73	9.04 ± 4.37	12.06 ± 5.62	52.65 ± 17.82
Managers	13.78 ± 3.84	6.71 ± 3.12	7.14 ± 2.87	6.92 ± 3.54	10.78 ± 4.49	45.35 ± 12.21
	t = 2.06 *P* = 0.041*	t = 0.845 *P* = 0.400*	Z = -0.317 *P* = 0.751**	t = 1.719 *P* = 0.089*	t = 0.812 *P* = 0.419*	t = 1.475 *P* = 0.143*
Employment Status						
Permanent	15.07 ± 4.56	7.12 ± 3.43	6.22 ± 3.42	8.03 ± 4.14	11.19 ± 5.68	47.64 ± 15.84
Contractual	19.72 ± 5.73	8.33 ± 3.22	9.27 ± 3.43	9.81 ± 4.57	13.57 ± 5.44	60.72 ± 18.47
Project/temporary	14.75 ± 5.15	6.25 ± 2.56	4.91 ± 1.67	9.25 ± 4.09	10.58 ± 3.42	45.75 ± 10.44
	F = 9.967, *P* < 0.001***	H = 5.339 *P* = 0.069****	H = 19.243 *P* < 0.001****	F = 1.903 *P* = 0.155***	H = 4.700 *P* = 0.095****	F = 7.656 *P* = 0.001***
Ward/Unit						
Emergency	17.10 ± 5.17	7.42 ± 2.89	6.92 ± 3.30	9.32 ± 4.21	12.82 ± 4.59	53.60 ± 15.66
Internal medicine	14.25 ± 4.31	8.25 ± 3.15	6.33 ± 3.29	7.44 ± 3.79	11.07 ± 3.94	46.37 ± 12.00
Cardiac ward	17.92 ± 7.21	7.35 ± 3.65	8.28 ± 3.81	9.78 ± 4.45	12.92 ± 8.41	56.28 ± 21.77
Special units	17.35 ± 5.29	7.11 ± 4.15	7.11 ± 4.60	8.23 ± 5.10	10.47 ± 6.31	50.29 ± 22.07
	F = 2.510 *P* = 0.063***	F = 0.355 *P* = 0.785***	H = 4.410 *P* = 0.220****	F = 1.951 *P* = 0.126***	F = 1.672 *P* = 0.178***	H = 3.168 *P* = 0.366****

* Independent t-test
** Mann–Whitney U test
***One-way ANOVA
****Kruskal–Walli's test
Note: Post-hoc pairwise comparisons were performed using Dunn's test with Bonferroni correction for the Kruskal–Wallis tests.

Table 4: Correlation between Age, Clinical/Managerial Experience, and the Comprehensive Discharge Planning Assessment

Variable	Age	Clinical Exp.	Managerial Exp.	General Care	Medication/ Nutrition	Self-Management	Activity and Safety	Psychosocial Support
General care	-0.076 (0.450)	-0.116 (0.270)	-0.413 (0.063)	1				
Medication/ nutrition	-0.064 (0.522)	-0.117 (0.265)	-0.485 (0.037)	0.529 (<0.001)	1			
Self-management	-0.007 (0.941)	-0.055 (0.602)	-0.520 (0.016)	0.580 (<0.001)	0.449 (<0.001)	1		
Activity and safety	0.022 (0.830)	-0.041 (0.698)	-0.136 (0.556)	0.545 (<0.001)	0.454 (<0.001)	0.482 (<0.001)	1	
Psychosocial support	-0.114 (0.252)	-0.114 (0.275)	-0.518 (0.016)	0.529 (<0.001)	0.511 (<0.001)	0.528 (<0.001)	0.453 (<0.001)	1
Total score	-0.069 (0.494)	-0.115 (0.273)	-0.505 (0.019)	0.828 (<0.001)	0.728 (<0.001)	0.766 (<0.001)	0.753 (<0.001)	0.791 (<0.001)

*Note: Values represent Pearson's *r* (*P* value).

Contrary to the present study's results, the study by Ridge-García et al. found that nurses with a master's degree (95.3%, $P < 0.001$) utilized nursing discharge planning more frequently (16). Interestingly, in the current study, nurses with a bachelor's degree in general care scored higher than those with a master's degree. Although this finding appears counterintuitive—given that higher educational levels are typically associated with improved clinical competence—it may be explained by shifts in professional focus. Nurses with advanced degrees often assume managerial or academic roles, leading to a decreased presence at the bedside and a potential 'over-theoretical' orientation, both of which can ironically contribute to lower performance in direct clinical tasks (17). Consequently, as these nurses become less involved in daily care, they may participate less in routine discharge planning processes. Engaging these nurses more directly in discharge planning could potentially lead to more timely patient discharges and improved care quality (18).

The present study's results indicated that the mean total score of comprehensive discharge planning from nurses' perspectives differed significantly based on contractual employment status compared to permanent and project-based/contractual employment ($P < 0.05$). In contrast, Ridge-García et al.'s study found that permanently employed nurses had higher discharge planning scores and greater satisfaction with the program (69.9%, $P < 0.05$) (16). The relative job security and organizational integration of permanent staff likely provide more opportunities for continuous training and engagement with hospital policies, contributing to better adherence to standardized procedures (19). Conversely, contractual staff may lack access to ongoing training or feel less committed to organizational goals, which could affect the quality and consistency of their discharge planning (16).

The present study found that the strongest domain in standard discharge planning from nurses' perspectives was general care (24.5%), while the weakest domain was self-management (41.2%). In Ridge-García et al.'s study, patient social assessment at discharge received the lowest score from nurses (16). Similarly, Al-Futaisi et al.'s study revealed that while nurses had some awareness of discharge planning, gaps existed in their understanding of the process. For example, 96.7% of nurses educated patients about the signs, symptoms, and complications of myocardial infarction, and 90% provided nutritional counseling. However, only 40% advised patients on physical activity, and 43.3% informed them about what to do if they missed a medication dose. These findings suggest that while nurses have a basic understanding of discharge planning, there is room for improvement, particularly in areas, such as medication management and lifestyle counseling (20).

A significant inverse linear relationship was found between managerial experience and the domains of nutritional and medication education, self-management, psychosocial and supportive care, and standard discharge planning. Ridge-García et al.'s study showed that more experienced (14.73%, $P < 0.001$) and older (44.18%, $P < 0.001$) nurses utilized nursing discharge planning more frequently (16). These results suggest that as nurses move away from clinical environments and assume managerial and supervisory roles, their involvement in discharge planning diminishes. These managers are less engaged in daily patient care and may lose insight into practical challenges, thereby reducing their impact on patient-centered aspects of discharge (21). This finding underscores the need to reintegrate nursing managers into clinical processes—not only for supervision but

also to model and reinforce best practices in discharge education and transitional care.

The study's findings highlight important policy implications and the gap between policy and practice. Strengthening frontline nurses' competencies through targeted training in self-management and psychosocial support is essential for improving discharge planning outcomes. Additionally, establishing permanent interdisciplinary discharge teams could enhance care continuity and quality, particularly for high-risk patients. Finally, leveraging digital technologies offers a scalable and efficient tool to improve patient education and communication during the discharge process. Ultimately, the effectiveness of standardized discharge planning depends on systemic coordination—where well-defined roles, continuous training, teamwork, and technological support converge. Addressing these structural and operational factors could lead to improved patient outcomes, reduced readmissions, and higher satisfaction rates. Examining discharge planning and its implementation across various dimensions from nurses' perspectives is a topic that has received limited research attention. This study is subject to several limitations. First, its reliance on self-reported data from nurses may introduce response bias. Second, the cross-sectional design precludes the establishment of causal relationships, limiting the ability to infer directionality between variables. Finally, the findings are based on a single geographic and institutional context, which may constrain the generalizability of the results to broader healthcare settings.

5.1 Conclusion

In conclusion, the results of this study underscore the critical role of nurses' educational level, organizational position, and employment status in shaping the effectiveness of standardized discharge planning. The lower performance in the self-management domain highlights a pressing need for enhanced patient education and empowerment strategies. Moreover, the inverse relationship between managerial experience and discharge planning performance suggests that direct
clinical engagement remains essential for maintaining care quality. Addressing these gaps through targeted training, redefining managerial roles, forming interdisciplinary teams, and integrating digital tools can significantly improve the discharge process. The results of this study emphasize the critical role of nurses' educational level, organizational position, and employment status in shaping the effectiveness of standard discharge planning. Based on the findings of the present study, lower performance in the domain of self-management indicates an urgent need for patient education and empowerment strategies. Furthermore, the inverse relationship between managerial experience and discharge planning performance suggests that direct clinical involvement is essential for maintaining quality of care. Addressing these gaps through targeted training, direct supervision of the discharge process, redefinition of managerial roles, the formation of interdisciplinary teams, and the integration of digital tools can significantly improve the discharge process. Developing targeted training interventions focusing on the self-management domain, revising the job descriptions of nurse managers to include clinical participation or direct supervision of the discharge process, and implementing other such measures are recommended.

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Statements

***Declaration of conflicting interest**:* The authors declare that there is no conflict of interest in the publication of this article.

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Ethics Approval: The research was approved by the Research Ethics Committees of Birjand University of Medical Sciences, Birjand, Iran (IR.BUMS.REC.1397.112). Informed consent was obtained from all subjects. Anonymity and confidentiality were assured through coding the data. Participants were assured that their participation was voluntary and they could withdraw from the study at any time without any penalty. All methods were performed in accordance with the relevant guidelines and regulations, which are aligned with the Declaration.

Informed consent: Written informed consent was obtained from all participants for publication of anonymized data.

***Data Availability**:* The datasets generated in the present study are available from the corresponding author upon reasonable request.

Author's Contributions: Study design: MA, MB, data collection and analysis: MSA, RA, MB, manuscript

preparation: KHM, MB. All authors contributed to the writing of the manuscript and approved the final version for submission.

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