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The Extent of Nurses' Discharge Education to the Patient's Preparedness for Self-Management

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ABSTRACT

Background: Nurses are known for providing their patients with comprehensive care; patient education through discharge instructions typically falls short of expectations due to understaffing and work overload. Patient self-management of their health conditions at home demands adequate discharge education. Insufficient discharge education can compromise patients' ability to manage their health conditions at home, causing unplanned hospital readmissions. When the patients feel that they are being cared for through the provision of discharge education, they are likely to comply with the instructions given, which may contribute to the patient's optimal well-being and may prevent hospital readmission. **Objective:** This study aimed to determine the correlation between nurses' extent of discharge education and patients' preparedness for self-management. **Methods:** A descriptive-correlational research design was used to determine the correlation between nurses' extent of discharge education and patients' preparedness for self-management. One hundred eight (108) respondents were selected through consecutive sampling. They answered the Medication, Exercise, Health Teaching, Outpatient Patient Department Visit, Referral, Diet, and Spirituality (MEHORDS) discharge assessment tool. MEHORDS is a researcher-made questionnaire with 0.756 and 0.789 reliability coefficients for assessing nurses' extent of discharge education and patients' preparedness for self-management, respectively. **Results:** The study shows that most of the respondents are middle-aged adults (22.22%), male (57%), married (63.89%), high school graduates (69.44%), unemployed (61.11%), with cerebrovascular disease (35.91%), and have experienced at least one hospital readmission (37.96%). The study revealed that respondents received a poor level of discharge education (x=1.49) during their discharge process and had no overall preparedness (x = 1.75) for self-management. Moreover, there is a significant positive correlation between the nurses' discharge education and patients' preparedness for self-management (p=0.001). **Conclusion:** This study highlighted the importance of providing nurses comprehensive discharge education in promoting patients' self-management. Incorporating the MEHORDS contents may not only assist the nurses in managing their time in the provision of discharge education to patients but also serve as a guide to nurses in delivering a thorough discharge education.

Keywords: Filipino; Patient Discharge; Patient Education; Patient Readmission

INTRODUCTION

One of the primary roles of a nurse is to empower patients in their care to assume responsibility for self- and disease management (Salmond & Echevarria, 2017). This can be achieved through discharge education, in which nurses play a critical role (Horstman *et al.*, 2017; Ryan, Bierle, & Vuckovic, 2019) because they interact with the patients the most. The components of discharge education include medication instructions (Bowen *et al.*, 2017), exercise and activity level (Fares *et al.*, 2020), food and diet modification (Meng *et al.*, 2021), lifestyle modifications (Dalley *et al.*, 2021), follow-up appointments (DeSai *et al.*, 2021), and spirituality (Zumstein-Shaha, Ferrell & Economou, 2020).

Preventable readmissions to hospitals are a global issue (Feo *et al.*, 2023). Providing comprehensive

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discharge instructions is linked to patients' lower readmission rates (Cai & Islam, 2023; Rashidi, Whitehead, & Glass, 2022). Ironically, patients frequently failed to get sufficient discharge instructions from nurses (Chaboyer *et al.*, 2021; Kannan, Avudaiappan, & Annamalai, 2020). A recent study investigating the trends in 30-day readmissions following hospitalization for heart failure found that health service is one of the factors for readmission, and discharge planning is recommended for readmission prevention (Lawson *et al.*, 2021). In the Philippines, one of the causes of hospital readmissions is nonadherence to therapy, which is allegedly caused by a lack of information and might be resolved by good discharge planning involving both the patients and caregivers (Balane *et al.*, 2023). This study aimed to determine the extent of nurses' discharge education and patients' preparedness for self-management at the selected hospital in Iligan City, Philippines.

METHODOLOGY

Research Design

This study utilized a descriptive-correlational research design. Utilizing this study design, it was possible to gather quantifiable information for statistical analysis of the discharge education that nurses gave to patients who were going home. Furthermore, the researchers sought to determine whether there is a significant relationship between the extent of nurses' discharge education and the patients' preparedness for discharge.

Participants

Consecutive sampling was employed in selecting the 108 hospitalized patients from the medicine ward of a public hospital who were scheduled for discharge. Data gathering took place over one month, from April 1, 2023, to May 1, 2023. The survey was administered to discharged patients daily.

Instrument

To evaluate the extent of discharge education provided by the nurses, the researchers designed a questionnaire known as MEHORDS, which stands for Medication, Exercise, Health Teaching, Outpatient Department (OPD) Visit, Referral, Diet, and Spirituality. It consists of seven sections, each focusing on a specific aspect of discharge education. Each section contained three items, resulting in a total of 21 questions. Likewise, the second part of the MEHORDS consists of 21 questions designed to gauge the patient's readiness for self-management post-discharge.

The respondents used a 4-point Likert scale to rate each question in both parts of the questionnaire. For the extent of discharge education, the scale ranged from "none at all" (1) to "more than enough" (4), while for the preparedness of patients for self-management, the scale ranged from "unprepared" (1) to "very prepared" (4). The "more than enough" response is expressed as thorough discharge education. The respondent is fully satisfied; "just enough" is enough, but no more than additional information was added. The respondent is not fully satisfied, "not enough" for only limited information that did not satisfy the respondents, and "none at all" for the absence of information. In the assessment of nurses' extent of discharge education interpretation, a Likert scale was utilized to evaluate their performance. Mean values were calculated to determine the overall assessment scores for each nurse, which were then used to provide remarks based on the following categories shown in Table 1.

Table 1: The Extent of Discharge Education Assessment Score Interpretation

Likert Scale	Mean Value	Remarks
More than enough	3.40 - 4.00	Excellent
Just enough	2.61 - 3.40	Better
Not enough	1.81 - 2.60	Fair
None at all	1.00 - 1.80	Poor

On the other hand, the patient's preparedness assessment interpretation was based on a Likert scale. Mean values were calculated to determine the overall assessment score for each patient. Table 2 shows the remarks that were made based on the corresponding mean values.

Table 2: Patient's Preparedness Assessment Score Interpretation

Likert Scale	Mean Value	Remarks
Very Prepared	3.40 - 4.00	High Preparedness
Prepared	2.61 - 3.40	Moderate Preparedness
Somewhat Prepared	1.81 - 2.60	Low Preparedness
Unprepared	1.00 - 1.80	No Preparedness

Validity and Reliability of the Questionnaire

The questionnaire underwent a rigorous process of reviewing and refining to enhance its reliability. Also, a pilot test was conducted among 30 patients who were about to be discharged from the medicine ward of the selected hospital. To assess the reliability of the questionnaire, Cronbach's alpha was used. As shown in Table 3, the reliability coefficient for assessing nurses' extent of discharge education and patients' preparedness for self-management were 0.756, and 0.789, respectively. This indicates an acceptable level of internal consistency among the items included in the questionnaire and suggests that the questions in this section measured the intended construct, providing reliable and consistent results.

Table 3: Cronbach's Alpha Reliability Test Result of MEHORDS Assessment Tool

MEHORDS Assessment Tool	Cronbach's Alpha	Interpretation
Extent of nurses' discharge education	0.756	Acceptable
Patient's preparedness for self-care	0.789	Acceptable

Data Analysis

This study utilized Microsoft Office Excel to organize data in frequency and percentage distribution. SPSS version 20 software was used to determine the mean and standard deviation of the variables and their correlation. Moreover, Spearman's Rank Correlation Coefficient was utilized to determine the association and strength of the relationship between the extent of nurses' discharge education and patients' preparedness for self-management in the Medicine Ward of the selected hospital. The respondents' autonomy was respected by allowing them to personally answer the questionnaire or permitting their significant others to write their answers on the questionnaire. As well as the respondents' identities were protected by keeping their records secured through the use of password-protected files.

Ethical Consideration

The present study received ethics clearance from the Ethics Review Committee of College of Health Sciences, Mindanao State University-Iligan Institute of Technology, Philippines with Reference Number: CHS-2023-15 and CHS-ERC Code: E-2023-15 on February 20, 2023 (CHS-REC) before data gathering and interview.

RESULTS

Table 4 shows that 24.07% of the respondents are middle-aged adults, and 22.22% are older adults. Most of the participants were married (63.89%), high school graduates (69.44%), unemployed (61.11%), and had a monthly income of ₱0-10,000 (93.52%). The most prevalent medical diagnosis among the respondents is cerebrovascular disease, with 35.91%. Among the participants, 37.96% had experienced at least one hospital readmission, and all of them reported that the reason for their readmission was complications.

Table 4: Frequency-Percentage Distribution of Respondents' Demographic Profile

Variables	Frequency	Percentage
Age (years)		
18-28	16	14.81
29-39	13	12.04
40-50	16	14.81
51-61	26	24.07
62-72	24	22.22
73-83	7	6.48
84-94	6	5.56
Sex		
Male	57	52.77
Female	51	47.22
Civil Status		
Single	20	18.52
Married	69	63.89
Widowed	19	17.59
Educational Attainment		
Elementary Graduate	21	19.44
High School Graduate	75	69.44
College Undergraduate	9	8.33
College Graduate	3	2.78
Source of Income		
Unemployed	66	61.11
Government Employee	3	2.78
Business Owner	4	3.70
Mechanic	5	4.63
Construction Worker	7	6.48
Driver	3	2.78
Vendor	19	17.59
Farmer	1	0.93
Monthly Income		
0-10,000	101	93.52
10,001-20,000	6	5.56
20,001-30,000	1	0.93
Medical Diagnosis		
Ischemic Heart Disease	14	12.96
Cerebrovascular Disease	38	35.19
Diabetes Mellitus	10	9.26
Pneumonia	4	3.70
Others (GIT, GUT, renal)	42	38.89
Hospital Readmission		
Yes	41	37.96
No	67	62.04
Reasons for Readmission		
Complications	41	37.96
Not Applicable	67	62.04

The Extent of Discharge Education

As shown in Table 5, the average mean of the extent of discharge education assessment was calculated as 1.49867±0.6426, being significantly lower than the midpoint of the scale, which falls below a satisfactory level. Furthermore, the relatively high standard deviation of ±0.6426 implies a considerable amount of variability in the scores given by the patients. This suggests that some patients may have rated the discharge education more negatively, while others may have rated it slightly more positively, leading to a wider range of responses. Items on medication information, written direction, and follow-up date and time were rated better

on average, while items on the exact location of follow-up check-ups and the ideal diet to follow once at home were rated fair. The remaining items were rated poor. The results indicate that, on average, respondents rated the discharge education received from nurses as poor.

Table 5: Nurses' Extent of Discharge Education

Questions	4	3	2	1	μ ± SD	Remark
1. How much information did you receive regarding the medications you were supposed to take at home?	0	74	34	0	2.68518 ± 0.467	Better
2. How much information did you receive on the side effects of the medications you were prescribed to take at home?	0	0	0	108	1.0000 ± 0.000	Poor
3. How much information did you receive on the explanation of written directions for your medications?	0	74	34	0	2.68518 ± 0.467	Better
4. How much information did you receive about the ideal type of exercise you have to follow once you get home?	0	2	11	95	1.13888 ± 0.398	Poor
5. How much information did you receive about the ideal duration of the exercise you have to follow once you get home?	0	0	5	103	1.04629 ± 0.211	Poor
6. How much information did you receive about the ideal intensity of exercise you have to follow once you get home?	0	0	2	106	1.01851 ± 0.135	Poor
7. How much information did you learn about the negative effects of vices (e.g., alcohol intake, cigarette smoking, illegal drugs) on our bodies?	0	11	0	97	1.20370 ± 0.608	Poor
8. How much information did you receive regarding the alarming signs and symptoms that you should look out for after being discharged that should be reported immediately to the health care provider?	0	21	0	86	1.37962 ± 0.796	Poor
9. How much information did you receive on the activities restricted to perform that you might follow once you went at home?	0	23	0	85	1.42592 ± 0.823	Poor
10. How much information did you receive regarding the exact date of your follow up check-up with your condition as recommended by the physician?	0	77	29	2	2.69444 ± 0.502	Better
11. How much information did you receive regarding the exact location of your follow up check-up?	0	61	38	9	2.48148 ± 0.648	Fair
12. How much information did you receive regarding the specific laboratory test results that you have to bring during your follow up check-up?	0	47	0	52	1.78703 ± 0.631	Poor

13. How much information didyou get about communityservices youcan avail of once you got home?	0	0	0	108	1.00000 ± 0.000	Poor
14. How much information did you receive about the referrals to other specialists (e.g. cardiologist, nephrologist, urologist, endocrinologist, oncologist, psychiatrist etc.) for further assessment and possibletreatments?	0	4	0	104	1.07407 ± 0.379	Poor
15. How much information did you receive about the referrals to other health experts (e.g., dietician and physical therapists) for further management?	0	0	0	108	1.00000 ± 0.000	Poor
16. How much information didyou receive on the ideal diet you might follow once you went at home?	0	19	84	5	2.12962 ± 0.455	Fair
17. How much information didyou receive on the diet restrictions that you might follow once you went at home?	0	17	38	53	1.66666 ± 0.736	Poor
18. How much information did you receive concerning thepossible complications of not adhering to the ideal diet?	0	1	4	103	1.05555 ± 0.268	Poor
19. How much information did you receive about the role of faith and spirituality towards healing?	0	0	0	108	1.00000 ± 0.000	Poor
20. How much information did you receive about the importance of prayers and faith towards God?	0	0	0	108	1.00000 ± 0.000	Poor
21. How much information did you receive about theimportance of knowing the meaning and purpose of life's negative and positive circumstances?	0	0	0	108	1.00000 ± 0.000	Poor
Overall	**0**	**431**	**279**	**154**	**1.49867 ± 0.6426**	**Poor**

Patients' Preparedness for Self-Management

Table 6 shows the average mean score of the patients' preparedness for self-management, which is 1.75265 ± 0.729, indicating an overall low level of preparedness for self-management. The relatively high standard deviation of ± 0.729 implies a considerable amount of variability in the scores given by the patients. This suggests that some patients may have demonstrated slightly higher levels of preparedness for self-management, while others may have reported significantly lower levels, leading to a wider range of responses.

Table 6: Patient's Preparedness for Self-Management

Questions	4	3	2	1	μ ±SD	Remark
1. How prepared are you in incorporating the medicationsthat you were supposed totake at home?	0	77	30	1	2.7037 ± 0.479	Moderate Preparedness

2. How prepared are you in watching out for the side effects of the medications thatyou were supposed to take athome?	0	1	0	107	1.0185 ± 0.192	No Preparedness
3. How prepared are you in following the written instruction for the medications that you were supposed to take at home?	0	76	31	0	2.6851 ± 0.483	Moderate Preparedness
4. How prepared are you in performing the ideal type exercise you have to perform once you get home?	0	4	12	92	1.1851 ± 0.477	No Preparedness
5. How prepared are you in following the ideal duration of the exercise you have to perform once you get home?	0	0	5	103	1.0463 ± 0.211	No Preparedness
6. How prepared are you in observing the ideal intensity of the exercise you have to perform once you get home?	0	0	3	105	1.0277 ± 0.165	No Preparedness
7. How prepared are you in following the teachings about vices provided by the nurse while you were in the hospital?	0	9	2	97	1.1851 ± 0.566	No Preparedness
8. How prepared are you inmonitoring the alarming signsand symptoms that you should look out for after being discharged and that shouldbe reported immediately to the health care provider?	0	20	2	86	1.3888 ± 0.783	No Preparedness
9. How prepared are you in following the restriction of activities that you might followonce you go home?	0	22	2	84	1.4259 ± 0.811	No Preparedness
10. How prepared are you in complying with the exact dateof your follow up check-up with your condition as recommended by the physician?	0	80	24	4	2.7037 ± 0.534	Moderate Preparedness
11. How prepared are you in complying with the exact location of your follow up check-up with your condition as recommended by the physician?	0	67	41	3	2.6481 ± 0.552	Moderate Preparedness
12. How prepared are you infulfilling the specific laboratory test results that you have to bring during your follow-up check-up?	0	57	45	6	2.4722 ± 0.603	Low Preparedness
13. How prepared are you in connecting with the community services you can avail once you got home ?	0	0	0	108	1.0000 ± 0.000	No Preparedness
14. How prepared are you in visiting other specialists (e.g., cardiologist, nephrologist, urologist, endocrinologist, oncologist, psychiatrist etc.)for further assessment and possible treatments?	0	3	0	105	1.0555 ± 0.330	No Preparedness

15. How prepared are you in visiting health experts (e.g. dietician and physical therapists etc.) for further management?	0	1	0	107	1.0185 ± 0.096	No Preparedness
16. How prepared are you to adhere to the ideal diet whenyou get home?	0	14	85	9	2.0463 ± 0.461	Low Preparedness
17. How prepared are you tofollow the diet restrictionswhen you get home?	0	8	36	64	1.4814 ± 0.634	No Preparedness
18. How prepared are you to monitor for possible complications that come withnot adhering to the ideal diet?	0	1	3	104	1.0463 ± 0.252	No Preparedness
19. How prepared are you in incorporating your faith andspirituality towards healing?	0	64	44	0	2.5925 ± 0.494	Low Preparedness
20. How prepared are you in praying and developing your faith towards God?	0	63	45	0	2.5833 ± 0.495	Low Preparedness
21. How prepared are you in understanding the meaning and purpose of life's negative and positive circumstances?	0	53	55	0	2.4907 ± 0.502	Low Preparedness
Overall	**0**	**620**	**465**	**118**	**1.7526 ± 0.729**	**No _**

Relationship between the Nurses' Extent of Education and Patient's Preparedness for Self-Management

Table 7 shows that the correlation coefficient has an extremely low *p*-value, less than 0.001, indicating strong evidence against the null hypothesis that there is no correlation between the extent of discharge education and the preparedness of patients for discharge. The data support the alternative hypothesis, which states that there is a correlation between the variables.

Table 7: Correlation Analysis between the Nurses' Extent of Education and Patient's Preparedness for Discharge

CorrelationType	**CorrelationValue**	***P*-Value**	**Interpretation**
Spearman'sRank Correlation	0.7751002	< 0.001	Very Strong Significant Relationship

DISCUSSION

The Extent of Discharge Education

Thannikal *et al.* (2023), who found that almost 70% of the respondents reported that hospital staff did inform the patient of what new medicines were for, supported the need for better information on the medications to take at home. The inadequate information about the medication's side effects agrees with Weber, Lima, and Acosta (2019), where the information provided about side effects was limited. The inadequate information on the ideal type, duration, and intensity of exercise coincides with Kuhara *et al.* (2022) finding that patients were not informed of the prescribed intensity of exercise that they were supposed to follow. Bernal-Jimenez *et al.* (2021), where patients received thorough advice on changing their lifestyles, are in opposition to the inadequate information on the harmful effects of alcohol, smoking, and illegal drugs on health. The inadequate information about the alarming signs and symptoms that patients should watch out for contradicts Unaka *et al.* (2017), where patients received information on the signs and symptoms that they should be aware of. Cameron, Ponsford, and Stolwyk (2019) revealed that patients have not received a list of activity restrictions upon discharge, confirming the poor information on the restricted activities. Contrarily, the participants received adequate information regarding the date of the follow-up check-up, which coincides with Kang *et al.* (2020), where patients received sufficient information on their scheduled follow-up appointments.

The results of this study were consistent with a study by Horstman *et al.* (2017) that discovered patients complained about a lack of specificity in appointment location and provider contact information.

According to Sevilla-Cazes *et al.* (2018), inadequate diet-related instructions were one of the perceived reasons for heart failure patients' readmissions, which supports the study's findings that participants were unaware of an ideal diet to follow at home. The insufficient information regarding diet restrictions disagrees with Riegel *et al.* (2019), where patients with kidney stones and heart failure, respectively, received information on diet restrictions. Similarly, the inadequate information on the possible complications of noncompliance with the recommended diet resonates with Mohammed & Sharew (2019), where diabetic patients who have received nutrition education may perceive it as more serious than not adhering to the recommended dietary regimen.

The poor information received on the role of faith and spirituality towards healing, the importance of prayers and faith towards God, and the importance of knowing the meaning and purpose of life's both favorable and unfavorable circumstances and situations agrees with DeKoninck *et al*. (2016, where nurses do not always provide spiritual care to their patients. This validates the claim that spiritual care is often neglected in nursing practice (Hawthorne & Gordon, 2020).

A public hospital often faces challenges related to resource constraints, including understaffing, which places additional burdens on the already limited number of healthcare providers available. Filipino nurses are known to be hard-working and patient (Jurado & Saria, 2018) and go the extra mile beyond what is expected. However, missed care is more likely to occur when nurses are overworked and stressed. Thus, nurse managers should strictly follow the 1:20 nurse-to-patient ratio in the general wards set by the Department of Health in the Philippines (Tamayo *et al.*, 2022). In reality, the nurse-to-patient ratio of the locale of this present study is 1:30 which indicates a significant strain on nursing resources, which can have implications for discharge planning and education. With a high number of patients to attend to, nurses may find it challenging to allocate sufficient time and attention to each individual's discharge needs.

Preparedness for Self-Management

The results are quite worrying because the respondents are moderately prepared only in the context of attending their follow-up appointments and taking the recommended take-home medications. The low preparedness for adhering to the ideal diet resonates with Reyes-García *et al*. (2022), where hypertensive patients have low adherence to the Dietary Approaches to Stop Hypertension (DASH) diet. The low preparedness of the respondents in terms of faith in healing and God may be linked to their spirituality (Cariñgal, Medina, & Umali, 2022). The patients' lack of preparedness in managing the medication's side effects may be attributed to the nurses' failure to provide health education on the possible undesirable effects of the medications. Perera *et al*. (2022) disclosed that nurses failed to explain anything about any medication side effects or inadequacies in the discussion of the possible side effects of the medications, respectively.

The participants' unpreparedness in performing the ideal exercise at home agrees with AlHadlaq *et al*.'s (2019), where more than half of the hypertensive patients (52.4%) lack the confidence to exercise, 51 patients (51.3%) were not motivated to exercise, and 51 patients (27.3%) had no time for exercise. The participants' unpreparedness for implementing the teachings on vices resonates with Hessler *et al.*'s (2019), where only 16.3% of the patient's prioritized behavior change over alcohol intake. The study by Jiang *et al*. (2020) confirms the findings on the unpreparedness of the participants and the signs and symptoms that they should look out for at home. In their study, it was observed that patients with chronic heart failure (CHF) have a low understanding of the links between symptoms and the CHF condition. Thus, patients often feel unprepared for their self-management during the period of transition after discharge from the hospital.

The participants' unpreparedness for the restricted activities at home, connecting with community services, and consulting other specialists and health experts for further medical management may be linked with the omission of the nurses in providing discharge education. Gustafsson *et al*. (2020) report that 73.7% of the patients believed that a discharge plan was one of the nurses' missed cares lends credence to this assumption.

On the other hand, the participants' unpreparedness in adhering to the diet restrictions agrees with Al-Salmi, Cook, and D'Souza (2022) and Sukartini, Efendi, and Putri (2022), where patients with type 2 diabetes mellitus and hemodialysis patients, respectively, have poor dietary adherence because they lack an understanding of the significance of it. Lack of awareness of the consequences of such non-adherence may have contributed to the participants' unpreparedness in monitoring the complications of such non-adherence to dietary recommendations. Nooriani *et al*. (2019) study, in which the hemodialysis patients in the intervention group who received education sessions in 4 weeks showed significant increases in scores of perceived susceptibility and perceived severity, indicates that patients perceived the negative effects of not adhering to the recommended diet.

Relationship between the Nurses' Extent of education and Patient's Preparedness for Self-Management

According to this study, the extent of the nurses' discharge education and the readiness of the patients for discharge were both positively correlated. This suggests that when nurses provide more extensive discharge education, patients tend to be more prepared for their discharge from the hospital. Hesselink *et al*. (2022) emphasis that patients' at-home self-management will improve if caregivers and patients receive adequate discharge instructions supports this.

CONCLUSION

This study highlighted the importance of nurses providing comprehensive discharge education in promoting patients' self-management. Hence, it is a great challenge for nurses to provide discharge education despite the heavy workloads and understaffing. The incorporation of the MEHORDS contents may not only assist the nurses in managing their time in the provision of discharge education to patients but also serve as a guide to nurses in delivering a thorough discharge education. Thus, patients may be equipped with the necessary information and resources for a successful transition from the hospital to self-management in their homes. Furthermore, the results have significant implications for healthcare providers and policymakers. Nurse supervisors in general wards in the Philippines must adhere to a nurse-to-patient ratio of 1:20. Effective discharge education programs can also be designed to improve patient preparedness and post-discharge outcomes. Studies can also be conducted to determine other factors that might have an impact on the nurses' poor discharge education implementation.

Conflict of Interest

The authors declare that they have no conflict of interests.

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