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Association of the Skills and Performance of Nurses in Patient Education in Vasei Hospital in Sabzevar, Iran

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ABSTRACT

Background & Objective: Patient education is one of the most important aspects in nursing. Nurses are able to change the life of patients, reduce stress and hospitalization rates, increase the quality of life, and diagnose diseases through effective patient education. The present study aimed to evaluate the association of the skills score and educational performance of nurses in Vasei Hospital in Sabzevar, Iran.

Materials and Methods: This descriptive-analytical study was conducted in Vasei Hospital, which is a teaching clinical center in Sabzevar, Iran in 2016. Sample population consisted of 113 nurses employed in Vasei Hospital. Data were collected using the questionnaires of nursing educational performance, skills, and demographic characteristics during the admission, hospitalization, and discharge of patients. Data analysis was performed in SPSS version 20 using Spearman's correlation-coefficient, Mann-Whitney U test, and Kruskal-Wallis test.

Results: The highest level of educational skills in nurses was observed in familiarizing the patients with the hospital ward (84.1%), dose and mode of drug administration (69%), and training on self-care skills (66.4%). Moreover, the results of educational performance in the nurses indicated that patients were provided with the highest level of learning during admission, hospitalization, and discharge regarding the general rules of the ward (62.8%), mode of drug administration (67.3%), and referral to other healthcare centers (66.4%). A significant positive correlation was also observed between the scores of nursing skills and performance in patient education ($r=0.62$; $P<0.001$).

Conclusion: According to the results, nurses transferred their learned skills through patient education. Although the overall status of patient education by nurses was favorable during the admission and discharge of patients, improvements were required in this regard during admission. Therefore, healthcare authorities should attempt to raise the awareness of nurses on effective patient education.

Introduction

Learning and education are basic needs in humans, which are associated with limitations in the personal care of an individual (1). Patient education is a scheduled composition of educational activities to help patients change their behaviors, so that they could improve their health (2).

Patient education encompasses various health-related and educational factors, some of which are effective in preparing patients to cooperate in the nursing care process, while enabling them to directly address their health issues, improve self-control, and accomplish expert and routine care (3).

According to patient's bill of rights, a patient should receive the exact information on their diagnosis and type of treatment, while provided with pre-awareness as well (4). In other words, the aim of patient education is to apply information and skills for the control of the disease by the patient. On the other hand, patient education is considered to be an important aspect of health improvement and patients' rights, which could be accomplished by the healthcare team, especially nurses (5).

Several studies have indicated that patient education is an effective care intervention to decrease healthcare costs and improve the quality of care. According to the statistics in the United States, the cost imposed on the healthcare system due to the issues caused by the lack of patient education is 69-100 million dollars per year. If one dollar is expensed on the education of each patient, 3-4 dollars are saved in the costs of treatment, care, and discharge of patients (5, 6).

Although patient education is considered to be a critical healthcare standard and priority, various studies have denoted the lack of patient education by nurses (7). It seems that nurses neglect some of their responsibilities despite their awareness of their moral duty in educating clients and the importance of this healthcare aspect (8). In a study, Soltani Khabisi et al. (2006) claimed that nurses had poor performance in the education of patients. The authors asserted the paramount importance of this issue, proposing to further explore the causes of the nurses' negligence in this regard (9).

If nurses consider their performance in patient education, they will be able to obtain the necessary qualifications to fulfill their responsibilities. Self-evaluation enables nurses to identify their strengths and weaknesses in patient education, attempting to overcome the challenges. Self-evaluation refers to the assessment of

the accomplished responsibilities by nurses to consider their situational clinical performance in order to improve their defects. Therefore, nurses are encouraged to play an active role in the learning process of patients and facilitate constant learning (10).

Previous studies have explored the extent to which nurses are able to educate patients through skills and performance, and various solutions have been proposed as well. Since nurses transfer educational skills to patients, acquiring such skills is of paramount importance. The ability of nurses in learning and transferring educational skills to patients achieves the healthcare goals in this regard, confirming the efficiency of nurses in educational skills and nursing performance.

Considering the lack of similar studies in the literature, the present study aimed to evaluate the association of nursing skills and performance with patient education.

Materials and Methods

This descriptive-analytical study was conducted in 2016. Sample population consisted of the nursing staff in Vasei Hospital, affiliated to Sabzevar University of Medical Sciences in Sabzevar, Iran. Participants were selected via convenience random, and the sample size was determined at 113 nurses based on the following formula:

$$n= [(z_{1-\alpha/2}+z_{1-\beta}) / (0.5\times ln\frac{1+r}{1-r})]^2+3$$

In this formula, n refers to the number of the required samples, $z_{1-\alpha/2}$ signifies the reliability coefficient (1.96), $z_{1-\beta}$ is the test power (1.28), and r represents the lowest correlation-coefficient.

Inclusion criteria of the study were a minimum work experience of one year in the ward, constant presence in the ward, and consent for participation in the research.

Data were collected using two questionnaires, including the demographic characteristics questionnaire and another scale consisting of two sections. The first section included 24 items on the educational skills of nurses upon admission (three items), during hospitalization (17 items), and at discharge (four items) based on the viewpoint of the nurses. Items in this section were scored based on a three-point Likert scale (‘I Have Adequate Skills’: 2, ‘I Have Some Experience’: 1, ‘I Have No Skills’: zero).

The second section of the questionnaire consisted of 24 items to evaluate the performance of nurses in patient education during admission, hospitalization, and discharge. Items in this section were scored based on a three-point Likert scale (‘I Have Completely Educated Patients’: 2, ‘I Have Partly Educated Patients: 1, ‘I Have Not Educated Patients At All’: zero).

Validity of the questionnaires was confirmed using content validity, and modifications were made based on the opinions of a panel of ten experts. Furthermore, reliability of the instruments was assessed through a pilot study performed on 30 nurses and confirmed at the Cronbach's alpha of 0.85 and 79% for the educational skills and educational performance of nurses, respectively.

The researcher attended the hospital in the morning, evening, and night working shifts. Initially, the researcher was introduced to the nursing staff, and the objectives of the study were explained. Afterwards, informed consent was obtained from the participants, and the questionnaires were completed.

Data analysis was performed in SPSS version 20 using descriptive statistics (mean and standard deviation for quantitative data, frequency and percentage for qualitative data), Spearman's correlation-coefficient, Mann-Whitney U test, and Kruskal-Wallis test.

Results

In terms of the demographic characteristics, 91 participants were female (80.5%), and 90 nurses were married (79.6%). Associations of the skills and performance of nurses in patient education based on demographic characteristics are presented in Table 1. Accordingly, nursing educational skills and performance had significant correlations with the age, marital status, employment status, work experience, duration of patient education, satisfaction with monthly income, and ward of employment in the nurses. Moreover, a significant correlation was observed between the educational performance of nurses and the ward of employment ($P<0.05$).

Table 1. Correlations of Demographic Characteristics and Skills and Performance of Nurses in Patient Education in Vasei Hospital in Sabzevar, Iran

Demographic Characteristics		**N (%)**	**Test**	**Educational Skills**			**Educational Performance**		
				Maximum Correlation	**Minimum Correlation**	**P-value**	**Maximum Correlation**	**Minimum Correlation**	**P-value**
Gender	Male Female	22 (19.5)	Mann-Whitney U	Female	Male	0.660	Male	Female	0.465

		91 (80.5)							
Age (year)	<25 25-30 30-35 >35	22 (19.5) 39 (34.5) 16 (14.2) 36 (31.8)	Kruskal-Wallis	>35	<25	0.000	30-35	<25	0.359
Marital Status	Single Married	23 (20.4) 90 (79.6)	Mann-Whitney	Married	Single	0.003	Married	Single	0.800
Education Level	BSc MSc	108 (95.6) 5 (4.4)	Mann Whitney	MSc	BSc	0.179	MSc	BSc	0.994
Employment Status	Official Treaty On Contract Nurse under Supervision of Private	19 (16.8) 49 (43.4) 5 (4.4)	Kruskal-Wallis	Official	On Contract	0.002	Official	On Contract	0.963

	Companies On Project	15 (13.3) 25 (22.1)							
Work Experience (year)	<5 5-10 >10	52 (46) 18 (15.9) 43 (38.1)	Kruskal-Wallis	>10	<5	0.001	5-10	>10	0.572
Work Shift	Constant Rotational	5 (4.4) 108 (95.6)	Mann-Whitney	Constant	Rotational	0.176	Constant	Rotational	0.334
Method of Patient Education	Routine New Methods	100 (88.5) 13 (11.5)	Mann-Whitney	New Methods	Routine	0.255	New Methods	Routine	0.308
Duration of Patient Education (hour)	<200 200-400 400-600 >600	48 (42.5) 25 (22.1)	Kruskal-Wallis	400-600	<200	0.000	>600	400-600	0.975

		18 (15.9) 22 (19.5)							
Duration of Education in Recent Month (hour)	<150 150-200 200-250 >250	17 (15.0) 51 (45.1) 38 (33.6) 7 (6.2)	Kruskal-Wallis	150-200	<150	0.137	>250	200-250	0.222
Satisfaction with Monthly Income	Satisfied Relatively Satisfied Dissatisfied	4 (3.5) 44 (38.9) 65 (57.6)	Kruskal-Wallis	Dissatisfied	Satisfied	0.002	Dissatisfied	Satisfied	0.071
Interest in Nursing	Interested Relatively Interested Uninterested	56 (49.6) 42 (37.2) 15 (13.3)	Kruskal-Wallis	Uninterested	Interested	0.606	Uninterested	Interested	0.685

Ward of Employment	Neurology Infections ICU Emergency Mental Surgery Internal Cardiac Burns Dialysis CCU	12 (10.6) 9 (8) 12 (10.6) 21 (18.6) 6 (5.3) 12 (10.6) 12 (10.6) 10 (8.8) 4 (3.5) 7 (6.2) 8 (7.1)	Kruskal-Wallis	Cardiac	Neurology	0.002	Burns	Neurology	0.002

According to the results, 91 nurses (84.1%) had adequate skills in patient education, 71 of whom (62.8%) educated patients on the general rules of the ward upon admission. Furthermore, 78 nurses (69.0%) trained patients on the dose and

mode of drug administration, and 76 nurses (67.3%) trained patients on the mode of medication use during hospitalization. In addition, 75 nurses (66.4%) had adequate skills in self-care training, 75 of whom (66.4%) thoroughly trained patients on referral to other healthcare centers upon discharge .

Table 2. Frequency of Skills and Performance in Patient Education from the Viewpoint of Nurses in Vasei Hospital in Sabzevar, Iran in 2016

Number	**Questions Relating to Educational Performance of Nurses**		**Evaluation of Skills in Nurses N (%)**			**Evaluation of Performance in Patient Education N (%)**		
			Adequate Skills	**Relative Skills**	**No Skills**	**Complete Education**	**Relative Education**	**No Education**
1	Training upon Admission	Familiarity with Ward	95 (84.1)	18 (15.9)	-----	68 (60.2)	42 (37.2)	3 (2.7)
2		Applying Tools and Equipment	74 (65.5)	39 (34.5)	-----	70 (61.9)	42 (37.2)	1 (0.9)
3		General Rules of Ward	81 (7.7)	30 (26.5)	2 (1.8)	71 (62.8)	41 (36.3)	1 (0.9)
4	Training during Hospitalization	Cause of Disease	38 (33.6)	67 (59.3)	8 (7.1)	43 (38.1)	63 (55.8)	7 (6.2)
5		Risk of Disease Relapse	46 (40.7)	63 (55.8)	4 (3.5)	46 (40.7)	58 (51.3)	9 (8.0)
6		Pre-awareness of Disease	48 (42.5)	61 (54.0)	4 (3.5)	47 (41.6)	60 (53.1)	6 (5.3)
7		Disease Risk Factors	54 (47.8)	57 (50.4)	2 (1.8)	61 (54.0)	48 (42.5)	4 (3.5)
8		Complications of	54 (47.8)	55 (48.7)	4 (3.5)	56 (49.6)	51 (45.1)	6 (5.3)

		Disease						
9		Treatment Methods	59 (52.2)	54 (47.8)	-----	63 (55.8)	48 (42.5)	2 (1.8)
10		Features of Drugs	55 (48.7)	53 (46.9)	5 (4.4)	56 (49.6)	51 (45.1)	6 (5.3)
11		Drug Administration Mode	78 (69.0)	34 (30.1)	1 (0.9)	76 (67.3)	29 (25.7)	8 (7.1)
12		Drug Dose	78 (69.0)	30 (26.5)	5 (4.4)	73 (64.6)	31 (27.4)	9 (8.0)
13		Time of Drug Use	76 (67.3)	34 (30.1)	3 (2.7)	74 (65.5)	31 (27.4)	8 (7.1)
14		Drug Side Effects	48 (42.5)	56 (49.6)	9 (8.0)	58 (53.1)	38 (33.6)	17 (15.0)
15		Starting Time of Diet	64 (56.6)	49 (43.4)	------	70 (61.9)	41 (36.3)	2 (1.8)
16		Useful Foods	65 (67.5)	45 (39.8)	3 (2.7)	71 (62.8)	39 (34.5)	3 (2.7)
17		Useless Foods	64 (56.6)	48 (42.5)	1(0.9)	70 (61.9)	40 (35.4)	3 (2.7)
18		Resuming Routine Activities	59 (52.2)	52 (46.0)	2 (1.8)	58 (51.3)	52 (46.0)	3 (2.7)
19		Activity	60 (53.1)	51 (45.1)	2 (1.8)	66 (58.4)	42 (37.2)	5 (4.4)
20		Relaxation	69 (61.1)	42 (37.2)	2 (1.8)	64 (56.6)	44 (38.9)	5 (4.4)
21		Home Care Techniques	68 (60.2)	42 (37.2)	3 (2.7)	73 (64.6)	36 (31.9)	4 (3.5)
22		Self-Care Training	75 (66.4)	38 (33.6)	-	73 (64.6)	38 (33.6)	2 (1.8)
23	Patient Education at Discharge	Follow-up of Therapy and Next	74 (65.5)	35 (31.0)	4 (3.5)	74 (65.5)	31 (27.4)	8 (7.1)

		Appointment with Physician						
24		Referral to Other Healthcare Centers	68 (60.2)	43 (38.1)	2 (1.8)	75 (66.4)	31 (27.4)	7 (6.2)

In the present study, mean scores of nursing skills and performance in patient education were 37.13±9.18 and 36.63±9.58, respectively. The results of Spearman's correlation-coefficient indicated a positive significant association between the skills and performance of nurses in patient education ($r=0.62$; $P<0.001$).

Discussion

According to the findings of the current research, maximal training was provided for patients upon admission, which was focused on the general rules of the ward. The following learning contents involved the application of tools and equipment and familiarity with the ward. These findings are inconsistent with the study by Heshmatifar et al. (2014) (11). In the mentioned study, patient education was prioritized as the application of tools and equipment, familiarity with the ward, and general rules of the ward. Admission to the hospital and no knowledge of using medical tools cause stress and anxiety in patients. Nurses are able to confront these issues through the effective training of patients (12).

Evaluation of the performance of nurses indicated that the lowest score in patient education belonged to training during hospitalization, while patient education during hospitalization was reported to be the foremost priority in the study by Kalantari et al. (2012) (13). In the present study, maximal patient education was focused on the methods and time of medication intake and appropriate drug dose. In another research, Kerzman et al. (2005) reported that discharged patients had limited information regarding the use of medications. Furthermore, in a study conducted on 1,220 discharged patients from surgery wards, 40% of the patients mentioned receiving no training on medication intake, which is in contrast to the results of the present study (14).

With respect to patient education at discharge, nurses in the current research extensively trained patients on referral to other healthcare centers, while patient training on home care techniques was not

sufficient. In the study by Heshmatifar et al. (2014), the highest and lowest training level were on the follow-up care and next appointment with the physician and self-care skills, respectively (11).

Evaluation of the performance of nurses indicated the highest score in patient education at the time of discharge. Accordingly, the accomplished educational schedules in recent years have been efficient in providing patient education as a critical aspect of nursing profession (13, 15). Therefore, patient education should be considered in order to observe educational standards and raise the awareness of patients by nurses, so that re-hospitalization due to lack of training would be prevented (9).

In the present study, the scores of the skills and performance of nurses in patient education were favorable. Our findings are in congruence with the studies by Kalantari et al. (2012), while in contrast with the results obtained by Soltani Khabisi et al. (2006). The discrepancy could be due to the different methodologies of the studies. Self-evaluation was applied in the present study and the research by Kalantari et al. (2011), while in the study by Soltani Khabisi et al. (2006), patients evaluated the educational skills and performance of nurses. In this regard, Heshmatifar et al. (2014) stated that despite the key role of nurses in patient education, nurses did not pay attention to this aspect of health care, and the mean score of patients was lower compared to the score of nurses in patient education (11).

Findings of the current research indicated a positive significant association between the scores of skills and performance of nurses in patient education as nurses were able to transfer their learned skills to patients at various intervals.

According to the results of the present study, nurses employed in the burns ward paid more attention to patient education compared to the nurses in the other wards of the hospital. In the study by Kalantari et al. (2011), nurses in the surgery and internal wards paid more attention to patient education compared to those engaged in the other hospital wards (13).

Conclusion

Patient education is one of the foremost responsibilities of nurses, and the role of nursing management cannot be undermined in the improvement of education quality. Findings of the current research could be beneficial in enhancing the quality of patient education and care. Therefore, it is recommended that healthcare authorities and nurses take proper measures to overcome the challenges in this regard.

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References

1. Albada A, Elbers E, Visser A. Patient education in Western European hospitals: A comparison of the Netherlands, Flanders and England. Patient Education and Counseling. 2007;66(1):4-10.
2. Bastable S. Nurse as Educator; Principles of Teaching and Learning for Nursing Practice. 2nd edition. Massa Chusetts: Jones and Bartlett Publishers.2003.
3. Kosgeroglu N, Bahaddin M, Ayranci U, Ozabaci N, Erkal S. An investigation on nursing, midwifery and health care student's learning motivation in Turkey. Nurs Educ Pract 2008; 14(5): 1-9.
4. Taylor CR, Lillis C, LeMone P, Lynn P, Karch AK. Fundamentals of Nursing: The Art of Science of Nursing Care. 7th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2012.
5. Miller MA , Stoeckel PR , Babcock DE. Client education: theory and practice. 18th ed. Sudbury, Mass, Jones and Bartlett Publishers; 2011:140-7.
6. Mardanihamouleh M, Shahraki A, Rouzitalab M. Compare the importance and performance of patient education services in the view point of nurses and patients. J Jahrom Univ Med Sci 2011; 8(4): 49-55.
7. Golchin M. Evaluating the value of patient education from the viewpoint of nurses.Journal of Razi 2003; 2(1): 56-64.
8. Vahedian azimi A, Hedayat K. Nurses' experiences of barriers and facilitators to patient education. Iranian Journal of Medical Education 2011; 11(6):620-34.
9. Soltani Khabisi A, Azizzadeh forozi M, Haghdoost A, Mohammad
10. Alizadeh S. Nurses' Performance in Training Patients from the Point of View of Patients Discharging from Medical -Surgical Wards of Hospitals Affiliated to Kerman University of Medical Sciences; Center of Medical Education Study and Development 2006; 3(1): 51-57.
11. Campbell B, Mackay G. continuing competence: an Ontario nursing regulatory program that supports nurses and employers. Nurs Adm Q 2001; 25: 22-30.
12. Heshmatifar N, Sadeghi H, Jometondoki H, Akrami R. Assessment of Patient education performance in three time points (admission, hospitalization, discharge) from patients and nurses' outlook in hospitals of Sabzevar. Quarterly Journal of Sabzevar University of Medical Sciences. 2014; 20(5):635-42.
13. Lupón J, González B, Mas D, Urrutia A, Arenas M, Domingo M, Altimir S, Valle V. Patients' self-care improvement with nurse education intervention in Spain assessed by the European heart failure self-care behaviour scale. Eur J Cardiovasc Nurs. 2008;7(1):16-20.
14. Kalantari S, Karegar Najafi M, Abbaszadeh A, Sanagoo A, Borhani F. Nurses' Perception of Performance of Patient Education. Jentashapir.2012; 2(4):167-174.
15. Kerzman H, Baron O, Toren O. What do discharge patients know about their medication. Patient Educ Couns 2005; 56(3):276-82.
16. Moradian Dehkordi L, Salahshooryan A, Mohammadalihan H, et al. [Rated understanding of nurses to patient education, facilitating factors and their inhibitors]. Iranian Journal of Nursing. 2004; 40(17):18-27.