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Current situation of knowledge, practice skill of nurses on wound care and some related factors according to Vietnamese nursing competency standards: A study in a hospital in Hanoi

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Abstract

Background: The introduction of Vietnamese Nursing Competency Standards in 2012 has urged the needs for re-assessment of nursing skills, with the aim to improve the quality of the training on wound care in country.

Purposes: The study aimed to describe knowledge and practice of nurses on wound care and identify some the related factors in order to make the recommendation for improvement of the nursing care competency.

Methods: This a cross-sectional descriptive prospective study was conducted in Ha Dong General Hospital from July 2023 to October 2023.

Results: 76 clinical nurses were enrolled with the mean age was 35.6±6.8 years, female nurses most commonly accounted for 89.5%. Notably, the lowest average score in terms of knowledge was observed in suture removal (9.74±3.21) and pressure ulcer wound care (6.93±1.63). In terms of practice, the lowest average score was recorded for pain assessment and bleeding control (7.91±1.33). Furthermore, the study revealed a statistically significant correlation between knowledge and working experience ($p<0.05$). Nurses with a good level of knowledge were found to have a 4.66 times higher likelihood of demonstrating good practice (OR=4.66).

Conclusions and recommendations: The factors related to the competency of wound care of nurses were found in the study strongly suggest the need for improvement of quality of training in order to align with the established standards.

Keywords: Wound care; Nursing competency; Nursing ability; Nursing standards

1. Introduction

Compared to other specialties of nursing care, wound care was a new, however rapidly evolving field, presenting nurses with the added challenge of expanding their knowledge and expertise in evidence-based. The absence of standardized wound education programs, coupled with the diverse and complex nature of wound causes and treatments, has had a detrimental effect on the quality of wound care. Attitude and motivation on behalf of the individual/organization, as well as the necessary confidence and competence to implement best practices have also been identified as potential barriers to the adoption of evidence-based practices (Pat Mccluskey and Mccluskey McCluskey, 2012) [1].

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Wound care plays a crucial role in Vietnam's healthcare system. With the "Decision No. 1352/QD-BYT" in 2012, the Vietnamese Nursing Competency Standards was introduced by the Ministry of Health of Vietnam for this issue [2]. Viet Duc University Hospital, one the biggest centers of surgery in country took the lead in developing a training program aligned with these standards and initiated the training in 2017 (Phan et al., 2017) [3]. Subsequently, several hospitals such as Agricultural General Hospital, has successfully implemented this training program. Notably, after 12 months of training, there was a significant improvement in the mean scores of knowledge and practice related to wound care of nurses (Phan Thi Dung et al., 2020) [19].

Nurses working in certain care settings have encountered difficulties in wound assessment and management. It has been observed that factors such as the duration of time spent in specific care settings and overall nursing experience have a positive impact on the development of competence in delivering wound care. However, limited studies have identified the factors associated with the outcomes of training programs in Vietnam. Therefore, this study was conducted at Ha Dong General Hospital, one of the biggest hospitals belong the Health Department of Hanoi, with the aim is to assess the knowledge and practice of nurses on wound care and identify some the related factors in order to make the recommendation for improvement of the nursing care competency.

2. Material and methods

2.1. Study participants

The study recruited 76 nurses working at 5 clinical departments and directly providing wound care.

2.2. Study duration

The study took place from July 2023 to October 2023.

2.3. Study sites

Five clinical departments of Ha Dong General Hospital were enrolled in following study sites:

- Dept. of Obstetrics - Gynecology;
- Dept. of Gastrointestinal Surgery;
- Dept. of Orthopedic Trauma,
- Dept. of Thoracic Neurology, and
- Dept. of Urology- Nephrology.

2.4. Study design

The study employed a descriptive cross-sectional approach to determine the mean knowledge and practice scores among nurses involved in teaching and learning activities. The specific areas assessed included general subject characteristics, comprehension of dressings, pain management, and the utilization of pain assessment methods. Furthermore, the study examined the correlation between knowledge, practice, and the some characteristics of the study participants.

2.5. Study tools

The study used the questionnaire developed by Phan Thi Dung et al. (Phan Thị Dung et al., 2016). It consists of the following questions:

- General information of the study partcipants (14 questions)
- Assessment

Assessment of knowledge: This section comprised 50 questions, namely 48 closed questions involving 10 knowledge groups and 2 open questions:

- - 48 closed questions belonging to 10 knowledge groups, including:
  - General wound care;
  - Infection control;
  - Communication skills and teamwork;
  - Patient health education;
  - Management and professional development;

- Clean wound care;
- Infectious wound care;
- Suture removal;
- Drainage; and
- Pressure ulcer wound care.

Scoring method: Each accurate response earns 1 point, while an incorrect answer receives 0 point. The maximum total score reaches 167 points. Adequate knowledge is indicated by a total score that equals or exceeds 80% of the maximum total score (80% of 167 points, or 133.6 points).

- Open questions: These two open questions focused on dressing types and pain assessment.

Assessment of practice: Wound care practice is evaluated using 16 indicators, each scored from 1 to 10 based on nurses' proficiency. Scores incrementally increase with higher proficiency. Total scores range from a minimum of 10 to a maximum of 160 points. Nurses with a total score ≥80% of the maximum score (≥128 points) are considered to have good practice.

2.6. Data collection

In term of Knowledge, the study participants were provided with information about the study's purpose and the content of the questionnaires. They were requested to complete independently the questionnaires.

Meanwhile, in terms of the Practice section, two investigators observed each nurse independently at two different times for separate assessments.

2.7. Data analysis

The collected data was analyzed using SPSS 22.0 software. Descriptive statistics, including means, medians, and standard deviations, were calculated for quantitative variables.

For qualitative variables, descriptive statistics such as percentages, Chi-square tests, and logistic regression were employed. Inferential statistics were used to compare differences between groups for qualitative variables. A statistical significance level of $p<0.05$ was applied in the inferential statistics.

2.8. Ethical clearance

The study was approved by the Ethics Committee of the University of Public Health, as indicated in Decision No. 248/2020/YTCC-HD3, dated June 19, 2020.

3. Results

3.1. General characteristics of study participants

The characteristics of 76 nurses involved in this study are presented in the following table:

Table 1 General characteristics of the study participants (n = 76)

Characteristics		**Frequency (n)**	**Percentage (%)**
Mean age (± SD), years		**35.6±6.8 (Range: 23-55)**	
Gender	Men	8	10.5
	Women	68	89.5
Education levels	Medical secondary school	2	2.6
	College	57	75.0
	University	16	21.1
	Post-university	1	1.3

Mean duration of work experience (± SD), years		10.97±7.25 (Range: 6-32)	
Work experience at hospital	< 5 years	15	19.7
	5-9 years	26	34.2
	10-20 years	28	36.8
	> 20 years	7	9.2
Work experience at a clinical department	< 5 years	21	27.6
	5-9 years	25	32.9
	10-20 years	24	31.6
	> 20 years	6	7.9
Clinical departments	Obstetrics & Gynecology	32	42.0
	Gastrointestinal Surgery	14	18.4
	Orthopedic Trauma	10	13.2
	Thoracic Neurology Surgery	10	13.2
	Urology Surgery	10	13.2
Participation in wound care training or workshops	No	2	2.6
	Yes	74	97.4

In this study, nurses aged 30 to less than 40 years constituted the highest proportion of 61.8%. The mean age was 35.6 ± 6.8 years. College education was the prevailing level of education, accounting for 75% of participants. The largest number of participants had a duration of work experience which ranged from 10 to 20 years (36.8%) and 5-10 years (34.2%). Nurses from the Obstetrics and Gynecology department outnumbered those from the other clinical departments. A significant majority of nurses in this group (97.4%) had received training in wound care.

3.2. Wound care knowledge

Table 2 Wound care knowledge (n = 76)

Types of wound care knowledge	**Mean score (X ± SD)**	**Ratio between Mean Score and Maximum Score**	**Adequate knowledge (n, %)**
General knowledge (44 points)	35.36 ±4.39	0.80	40 (52.6)
Infectious control (10 points)	7.50± 2.12	0.75	40 (52.6)
Communication skills and teamwork (17 points)	12.58± 3.07	0.74	51 (67.1)
Patient health education (10 points)	8.72± 1.71	0.87	57 (75.0)
Management and professional development (32 points)	25.89 ± 5.62	0.81	42 (55.3)
Clean wound care (2 points)	1.86±0.45	0.93	63 (82.9)
Infectious wound care (20 points)	14.67±2.69	0.73	31 (40.8)
Suture removal (14 points)	9.74±3.21	0.69	32 (42.1)
Drainage (8 points)	6.24±1.18	0.78	44 (57.9)
Pressure ulcer wound care (10 points)	6.93±1.63	0.69	32 (42.1)

Maximum Total Score: 167 points	129.4±19.9	0.77	42 (55.3)

The highest scores were clear wound care (1.86±0.45), health education (8.72±1.71), and general knowledge on wound care (35.36±4.39), respectively. Conversely, the lowest scores were related to suture removal (9.74±3.21) and pressure ulcer wound care (6.93±1.63).

55.3% of participants demonstrated an adequate level of general knowledge on wound care. However, the lowest level of knowledge was found in infection-related wound care, which stood at 40.8%.

Table 3 Knowledge of dressing types (n = 76)

Knowledge of dressing types	No (n, %)	Yes (n, %)	**Knowledge of dressing types**	No (n, %)	Yes (n, %)
Regular dressing	0 (0)	76 (100)	Hydrocolloid	66 (86.8)	10 (13.2)
Lipido-Colloid with silver	4 (5.3)	72 (94.7)	Forms	71 (93.4)	5 (6.6)
Polyacrylate	21 (27.6)	55 (73.4)	Hydrogel	73 (96.1)	3 (3.9)
Alginates	50 (65.7)	26 (34.3)			

All nurses knew about regular dressing and Lipido-Colloid with silver. However, when it came to other types of dressings such as Forms (6.6%) and Hydrogel (3.9%), the leve of awareness was considerably lower.

Table 4 Knowledge of pain assessment (n=76)

Knowledge on pain assessment	**Frequency (n)/ Percentage (%)**
VAS scale	58 (76.3)
Observation	18 (23.7)

Nurses knowing how to assess pain with the VAS scale and visual observations accounted for 76.3% and 23.7%, respectively.

3.3. Wound care practice

Table 5 Wound care practice (n = 76)

	Types of wound care practice	**Mean scores (X ±SD)**
	Assessing skills	
1	Assessing patients	8.18 ± 0.86
2	Assessing wounds	8.14 ±0.87
3	Ensuring the adequacy, readiness, and appropriateness of medical equipment	8.3 ± 1.22
	Wound care planning skills	
4	Planning proper wound care	7.95 ±0.81
5	Ensuring that patients are well prepared to receive medical procedures	8.22 ±0.82
	Performing the wound care procedure	
6	Introducing themselves and explaining to patients about what are to be done	8.38 ±0.87
7	Changing dressings safely and properly	8,22 ±0,92
8	Strictly following the disinfection and sterilization principles	8.26 ±0.77
9	Preparing proper medical equipment for wound care	8.33 ±1.06

10	Ensuring the work environment is safe and private	8.05 ±0.89
11	Communicating with patients while taking care of their wounds	8.24 ±0.99
12	Ensuring each step of the procedure is performed within the specified length of time	8.13 ±0.81
13	Completing the wound care procedure and making sure patients feel comfortable	8.34 ±0.75
14	Cleaning up medical equipment used for wound care	8.36 ±0.98
	Evaluating skills	
15	Documenting medical records appropriately and adequately	8.45 ±1.08
16	Monitoring and assessing patients' pain and bleeding after wound care	7.91 ±1.33
	Total mean score	131.5±11.01

Medical record documentation received the highest score (8.45 ±1.08), followed by self-introduction and procedure explanation (8.38 ±0.87) and thorough cleaning of wound care equipment (8.36 ±0.98). Conversely, nurses scored lowest in pain management and bleeding control (7.91±1.33).

Table 6 Rates of good practice (n = 76)

Descriptions	**Adequate practice (n, %)**
Patient identification	56 (73.7)
Wound care planning skills	50 (65.8)
Performing the wound care procedure	53 (69.7)
Evaluating skills	48 (63.2)
Overall practice	49 (64.5)

Among all practical skills, the assessment of wounds received the highest score at 73.7%, while the lowest score was observed in evaluation skills, at 63.2%. Furthermore, nurses had a score of 64.5% in the overall practical skills.

3.4. Factors related to wound care knowledge and practice

Table 7 Relationship between study participant demographic factors and their knowledge

Nurses' demographic characteristics	**Knowledge**		**OR (CI 95%)**	***p***
	Good	**Poor**		
Age group				
< 30 years	9 (56.2)	7 (43.8)	1.05 (0.34-3.19)	0.92
≥ 30 years	33 (55.0)	27 (45.0)		
Gender				
Men	3 (37.5)	5 (62.5)	2.24 (0.5-10.1)	0.29
Women	39 (57.4)	29 (42.6)		
Education level				
Medical secondary school and College	32 (54.2)	27 (45.8)	1.2 (0.4-3.5)	0.73
University and Postgraduate	10 (58.8)	7 (41.2)		
Working experience				
< 10 years	16 (45.7)	19 (54.3)	2.05	0.12

≥ 10 years	26 (63.4)	15 (36.6)	(0.8-5.12)	

The knowledge of the two age groups was similar. However, it is observed that female nurses tend to have higher knowledge of wound care, compared to their male counterparts (57.4% vs. 37.5%). Furthermore, individuals with university and postgraduate degrees demonstrated higher knowledge of wound care than those who only completed medical secondary and college programs. Their knowledge has no relationship with age group, gender and education level. Nurses working at least 10 years in hospitals had better knowledge than the group working less than 10 years there (p=0.12). Compared to nurses with less than 10 years working in a clinical department, those with at least 10 years of work experience in that environment demonstrated significantly higher knowledge levels (OR = 3.2 times, p<0.05).

Table 8 Relationship between knowledge and practice

Practice	**Knowledge**		**OR (CI95%)**	***p***
	Good	**Poor**		
Passed	6 (22.2)	21 (77.8)	4.66 (1.6-13.5)	0.005
Unpassed	28 (57.1)	21 (42.9)		

Nurses demonstrating proficient knowledge displayed a substantially elevated likelihood of exhibiting good practice, with an OR of 4.66 (95% CI, p = 0.005).

4. Discussions

Nursing competency holds global significance due to its direct impact on patient care quality. Numerous domestic and international studies have acknowledged this issue and recommended improvements in line with the "Decision No. 1352/QD-BYT on Nursing Competency Standards established standards was issued in 2012 by Vietnam's Ministry of Health". The results from study showed some issues to be discussed [2].

4.1. General Characteristic of Study Participants

In our study, the nurses had a mean age of 35.6 ± 6.8 years, much younger than those in the study by Adejumo PO (2016) in Nigeria (mean age: 41.8 ± 9.0 years) [17]. The age profile of nurse population was slightly older compared to the previous study conducted by Phan Thi Dung et al. (2019) in Vietnam (32.56 ± 6.06 years) and the study by Balechew Tegegne et al. (2022) in Ethiopia (31.96 ± 6.10 years) [8,11].

Our research shows that women account for the majority (89.5 %) almost similar to previous study conducted by Phan Thi Dung (2016), female nurses accounted for an overwhelming percentage (84.6%) [5].

The education level of the nurses in our study was relatively high, with 75% of them having attained higher education. This result was higher than that in a study conducted in Ethiopia by Belachew Tegegne et al. (2022) [11], which reported 68.3% of nurses with university degrees or above. Even our result was much higher than that in a study conducted by Phan Thi Dung (2016), where only 8.1% of the nurses had a similar level of education [5]. The reason behind this may be due to the fact that several hospitals in the previous were situated in remote areas where the nurses had limited access to higher education, while our study was carried out in a hospital in Hanoi city.

4.2. Wound Care Knowledge

In our study, we assessed the knowledge scores of nurses on various aspects of wound care. The highest knowledge score was in clean wound care (1.86 ± 0.45), followed by knowledge on health education to patients (8.72 ± 1.71) and knowledge on management and professional development (25.89 ± 5.62). The lowest knowledge scores were the suture removal (9.74 ± 3.21) and pressure ulcer wound care (6.93 ± 1.63). Approximately 55.3% of the nurses had good knowledge of wound care, as indicated in Table 2. These findings were different from a study conducted by Phan TD (2023) [9].

Phan TD (2018) reported the highest knowledge score in patient health education (7.88 ± 2.06), followed by clean wound care (1.55 ± 0.57) and management and professional development (23.72 ± 6.93) [12]. The lowest score was

observed in knowledge of infection control (6.77 ± 1.53). These results align with a previous study conducted by Phan Thi Dung (2016) at Viet Duc University Hospital [5].

In a study by Adejumo PO and Ilesanmi RE (2016), the mean knowledge score for wound care was 23.0 ± 14.0. Only 6% of the participants demonstrated good knowledge of wound care (score >50)[7]. Tegegne B (2022) reported a mean wound care practice score of 21.1 ± 14.2, with 40.3% of participants showing good knowledge of wound care. A study conducted by Nagwa Younes Abou El Enein et al. (2010) revealed a knowledge score of 70% for pressure ulcer wound prevention and management [14,15].

Our study included an assessment of nurses' understanding of different types of dressings commonly used in wound care. The results revealed varying levels of knowledge among the nurses. For example, the percentage of nurses know about Alginates, Hydrocolloids, Foams, Lipido-Colloid with silver and Hydrogels was small (13.2%, 6.6%, 5.3%, and 3.9%) respectively (Table 3). These findings suggest a lack of familiarity among nurses at Ha Dong hospital with advanced dressing types for special wound care, despite the approval of such dressings by the Vietnamese Ministry of Health in 2017 [16].

This indicates a need for updating nurses' knowledge and ensuring they are aware of the available dressing options for effective wound management. Adejumo PO and Ilesanmi RE (2016) conducted a study in Nigeria, concluded that only 30% of nurses were knowledgeable about Hydrogels [13]. Compared to the study by Phan Thi Dung et al. (2016), the nurses had a higher knowledge of dressings because this is an university hospital which specializes in surgery and treats diverse patients with various types of wounds, therefore the nurses have more chance to exposure and use of different dressing types for improved efficacy [5].

According to the results of study, nurses who knew about Lipido-Colloidwith silver accounted for the highest percentage of 83.7%, however, it's only 7.8% to Foams. This may be because Lipido-Colloid is the most commonly used, while Foams was rare in use, despite the latter's being useful in the care of important exudate wounds.

Regarding pain assessment, the study found that 98.7% of the nurses were aware of pain assessment methods, with the Visual Analog Scale (VAS) being the most commonly known method at 76.3%. In contrast, a study by Phan TD et al. (2023) reported that nurses only knew one method of pain assessment by observation. A study conducted at Agricultural General Hospital by Phan Thi Dung et al. (2018) found that a majority of nurses (63.8%) relied on observation alone and had no knowledge of assessing pain in using the VAS scale [9].

These findings highlight the importance of improving nurses' knowledge of pain assessment methods, including the use of standardized scales like the VAS, providing an appropriate and effective pain management for patients

4.3. Wound Care Practice skills

The study showed the highest scores were obtained in documenting medical records appropriately and adequately (8.45 ± 1.08), introducing themselves and explaining the completion of procedures to patients (8.38 ± 0.87), and cleaning up medical equipment after use (8.36 ± 0.98). However, the lowest score was observed in monitoring and assessing patients' pain and bleeding control after wound care (7.91 ± 1.33) (Table 6).

According to the study conducted by Tegegne B et al. (2022), 51.0% of participants demonstrated good practice in wound care [14]. In several studies conducted by Phan Thi Dung et al. (2018 & 2020) revealed that all 16 practical contents scored below the average score. The highest score was observed in ensuring patient understanding of wound care safety (4.9 ± 1.39), while the lowest score was associated with monitoring and assessing patients' pain and bleeding after wound care (1.16 ± 2.46) [14,19].

These results indicate the need for improvement in certain aspects nursing practice related to wound care, particularly in monitoring and assessing patients' pain and bleeding control. By addressing these areas, healthcare professionals can enhance the quality of care provided to patients.

4.4. Factors associated with wound care knowledge and practice skills

The findings in study revealed that there was no significant difference in wound care knowledge between the two age groups. However, female nurses demonstrated a higher level of wound care knowledge (57.4%) compared to male nurses (37.5%). Moreover, nurses with a university and postgraduate education level gained a greater knowledge of wound care compared to those with intermediate and college levels.

Interestingly, while there were slight variations in wound care knowledge across different demographic factors, such as age group, gender, and professional level, these differences were not statistically significant, suggesting that these factors do not have a meaningful impact on nurses' wound care knowledge. Additionally, the study found no significant difference in wound care knowledge between nurses with more than 10 years of work experience and those with fewer than 10 years (p=0.12).

Nurses who have worked in the department for 10 years or more demonstrated significantly higher knowledge in wound care compared to those who have worked for less than 10 years. The knowledge level of nurses is positively correlated with the number of years spent working in the department, and this relationship is statistically significant with a p-value of less than 0.05. Regarding the relationship between nurses' knowledge of wound care and wound care training, the trained nurses have higher levels of knowledge compared to untrained nurses. However, there is no significant relationship between wound care knowledge and wound care training, as indicated by a p-value of 0.19. These findings emphasize the importance of experience and training in enhancing nurses' knowledge in wound care. Further efforts can be made to provide targeted training and education to improve the overall competence of nurses in this critical area of patient care.

4.5. The relationship of age group, gender, education level, and number of working years with their knowledge and practice

There was no association between nurses' practice in and such factors ($p>0.05$). However, duration for working experience was found to be associated with nurse's knowledge ($p<0.05$).

Furthermore, there was a significant relationship identified between knowledge and practice. Nurses with good knowledge demonstrated a practice rate 4.66 times higher compared to those with lower knowledge (95%CI: 1.6-13.5; $p = 0.005$). This suggests that a higher level of knowledge was associated with a higher rate of effective practice.

These findings emphasize the importance of knowledge and experience which impacted to nurses' practice in clinical supervision. By continuously improving knowledge and providing opportunities for professional development, healthcare organizations can enhance the quality of clinical supervision and ultimately improve patient care outcomes.

Tegegne B et al. (2022) conducted a study to evaluate the knowledge and practice of wound care among nurses working in South Wollo Zone Government Hospitals in Ethiopia [14]. The results showed significant associations between certain factors and knowledge of wound care. Specifically, nurses holding a bachelor's degree or above (AOR 3.27, 95% CI 1.97-5.43) and those who received training (AOR 3.71, 95% CI 2.37-5.81) exhibited significantly higher levels of knowledge in wound care. Additionally, the study identified significant associations between certain factors and wound care practices. Nurses with over 10 years of experience (AOR 3.15, 95% CI 1.96–5.04), those who received training (AOR 3.75, 95% CI 2.38–5.85), and those who were not burdened with a high patient load (AOR 3.15, 95% CI 1.96–5.04) demonstrated significantly better wound care practices.

According to the study by Lynn Welsh (2018), several statistically significant differences were found. Firstly, there was a significant difference between nurses with a tissue viability link nurse role and those without such a role ($p<0.002$) [10]. Additionally, nurses with a first-degree education showed a significant difference compared to those without a first degree ($p<0.001$). The study also revealed a significant difference between nurses who had received formal tissue viability training and those with informal training ($p<0.001$). Furthermore, a highly significant relationship was identified between the clinical grade of staff and their overall attitude towards evidence-based practice ($p<0.001$).

Belachew et al. (2022) reported that patient load, training, and work experience were significantly associated with wound-care practices. Nurses who had no patient load had 3.15 times higher odds (95% CI 1.96-5.04) of having good practices compared to those who had a patient load [11]. Furthermore, nurses who received training showed 3.73 times higher odds (95% CI 2.38-5.85) of practicing wound care compared to those who did not receive training. The study also found that nurses with more than 10 years of work experience had 1.82 times higher odds (95% CI 1.16-2.85) of having good practice compared to those with less than 10 years of experience. Interestingly, Phan TD et al. (2021) conducted a similar study and found that patient load, training, and work experience were also significant factors influencing wound-care practices [20].

5. Conclusions and recommendations

The findings from the study revealed that the nurses' performance in accordance with the competency standards issued by Ministry of Health for wound care at Ha Dong General Hospital was suboptimal, indicating a noticeable gap in their

proficiency, it might impact to the quality of practice. It is suggested that the hospital initiates training programs for nurses aligned with the basic competency standards set for Vietnamese nurses. Such training interventions are expected to enhance the quality of care provided by the nurses in the context of wound care.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that they have no conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

[1] Pat Mccluskey và Geraldine MCCLUSKEY. Nurses' knowledge and competence in wound management. Wounds UK 2012, Vol 8, No 2 37.

[2] Vietnam's Ministry of Health. Decision No. 1352/QD-BYT on issuance of Basic Competency Standards for Vietnamese Nurses.2012.

[3] Phan TD, Pham PK, Notter J, Bui MH. Effectiveness of Training Programme on Nurses' Wound Care Competencies after One Year of Implementation. The THAI Journal of SURGERY.2017. 38:140-146.

[4] Phan TD, Le TT, Ha HT. Nurses' Knowledge, Practice, and Confidence after the Training Program on Wound Care at the Agriculture General Hospital in Vietnam. Open Journal of Nursing. 2020, 10, 646-656.

[5] Phan TD. Evaluating the effectiveness of training of wound care based on the basic competency standards for nurses at Viet Duc University Hospital between 2013 -2015. PhD thesis at Hanoi Public Health University. 2016; 62-72-03-01.

[6] Vietnam's Ministry of Health. Decision No. 1352/QD-BYT on issuance of Basic Competency Standards for Vietnamese Nurses.2012.

[7] Adejumo PO, Ilesanmi RE. Issues in Contemporary Wound Management: Evaluation of Knowledge and Practices among Nurses in Two Municipalities in Osun State, Nigeria. Ann Nurs Pract. 2016; 3(6): 1065.

[8] Phan TD, Le TT, Ha HT. Feedback and confidence of nurses after participating the wound care course based on the competency standards for Vietnam nurses. Journal of Medical Research Hanoi Medical University. 2019; 123 (7); pg 48-53.

[9] Phan TD, Nguyen Duc Chinh, Truong Thi My Ha, Mai TT Thuy, Joy Notter. Nurses' wound care competency in a sample of hospitals in Northem Vietnam. British Journal of Nursing. 2023, Vol 32, No 4, 10-20.

[10] Lynn Welsh. wound care evidence, knowledge and education amongst nurses: a semi-systematic literature review. Int Wound J. 2018 Feb; 15(1): 53–61]

[11] Belachew Tegegne et al. Knowledge and Practice of Wound Care and Associated Factors among Nurses Working in South Wollo Zone Government Hospitals, Ethiopia. Chronic wound care management and research, 2022, Vol. 9: 1-11. DOI https://doi.org/10.2147/CWCMR.S366322.

[12] Phan Thi Dung, Nguyen Van Toi, Trinh Thi Bich Hong, Ha Huu Tung. Assessment of Knowledge, Attitude, and Practice of Wound Care among Nurses Based on Nursing Competencies Standards at the Agriculture General Hospital in Vietnam. Vietnam National Nursing Journal. 2018, 24, 3-8.

[13] Adejumo PO, Ilesanmi RE. Issues in Contemporary Wound Management: Evaluation of Knowledge and Practices among Nurses in Two Municipalities in Osun State, Nigeria. Ann Nurs Pract. 2016; 3(6): 1065.

[14] Tegegne B et al, Knowledge and Practice of Wound Care and Associated Factors among Nurses Working in South Wollo Zone Government Hospitals, Ethiopia: Dove Medical PRESS, 20 July 2022 Volume 2022:9, p 1-11.

[15] Nagwa Younes Abou El Enein and Ashraf Ahmad Zaghloul, Nurses' knowledge of prevention and management of pressure ulcer at a Health Insurance Hospital in Alexandria, International Journal of Nursing Practice. 2011. https://doi.org/10.1111/j.1440-172X.2011.01933.x.

[16] Vietnamese Ministry of Health, Promulgating the List and payment rates and conditions for medical supplies within the scope of benefits of patients participating in health insurance , Circular No. 04/2017/TT-BYT April 14, 2017.

[17] Adejumo PO, Ilesanmi RE. Issues in Contemporary Wound Management: Evaluation of Knowledge and Practices among Nurses in Two Municipalities in Osun State, Nigeria. Ann Nurs Pract. 2016; 3(6): 1065.

[18] Phan Thi Dung. Evaluation of nurses' Wound care competencies before and after training program at the Agriculture General Hospital in 2018. J Nurs Vietnam. 2018.

[19] Phan Thi Dung, Le Thi Trang, Ha Huu Tung (2020). Nurses' Knowledge, Practice, and Confidence after the Training Program on Wound Care at the Agriculture General Hospital in Vietnam. Open Journal of Nursing. 2020, 10, 646-656.

[20] Phan Thi Dung. Changes in Nurses' knowledge, practice, and confidence on wound care at the Agriculture General Hospital two years after the completion of the training program. J Medecal Res Hanoi Med Univ. 2021;143(7):177–85.