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Evaluation of an educational film as a learning tool for nurses caring for seniors with pressure ulcers

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Abstract---Background: Pressure ulcers last to be a severe and prevalent health condition in hospitals; they have been considered the most physically debilitating and expensive problems of the twentieth century. Advanced pressure ulcers are common in the elderly; about 70% happen in cases 65 years or older, peaking range from 70 and 80. Many pressure ulcers are considered preventable or even treatable with the proper procedures to preserve skin integrity. Objectives: This work aims to evaluate the influence of an instructional film on nurses caring for seniors with pressure ulcers in terms of attitude and knowledge. Materials and Method. The research employed a quasi-experimental design and was conducted in intensive care Units of the General Mansoura Hospital, Specialized Medical Hospital, and Emergency Hospital in Dakhalia governorate. The research surveyed 69 nurses. Two instruments were utilized in this research: the Braden Scale and a two-part structured interview schedule sheet. Results: Following the educational film, the nurse's practice and knowledge increased, plus there was an enhancement in wound healing of pressure ulcers for older adults. Conclusion: This study concluded that nurses' knowledge and attitude have improved after displaying the educational film program.

Keywords---Pressure Ulcer, Older adult, Educational, Film; Nurses.

Introduction

Pressure ulcers are a major and prevalent health issue in intensive care units; they have been considered most expensive and physically debilitating conditions of the twentieth century. After cardiovascular and cancer disorders, pressure ulcers are the third most expensive disease. They affect individuals of all ages but are more prevalent in the elderly, immobile, and those with severe acute sickness or neurological abnormalities. It can also occur in community and hospital settings ^[1].

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International guidelines define a pressure ulcer as "a limited skin and/or tissue damage, generally due to continued pressure, over a bony prominence" (such pressure related to shear) [2]. Pressure ulcers are more frequent in those who are immobile due to mental or physical diseases. Cases who are confined to a wheelchair or bed for an extended period may acquire reduced blood supply and capillary perfusion, particularly those with type-2 diabetes, frailty and peripheral vascular disease. Around 2-3 of pressure, ulcers occur in older persons aged 60–80 years [3].

Pressure ulcers cause serious damage to elderly persons, decrease their performance, and result in life-threatening infections. Pressure ulcers acquired in hospitals are usually associated with prolonged hospitalizations or healthcare facilities [4]. Pressure ulcer treatment and prevention need collaboration and a thorough multidisciplinary plan due to their multifactorial etiology, which involves skin evaluations, risk assessment, risk factor reduction, patient, family, and staff education [5].

The shortage of knowledge and abilities in preventing PU considerably leads to the incidence or worsening of PU; thus, nurses must receive ongoing education and training in this region of practice. Additionally, greater nurse education on PU prevention enhance the PU care quality and decreases hospital stays and the PU cases number [6, 7].

The nurse is critical in pressure ulcer control and prevention due to they are directly involved in important procedures of pressure ulcer prevention like risk assessment, ensuring patient comfort, harm prevention, hands-on care, and creating environments that support attaining cases' optimal health [8].

The research aim

This research targets to evaluate educational film's impact as an educational tool for nurses' caring for older adults with Pressure Ulcer.

Research hypotheses

After exhibiting the educational film program, nurses' knowledge and practice may enhance, causing a reduction in the frequency of pressure ulcers among older persons.

Research question

What is the impact of an educational film on nurses' knowledge and practice caring for older adults with pressure ulcers?

Significance of the study

Pressure ulcer therapy could be quite challenging for healthcare professionals. Inadequate practice and knowledge about pressure ulcers could be expensive for health care organizations and fatal for people if they were not treated appropriately.

Materials and Method

Materials

Design: Quasi-experimental study procedure was utilized in this research.

Setting: The analysis was performed in intensive care units of three hospitals in Dakahlia Governorate, like General Mansoura Hospital, Specialized Medical Hospital, and Emergency Hospital.

Individuals: The research individuals consisted of 69 of the nurses employing in the previous settings and who suitable to share in this research.

Inclusion Criteria: Nurses were chosen under certain aspects like age 20 years and above, both willing and sexes to take part in this work.

Tools: To gather the important data, four tools were utilized:

Tool I: Socio-demographic Structure Interview Schedule.

The researchers were improved it, and it has included two sections:

section (1): Socio-demographic data for the nurses:

1. **Socio-demographic data for nurses:** Qualification, nurse's age, years of experience, attendance training program about pressure ulcer.

section (2): Checklist to evaluate the nurses' knowledge about pressure ulcer:

The researchers were improved it depends on the related reports, and it consisted of questions about the next [1,6,7]: causes, definition, Pressure ulcer, classification and assessment, nursing care for pressure ulcer, complications and pressure ulcer stages, and pressure ulcer prevention.

Tool II: Braden Scale:

The Braden scale was improved by (Bergstrom & Braden, 1987) to estimate the risk of developing a pressure ulcer. The Braden scale is a quantitative rating system that includes six subscales: mobility, nutrition, moisture, friction, activity, shear and sensory perception. The Braden Scale is a summed rating scale comprised of six subscales rated on a 1-3 or 4-point scale, resulting in total values ranging from 6-23. A smaller Braden Scale Score suggests a poorer degree of functioning and, thus, a greater risk of developing a pressure ulcer. A score of 19 or greater, for example, indicates that the patient is at low risk and does not receive medication now. Additionally, the evaluation can be utilized to determine the efficacy of a particular treatment [9].

Methods

- The appropriate authorities granted official approval for the study's conduct.
- Approval was acquired to conduct the study from the appropriate authorities at three distinct settings: Emergency Hospital, General Mansoura Hospital and Specialized Medical Hospital.
- Tool I (Interview schedule sheet), which was prepared following an assessment of the relevant theories.

- The author translated Tool II (Braden scale) into Arabic and then assessed for reliability using the test-retest procedure. Cronbach's coefficient alpha was utilized to assess the reliability. Braden scale has a reliability of 0.87.
- A jury of seven experts in the areas of medical–surgical nursing, gerontological nursing, geriatric medicine and community health nursing evaluated the study tools I and II for content validity. Modifications were made where required.
- A pilot research was performed on ten nurses to assess the tools' clarity and applicability, and appropriate changes were made. The study sample was omitted from the pilot subjects.
- For two weeks, the proposed interventions (educational video) were delivered to nurses in intensive care units in fifth consecutive sessions a week. The first week consisted of three theoretical sessions, while the second week consisted of two practical sessions (How to avoid pressure ulcer and the Technique for applying the dressing). Each session lasted between thirty and forty-five minutes and took place between 19th July and 19th October 2019.

Ethical considerations

After explaining the study's goal, we received written consent from study volunteers to participate in the investigation. Confidentiality, privacy, and anonymity were all guaranteed, as was the freedom to withdraw at any time.

Statistical analysis

The statistical package for social science (SPSS) version 16 was utilized to examine the information. If $P \leq 0.05$, the difference was considered significant. We utilized the next statistical procedures, Descriptive statistics (Percentage and count: Utilized this for summarizing and characterizing (standard deviation (SD) and Arithmetic mean (X), Median and Minimum – Maximum). They were utilized to analyze quantitative data that were not parametric. (Analytical statistics: (Monte Carlo exact test, Fisher exact test (FET), Pearson's Chi-square test (χ^2), Paired sample t-test, Student t-test of significance, Mann – Whitney test and Wilcoxon signed ranked Z test. It was utilized to compare groups (ANOVA, Spearman's correlation coefficient). Furthermore, graphs were created for the purpose of data visualization and were created with Microsoft and SPSS.

Results

The distribution of the nurses evaluated as per their demographic characteristics is depicted in Table 1. 60.9 % of participants were between the ages of 20 and 25, while 39.1% were over the age of 25, with a mean age of 24.014 ± 3.664 . The majority of nurses (50.7 % and 43.5 %, respectively) have bachelor's or diploma's degrees in nursing. In terms of years of experience, 49.3 % of subjects had between five and nine years, while 27.5 % and 23.2 % had fewer than 5 years and more than 10 years, respectively.

Eventually, 81.2% of individuals did not join a pressure ulcer workshop, while 18.8% did. Table (2) shows the mean scores for all knowledge dimensions for nurses appear to have improved (developed) importantly following enrollment in the program, while the statistically significant difference between post and pre-intervention looks to have decreased (P-value less than 0.00). Table (3): Significant negative relationships were seen between practice post-intervention and nurses' demographic data and total knowledge. Table (4) illustrates the correlation between participants' total Braden scale score after four days and practice score after the sessions and their total pressure ulcer knowledge. The results demonstrated that both practice score and overall pressure ulcer knowledge strongly correlated with Braden scale.

Table (1)
Demographic characteristics of the participation of nurses

Item	Parameter	n=69	%
Age	20 -	42	60.9%
	25 +	27	39.1%
Mean ± SD		24.014±3.664	
Qualification	Nursing diploma	30	43.5%
	Technical Institute	4	5.8%
	Bachelor degree	35	50.7%
Years of experience	Less than five years	19	27.5%
	5 -9	34	49.3%
	10+	16	23.2%
Mean ± SD		6.34±3.52	
Workshop for pressure ulcer	Yes	13	18.8%
	No	56	81.2%

Table (2)
Mean scores of nurses about pressure ulcer practice and knowledge of the study group before and after and before the program (n =69)

Knowledge Dimension	Phase		tP
	Before intervention	After intervention	
	Mean±SD	Mean±SD	
Bed sores definition	4.58±1.51	7.51±.68	0.001*
Prevention method (Practical part).	21.00±3.51	30.38±2.29	0.005*
Pressure ulcer Knowledge	25.58±4.23	37.88±2.59	0.001*

tp: Paired t-test\

* P < 0.05 (significant)

Table (3)
Association between total score of the practice and knowledge and the nurses' demographic data after the session (n =69)

Demographic data		Knowledge after intervention				MCP
		Inadequate		Adequate		
		No	%	No	%	
Age	20 -	15	33.71%	27	64.28%	0.306
	25+	5	18.5%	22	81.5%	
Qualification	Nursing diploma	10	33.3%	20	66.7%	0.412
	Nursing Technical	2	50.0%	2	50.0%	
	Bachelor	8	22.9%	27	77.1%	
years of experience	< 5 years	9	47.4%	10	52.6%	0.210
	5-	10	21.7%	36	78.26 %	
	10+	1	25.0%	3	75.0%	
Workshop for bed sores	Yes	2	15.4%	11	84.6%	0.230
	No	18	32.1%	38	67.9%	

Table (4)
Association between total score of the practice and knowledge and total score of Braden scale after the sessions

Braden Knowledge	Braden Day1	Braden Day2	Braden Day3	Braden Day4	Correlation coefficient
Bed sores definition	.431	.473	.492	.499	r
	.001*	.001**	.001*	.001*	P-value
Prevention methods	.536	.478	.500	.486	r
	.001*	.001*	.001*	.001*	P-value
Pressure ulcer Knowledge	.578	.534	.558	.547	r
	.001*	.001*	.001*	.001*	P-value

r: Pearson correlation coefficient, whereas Weak correlation (0.1-0.24), Intermediate (0.25-0.74) and Strong correlation (0.75-0.99).

* P < 0.05 (significant).

Discussion

Pressure ulcers are disabling chronic lesions that commonly occur in older adults, those with physical or cognitive limitations, and those with numerous comorbidities. It is a prevalent condition among older persons in all settings of health care. It is a significant issue for both influenced cases and the nurses who care for them ^[10].

As per the demographic properties of the participation of nurses in this study, the majority of nurses are between the ages of 20 and 25 years, possess a bachelor's degree, and have between 5 and 9 years of experience (table 1). These research results verified Mohamed and Weheida's study in Egypt (2015) ^[11], which explained that the average age

of nurses was less than thirty years, and most nurses had less than ten years of experience. They also verified El-Sayed et al.'s study (2014) [12] in Egypt, which explained that the average age of nurses was between twenty and twenty-five years, with a mean duration of experience of 25.4±11.6 months. Additionally, it indicates that more than 80% of nurses did not attend a pressure ulcer workshop (Table 1).

The research confirms a negative association between demographic data (age-experience) and the nurses' expertise. In a similar manner to Hulsboom et al. (2007) [13] in Germany, this study demonstrated that gender, age, and experience did not affect PU care. On the other hand, a report performed in Nigeria discovered a substantial correlation among knowledge, years of experience, and clinical practice [14]. Another study conducted in Spain on nurses' clinical practice and knowledge of pressure ulcer care discovered that the more work experiences a nurse has, the more information he or she gains [15]. Additionally, Simonetti et al. (2015) [16] discovered that nursing students' years of schooling, training experience, and many departments visited through their clinical placement were all substantially associated with their total Knowledge and Attitude ratings ($p < 0.05$).

Young people think films are more intriguing, and films have more interest than the typical lecture-style (Željko, 2015) [17]. Hence, we have selected to employ a film as a teaching aid in health education to transfer knowledge and improve the nurse's practices.

The current study outcomes show that nurses know intermediate levels of pressure ulcer risk factors, pressure ulcer care, and preventive methods (Table 2). Similarly to Meesterberends et al. (2013) [18] in Germany, discovered that nurses employed in Dutch hospitals have a moderate level of knowledge about the efficacy of preventive measures. Beeckman et al. (2010) [19] in Bulgaria discovered that nurses had insufficient knowledge about PU prevention, though the knowledge was not associated with an attitude toward preventive measures application. In the Arab world, Abou -Elenin & Zaghoul (2011) [20] revealed that 70% of nurses scored important scores in PU care, while 66% scored non-useful scores.

Many reasons can contribute to the lack of knowledge of nurses demonstrated in the present study. One relates to educational options, involving education costs, timing, availability, and related personnel difficulties. In addition, employee turnover has grown during the last 5 years [21].

In this study, the knowledge and practice of the nurse concerning pressure ulcers have greatly enhanced following the application of the program, although statistically significant differences between before and after the intervention related to nursing and patient ulcers are apparent. This can be linked to the effects of programs and practices that contribute to expanding practitioners' knowledge through the program because the professionals take several sessions

that lead to practical experience. Paquay et al.'s study (2010) [22], indicated that nurses were greatly improved to comply with PU requirements following implementation of the training program. The description of 435 registered nurses supports study by Smith & Waugh et al. (2009) [23]. The pressure ulcer method was utilized to evaluate the nurse's knowledge and showed that the importance of this study was much higher in the knowledge of nurses subjected to educational materials. In addition, Nuru et al. (2015) [24] stated that nurses who have received formal training on pressure ulcer prevention had a high level of knowledge compared with those who have not. This may be because training increases the potential for trainees to obtain up-to-date knowledge on treatment and prevention of pressure ulcers.

In this study, we observed strong correlations between nursing knowledge and practice and pressure ulcer prevention. In Belgian hospitals, the study conducted by Beeckman et al. (2011)[25] demonstrated a substantial link between the use of adequate prevention in the nursing wards and the attitudes of the nurse (OR = 3.07, p = 0.05). There has been no independent link between knowledge and the use of suitable prevention (OR = 0.75, p = .71).

Conclusion

This study indicated that nurses in Egyptian hospitals lack adequate information regarding pressure ulcer prevention. Additionally, educational video is extremely helpful in enhancing the practice and knowledge of nurses in intensive care units.

Recommendation

Depend on the outcomes of this research; it is suggested that:

- In-service training, healthcare providers and nurses improved their knowledge about pressure ulcers and their control.
- More studies with many elderly cases are required to confirm these outcomes.

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Ethical permissions:

Written consent from the nurses who took part in this research was obtained after explaining the study goal.

Conflicts of interests:

None

Author's contribution:

MF participated in the research design, data analyzes and interpretation, the drafting of reports and the compilation of manuscripts. ZM

participated in designing, analyzing and interpreting the data in the study and in reviewing the report. The final manuscript was read and accepted by all contributors.

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References

1. Fillit HM, Rockwood K, Young. JB. Brocklehurst's Textbook of Geriatric Medicine and Gerontology. 8th ed. Philadelphia .Elsevier Company.2017 :150-65.
2. PUAP. Now available: new 2014 international pressure ulcer guidelines! 2014 [cited 2020 May 1st].Available from:<https://www.npuap.org/now-available-new-2014-international-pressure-ulcer-guidelines/>.
3. Nadukkandiyil, N., Syamala, S., Saleh, H. A., Sathian, B., Ahmadi Zadeh, K., Acharath Valappil, S., ... & Al Hamad, H. (2020). Implementation of pressure ulcer prevention and management in elderly patients: a retrospective study in tertiary care hospital in Qatar. *The Aging Male*, 23(5), 1066-1072.
4. Jaul E & Menzel J. Pressure Ulcers in the Elderly, as a Public Health Problem .J Gen practice. 2014; 2 (174) doi: 10.4172/2329-9126.1000174.
5. Safa Tahmasebi, Mohamed A El-Esawi, Zaid Hameed Mahmoud, Anton Timoshin, Hamed Valizadeh, Leila Roshangar, Mojtaba Varshoch, Aydin Vaez, Saeed Aslani, Jamshid G Navashenaq, Leili Aghebati-Maleki, Majid Ahmadi. Immunomodulatory effects of Nanocurcumin on Th17 cell responses in mild and severe COVID-19 patients, *Journal of cellular physiology*, 236(7):5325-5338, 2021.
6. Qaddumi and Khawaldeh. Pressure ulcer prevention knowledge among Jordanian nurses: a cross- sectional study. *BMC Nursing*. 2014; 13(6). <http://www.biomedcentral.com/1472-6955/13/6>.
7. Jordan O'Brien JA, Cowman S: An exploration of nursing documentation of pressure ulcer care in an acute setting in Ireland. *J Wound Care*. 2011; 20 (5): 197-205.
8. Neilson J. Using a national guide line to prevent and manage pressure ulcers.2014; 21 (2):18-21.
9. Bergstrom, N., Braden, B., Laguzza, A, & Holman, V. A clinical trial of the Braden Scale for predicting pressure sore risk. *Nursing Clinics of North America*. 1987;22: 417-428.
10. Dilie A, Mengistu D. Assessment of Nurses' Knowledge, Attitude, and Perceived Barriers to Expressed Pressure Ulcer Prevention Practice in Addis Ababa Government Hospitals, Addis Ababa, *Advances in Nursing*.2015:1-11. <http://dx.doi.org/10.1155/2015/796927>.
11. Mohamed SA, Weheida SM. Effects of implementing educational program about pressure ulcer control on nurses' knowledge and safety of immobilized . 2015; 5(3):12-21.
12. El-Sayed., Mohamed, Z.A.E, Mohamed, Y.W. and El-Sonbaty, A.M . Impact of in service training program on bed sores identification

- prevention and management among immobilized . *Ass. Univ.Bull. Environ. Res.*2014; 6(1): 133-145.
13. Hulsboom, M., Bours, G. and Halfens, R. Knowledge of pressure ulcer prevention: a cross-sectional and comparative study among nurses. *BioMed Central nursing.*2007; 6 (2):1-11.
 14. Ilesanmi R, Ofi B, Adejumo P. Nurses' knowledge of pressure ulcer prevention in ogun state, Nigeria: results of a pilot survey. *Ostomy Wound Management.* 2012; 58(2):24–32.
 15. Pancorbo-Hidalgo P, García-Fernández F, López-Medina I, López-Ortega J. Pressure ulcer care in Spain: nurses' knowledge and clinical practice. *J Adv Nurs.* 2007; 58(4):327–38.
 16. Simonettia V , Comparcinia D, Flaccoa M, Di Giovanni P, Cicoliniac G. pressure ulcer prevention evidence-based guidelines: A multicenter cross-sectional study.2015; 35 (4): 573-579.
 17. Željko Jadranin , Gordana Dedić , Freda Vaughan , Michael P. Grillo and Vesna Šuljagić. The impact of an educational film on promoting knowledge and attitudes toward HIV in soldiers of the Serbian Armed Forces. 2015; 72(7): 569–575.
 18. Meesterberends E., Halfens R., Heinz C., Lohrman C., and Schols J. Pressure ulcer incidence in Dutch and german NursingHomes: Design of Prespective multicenter chorot study. *BMC nurse.* 2011; 10: 8. PMID:21526990 <http://dx.doi.org/10.1186/1472-6955-10-8>.
 19. Beckman D, Vanderwee K, Demarre´ L, Paquay L, Van Hecke A, Defloor T: Pressure ulcer prevention: development and psychometric validation of a knowledge assessment instrument.*Int J Nurs Stud* .2010;47(4):399–410.
 20. Abou El Enein NY, Zaghloul AA: Nurses' knowledge of prevention and management of pressure ulcer at a Health Insurance Hospital in Alexandria. *Int J Nur Prac.*2011; 17(3):262–68.
 21. Hayajneh YA, AbuAlRub RF, Athamneh AZ, Almakhzoomy IK: Turnover rate among registered nurses in Jordanian hospitals: an exploratory study. *Int J Nur Prac.* 2009, 15 (4): 303-310. 10.1111/j.1440-172X.2009.01758.x.
 22. Paquay, L., Verstraete, S., Wouters, R., Buntinx, F., Vanderwee, K., Defloor, T., & Van Gansbeke, H. Implementation of a guideline for pressure ulcer prevention in home care: pretest post-test study. *Journal of Clinical Nursing.*2010; 19 (13): 1803-1811.
 23. Smith, D. & Waugh, S. Research study: an assessment of registered nurses' knowledge of pressure ulcers prevention and treatment. *Kansas Nurse.* 2009; 84(1): 3-5.
 24. Nuru N, Zewdu F , Amsalu S and Mehretie Y. Knowledge and practice of nurses towards prevention of pressure ulcer and associated factors in Gondar University Hospital, Northwest Ethiopia. Nuru et al. *BMC Nursing.* 2015; 14:34 DOI 10.1186/s12912-015-0076-8.
 25. Beckman D, Defloor T, Schoonhoven L, and Vanderwee K, "Knowledge and attitudes of nurses on pressure ulcer prevention: a cross-sectional multicenter study in Belgian hospitals," *Worldviews on Evidence-Based Nursing.* 2011;8(3): 166– 176.