

Competency-Based e-Learning Module for Nurses in a Multi-Service-Line Surgical Unit

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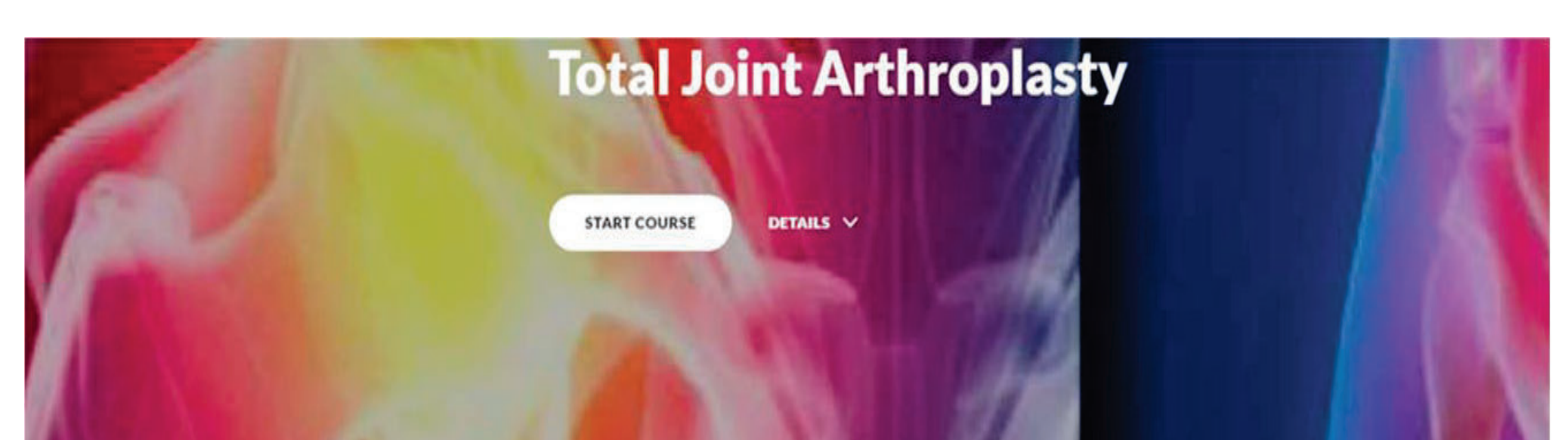
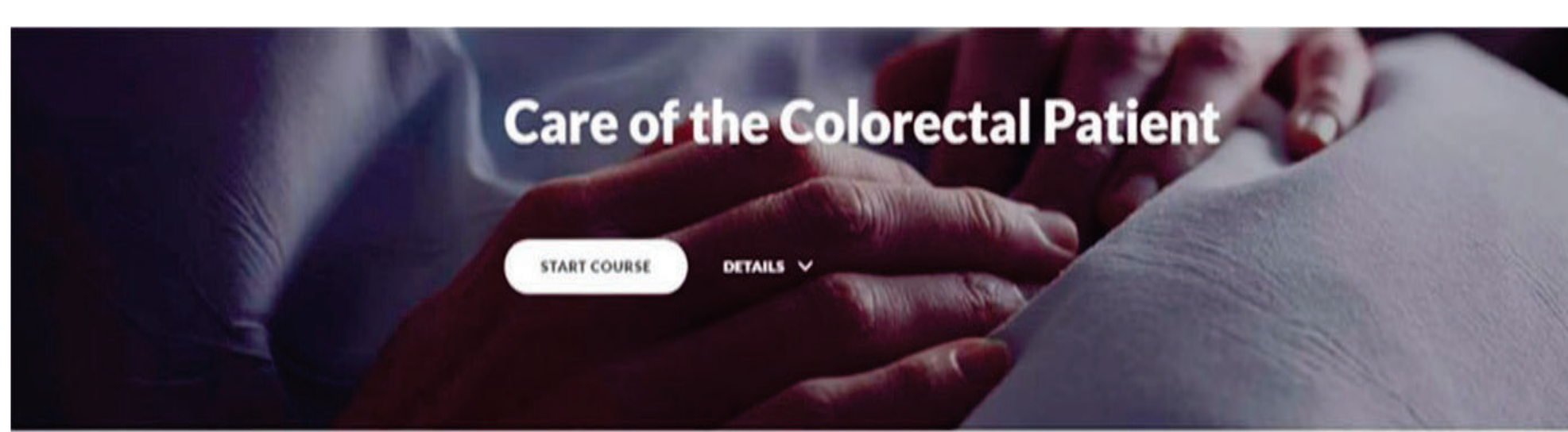
INTRODUCTION

The literature is explicit of the relationship between nurses' knowledge and patient outcomes. The purpose of this Doctor of Nursing Practice project was to educate staff nurses on the provision of evidence-based postsurgical care. This doctoral project was conducted to determine whether completion of a learning module would increase nurses' level of knowledge in acute postoperative care.

METHODS

The project was grounded on Knowles's adult learning theory and the Dreyfus model of skill acquisition. Learning material using competency-based education was developed using the analyze, design, develop, implement, and evaluate (ADDIE) model. Learning material composed of two modules (care of the colorectal patient and total joint arthroplasty) was administered to 24 nurses (n = 24) within a 2-week period. A one group pretest-posttest design was used to screen the effectiveness of the learning material in increasing the level of knowledge of the participants.

10 SKY Competency-Based Learning Modules



Learning Objectives:

- Identify care interventions of an Enhanced Recovery After Surgery (ERAS) patient.
- Identify the post-surgical care goals of a colorectal patient.
- Recognize specific care interventions in the prevention of surgical-related complications.
- Demonstrate the competency of ostomy care.
- Demonstrate the competency of surgical drain care. Demonstrate the competency of assisting with patient progressive ambulation.
- Appreciate the patient as a holistic being.

Learning Objectives:

- Identify the tasks and milestones in the Primary Hip/Knee Joint Arthroplasty Clinical Pathway.
- Recognize specific care interventions in the prevention of surgical-related complications.
- Describe the care goals of caring a joint hip/knee post-operative patient.
- Demonstrate the competency of teaching patients in the use of a walker. • Demonstrate transferring a patient from a bed to a chair.
- Appreciate the patient as a holistic being.

RESULTS

The demographic data characteristics included gender, working hour characteristics by shift, and number of years of clinical experience. The data presented in Table 1 are described in terms of numbers and their corresponding percentages.

An item analysis was drawn from the web-based learning management platform of the hospital on the 20 questions as well. Table 2 shows the individual test items with corresponding pretest and posttest percentages of correct responses.

Table 1
Demographic Characteristics of the Participants

Demographic characteristics	Number of participants	Percentage (%)
Gender		
Male	4	16.67
Female	20	83.33
Work shift		
Day	12	50
Night	12	50
Length of clinical experience		
< 1 year	4	16.67
1-2 years	7	29.17
2-3 years	7	29.17
3-5 years	6	25

Table 2
Test Question Analysis Report

Test question	Percentage of correct responses (%)	
	Pretest	Posttest
1. Which of the following best describes Enhanced Recovery After Surgery (ERAS)?	65	66.67
2. Early mobility is an important milestone for ERAS patients. What is the expectation of the patient's mobility on postop day 1?	50	45.83
3. The following are care goals of a patient who had undergone large bowel colectomy, except:	85.42	90
4. A nurse caring for a patient after a large bowel resection should be familiar with the assessment focus and care interventions to prevent the following complications:	75	77.50
5. Dehydration and electrolyte imbalance are one of the complications of colectomy patients. Which of the following is a manifestation of dehydration and electrolyte imbalance?	60	79.17
6. Which of the following interventions should you be implementing to prevent or minimize disturbed body image and impaired coping?	85	85.42
7. When providing ostomy care, the peristomal skin should be cleaned using	87.50	97.92
8. A nurse is fitting a pouching system to a patient with a new ileostomy. To do so, the nurse measures the stoma using an ostomy measuring guide, selects the circular size that fits around the stoma with 1/8 inch (0.3 cm) larger margin, traces the pattern on the pouch/skin barrier, and uses scissors to cut the appropriately-sized opening in the skin barrier to just fit around the stoma. What, if anything, did the nurse do incorrectly?	75	77.08
9. Surgical drain care is performed to	91.67	97.50
10. The patient and the nurse have set a goal to ambulate to distance of 50 feet. Before reaching the goal, the patient states "I feel tired and need to take a break." The appropriate action taken by the nurse is to	90	100
11. Which of the following milestones needed to be met at post-op day 0 after a total hip joint arthroplasty?	55	56.25
12. Complications from joint arthroplasty surgery are common causes of patients' longer length of stay and readmission to the hospital. The following interventions are recommended to be	83.33	87.50

The average score of the participants was 77.5% (SD = 13.07) before the intervention; the average posttest score, 87.29%, showed an increase in knowledge acquisition (SD = 5.77). On average, the participants had a 11.46% difference between their pretest and posttest scores, with a standard deviation of 12.47 (SD = 12.47). Paired t test indicated a significant difference between the pretest and posttest scores of the participants with the computed p-value (0.0002) < α .

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CONCLUSION

This project has the potential to impact social change, as the learning modules can be used as a medium to increase the level of knowledge among nurses in an acute surgical inpatient care unit.