REME • Rev Min Enferm. 2019;23:e-1177
DOI: 10.5935/1415-2762.20190025

RESEARCH

CONTRIBUTION OF PERMANENT SEMI IN-PERSON EDUCATION ON THE KNOWLEDGE OF NURSES ON INTESTINAL ELIMINATION STOMAS

CONTRIBUIÇÃO DE EDUCAÇÃO PERMANENTE SEMIPRESENCIAL NO CONHECIMENTO DE ENFERMEIROS SOBRE ESTOMIAS INTESTINAIS DE ELIMINAÇÃO

CONTRIBUCIÓN DE LA EDUCACIÓN PERMANENTE SEMIPRESENCIAL AL CONOCIMIENTO DE LOS ENFERMEROS SOBRE LOS ESTOMAS INTESTINALES DE ELIMINACIÓN

Ana Karine da Costa Monteiro [1]
Isabel Amelia Costa Mendes [2]
Maria do Carmo Campos Pereira [3]
Márcia Teles de Oliveira Gouveia [1]
Jesusmar Ximenes Andrade [4]
Elaine Maria Leite Rangel Andrade [1]

[1] Universidade Federal do Piauí – UFPI, Departamento de Enfermagem, Programa de Pós-Graduação em Enfermagem. Teresina, PI – Brazil.

[2] Universidade de São Paulo – USP, Escola de Enfermagem de Ribeirão Preto, Departamento de Enfermagem Geral e Especializada. Ribeirão Preto, SP – Brazil.

[3] UFPI, Departamento de Enfermagem. Teresina, PI – Brazil.

[4] UFPI, Centro de Ciências Humanas e Letras, Departamento de Ciências Contábeis e Administrativas. Teresina, PI – Brazil.

Corresponding author: Ana Karine da Costa Monteiro
Email: karinemonteiro2006@hotmail.com

Author's Contribuitions:

Conceptualization: Ana K. C. Monteiro, Isabel A. C. Mendes, Maria C. C. Pereira, Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Data Collection:*** Ana K. C. Monteiro, Isabel A. C. Mendes, Maria C. C. Pereira, Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Investigation:*** Ana K. C. Monteiro, Maria C. C. Pereira, Elaine M. L. R. Andrade; ***Methodology:*** Ana K. C. Monteiro, Maria C. C. Pereira, Elaine M. L. R. Andrade; ***Project Management:*** Ana K. C. Monteiro, Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Resource Management:*** Ana K. C. Monteiro, Isabel A. C. Mendes, Maria C. C. Pereira, Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Software:*** Ana K. C. Monteiro; ***Statistical analysis:*** Ana K. C. Monteiro, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Supervision:*** Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Validation:*** Ana K. C. Monteiro, Isabel A. C. Mendes, Maria C. C. Pereira, Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Visualization:*** Ana K. C. Monteiro, Isabel A. C. Mendes, Maria C. C. Pereira, Elaine M. L. R. Andrade; ***Writing - Original Draft Preparation:*** Ana K. C. Monteiro, Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade; ***Writing - Review and Editing:*** Ana K. C. Monteiro, Isabel A. C. Mendes, Maria C. C. Pereira, Márcia T. O. Gouveia, Jesusmar X. Andrade, Elaine M. L. R. Andrade.

Funding: There was no funding.

Submitted on: 2018/05/10
Approved on: 2019/02/13

ABSTRACT

Obcjetive: to evaluate the contribution of an in-person permanent education program on the knowledge of nurses on intestinal elimination. **Method:** a quasi-experimental, single-group, before and after study conducted with 51 nurses from three large hospitals in Piauí, from August to October 2014, in the following stages: identification of nurses, presentation of the objectives and invitation to participate in the research, pre-test, semi in-person permanent education program and post-test. **Results:** the mean number of hits by the nurses in the pre-test 25.5 (sd=4.2) was lower than in the post-test 31.5 (sd=3.0) and this difference was statistically significant (p=0.000). **Conclusion:** in this study, the semi in-person permanent education program contributed to improve nurse knowledge about intestinal elimination stomas.

Keywords: Ostomy; Education, Distance; Nursing.

RESUMO

Objetivo: *avaliar a contribuição de um programa de educação permanente semipresencial no conhecimento de enfermeiros sobre estomias intestinais de eliminação.* ***Método:*** *estudo quase-experimental, do tipo grupo único, antes e depois, realizado com 51 enfermeiros de três hospitais de grande porte do Piauí, no período de agosto a outubro de 2014, nas seguintes etapas: identificação dos enfermeiros, exposição dos objetivos e convite para participação na pesquisa, pré-teste, programa de educação permanente semipresencial e pós-teste.* ***Resultados:*** *a média do número de acertos dos enfermeiros no pré-teste 25,5 (dp=4,2) foi menor do que no pós-teste 31,5 (dp=3,0) e essa diferença foi estatisticamente significante (p=0,000).* ***Conclusão:*** *neste estudo, o programa de educação permanente semipresencial contribuiu para melhorar o conhecimento dos enfermeiros sobre estomias intestinais de eliminação.*

Palavras-chave: *Estomia; Educação a Distância; Enfermagem.*

RESUMEN

Objetivo: *evaluar la contribución de un programa de educación permanente semipresencial al conocimiento de los enfermeros sobre los estomas intestinales de eliminación.* ***Método:*** *estudio cuasi-experimental, tipo grupo único, antes y después, realizado con 51 enfermeros de tres hospitales grandes de Piauí, entre agosto y octubre de 2014, en las siguientes etapas: identificación de enfermeros, exposición de objetivos e invitación para participar en la investigación, prueba preliminar, programa de educación permanente semipresencial y prueba posterior.* ***Resultados:*** *el promedio del número de respuestas correctas en la prueba preliminar de 25,5 (dp=4,2) era inferior al de la prueba posterior 31,5 (dp=3,0) y esa diferencia era estadísticamente significante (p=0,000).* ***Conclusión:*** *en este estudio, el programa de educación permanente semipresencial contribuye a mejorar el conocimiento de los enfermeros sobre los estomas intestinales de eliminación.*

Palabras clave: *Estomía; Educación a Distancia; Enfermería.*

How to cite this article:
Monteiro AKC, Mendes IAC, Pereira MCC, Gouveia MTO, Andrade JX, Andrade EMLR. Contribution of permanent semi in-person education on the knowledge of nurses on intestinal elimination stomas. REME – Rev Min Enferm. 2019[cited _____ ___ ___];23:e-1177. Available from: _____;
DOI: 10.5935/1415-2762.20190025

INTRODUCTION

Intestinal elimination stomas result from surgical procedures performed in the large or small intestine and consist of exteriorizing the intestinal segment through the abdominal wall for preparation of the stoma, where feces and flatus will be eliminated.[1]

The subject that undergoes these surgical procedures undergoes physical, emotional and sociocultural changes in their life that significantly alter their body image, self-esteem, interpersonal relationship with partner, family, friends and the sexuality.[2]

To the nurse competes exclusive interventions in the perioperative period of the surgeries that generate intestinal elimination stomas that can minimize the suffering of these people and the possible negative consequences, facilitating their adjustment to live with the stoma.[3] However, in order for this to occur, it is necessary, on the part of the nurse, technical and scientific, specific and specialized knowledge in order to perform the perioperative care for the people that will be submitted to the preparation of intestinal elimination stomas and, at the same time, to guide them about the self-care.[4]

In this sense, it is evident the need for education in the health workers' environment, since the accelerated growth of work spaces has demanded professional action based on knowledge and the development of skills and abilities for decision making. Permanent health education (PHE) is a great tool to meet the professionals' need for developing critical-reflexive posture.[5,6]

Education at Distance (EaD) is a possible and potential innovative teaching modality for PHE, facilitating the development of learning inside or outside the health institution, but the lack of research in the area is evident. Among the limitations to its accomplishment are: time, preparation for dealing with technologies and the importance of the tutor as a learning facilitator.[5,6]

In Brazil and abroad, few distance or semi in-person education programs were carried out to improve the knowledge of nurses on the subject.[7-10]

Carrying out a program of semi in-person permanent education on intestinal elimination stomas may improve the knowledge of nurses in three public and private institutions of *Piauí* (BR) and contribute for the quality of Nursing assistance to the people with this illness that are hospitalized in these institutions. Thus, the objective of the study was to evaluate the contribution of a semi-present permanent education program on the nurse knowledge about intestinal elimination stomas.

METHOD

Quasi-experimental study, single-group type, before and after, carried out in three major hospitals in *Piauí*, from August to October 2014, after approval by a *Comitê de Ética em Pesquisa*, under the no. 667,482 and *Termo de Consentimento Livre e Esclarecido* (TCLE), signed by the participants in compliance with the *Conselho Nacional de Saúde* (BR), Resolution 466/2012.

The population was composed of all nurses (n=159) in the referred hospitals. The sample was obtained by convenience and constituted of 111 nurses that met the following inclusion criteria: not being away for vacations and medical leave at the time of data collection and have access to the computer and the internet. Of these, 31 (28.0%) evaded after answering the pre-test, 30 (37%) before responding the post-test and 51 responded to the pre-test, participated in the semi in-person permanent education program and answered to the post-test (Figure 1).

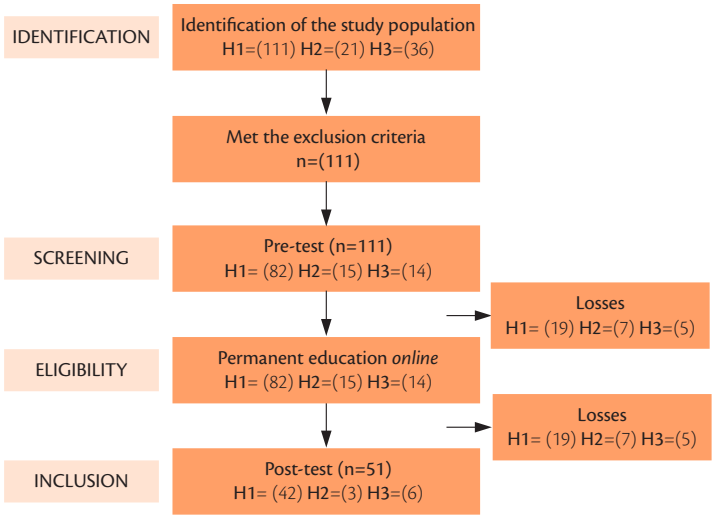

Figure 1 - Adapting PRISMA flowchart to the process of selecting the study participants. *Teresina*, PI, Brazil, 2015.

Two data collection instruments were used. The first one, adapted from the literature, contained socio-demographic variables, training and professional experience, computer use and internet.[11,12] The second one had 39 questions about Nursing care in the perioperative of surgeries generating intestinal elimination stomas, with the following options: true (V), false (F) or do not know (NS). These issues were built up and validated by experts on content and appearance.[13]

For participants that responded that they have specialization, the type of specialization was collected from the *Curriculo Lattes*.

The semi-permanent continuing education program was previously built up and validated.[9] For this study, it was hosted in the virtual learning environment (AVA) of the Moodle and made available at the following electronic address: http://ead.uninovafapi.edu.br. The total hours of the semi in-person permanent education program was 31 hours and the period of activities went from August 08, 2014 to October 15, 2014. Six hours were given to three face-to-face meetings in hospitals to: setting in the AVA of the Moodle, tutors' recognition, goals, contents, activity timeline, synchronous and asynchronous interaction tools, evaluation methods and pre and post-tests. The remaining 25 hours were allocated to distance activities in the AVA of the Moodle, such as reading and studying content, checking available videos, responding to discussion forums and exercises: Hot Potatoes crossword type.

Data collection took place in four stages. In the first one, an active search of the study participants was carried out in the three hospitals, in the morning, afternoon and evening shifts, through a list provided by the Nursing management. At that time, when the participants were gathered, the objectives of the study were exposed and the invitation to participate was made. After acquiescence, the following data were requested: signature on the FICF, Email for contact and phone for group creation in WhatsApp application. Sequentially, the webmaster registered all the participants in the AVA of Moodle and login and password were sent to their Email. A week before stage 2, videos were provided for presenting and demonstrating the use of Moodle, as well as a welcome forum. In stage 2, the participants were gathered in the auditoriums of each hospital for setting in the AVA of Moodle and pre-test application. In stage 3, distance activities were implemented in the AVA of Moodle. Finally, in stage 4, the participants were gathered in the auditoriums of each hospital for post-test application.

Descriptive statistics were used for socio-demographic variables, training and professional experience, computer and internet use, and for the qualitative variables frequency (absolute and relative) and for the quantitative dispersion measures (mean and standard deviation – sd).

Non-parametric inferential statistics were used to compare pre and post-test averages. The Wilcoxon test (paired samples) was performed at a significance level of 0.05.

RESULTS

Of the 51 nurses who participated in the study, the majority were women (46-90.2%), married (28-54.9%) and with a mean age of 32.9 years old (sd=6.4). More than half of the 40 (78.4%) were qualified in public institutions; 48 (94.1%) were specialists and seven (15.2%) Master's Degree. Of the 48 specialists, 36 (75.0%) reported in *Curriculo Lattes* the type of specialization performed. Considering that one participant could have performed more than one type of specialization, the most frequent ones were: Family Health (19 – 52.8%), Work Nursing (nine – 25.0%), Public Health (nine – 25.0%), Urgency and Emergency (seven – 19.4%) and Intensive Care (six – 16.7%). The mean qualification time was 8.7 (sd=5.4) years. All 51 (100.0%) had a computer and had access to the Internet.

Among the questions related to the concept, indication and classification of intestinal elimination stomas, almost all of them showed an increase in the number of hits in the post-test, except for question 1, which had a decrease in the number of hits in the post-test (Table 1).

Table 1 - Percentage of nurse correct answers, according to the "concept", "indication" and "classification" domain, in the pre and post-test. *Teresina*, PI, Brazil, 2015

Questions	Hits			
	Pre-test		Post-test	
	N	%	N	%
Grade				
Intestinal elimination stomas	51	100.0	49	96.1
Colostomy	36	70.6	43	84.3
Ileostomy	41	80.4	44	86.3
Indication				
Most frequent causes for confection	49	96.1	51	100.0
Classification				
Temporary and definitive	47	92.2	51	100.0

In relation to the preoperative period, one noted a minor number of hits in the pre-test (six – 11.8%) was observed in question 12, which increased in the post-test (47 – 92.2%). Question 13 was less successful in the pre-test (8 – 15.7%) and did not show an expressive increase in the post-test (20 – 39.2%) (Table 2).

With regard to the immediate postoperative period, a lower number of hits was found in the pre-test (11 – 21.6%). And seven (13.7%) for questions 27 and 28, which increased to 27 (52.9%) and 14 (27.5%), respectively in the post-test. In the post-operative period, all the questions had an increase in the number of hits in the post-test when compared to the pre-test. As for the late postoperative, the lowest number of hits in the pre-test (16 – 31.4%) was for question 38, and in the post-test this number increased to 28 (54.9%) (Table 3).

Table 2 - Percentage of nurse hits, according to the domain "Nursing Care in the Preoperative Period", in the pre and post-test. *Teresina*, PI, Brazil, 2015

Questions	Hits			
	Pre-test		Post-test	
	N	%	N	%
Nursing Care in the Preoperative Period				
Preoperative consultation	50	98.0	50	98.0
Stoma preparation	50	98.0	47	92.2
Characteristics of the stoma	44	88.0	49	96.1
Collecting equipment and adjuvants	50	98.0	49	96.1
Impact on sexuality	49	96.1	50	98.0
Stoma demarcation	8	15.7	20	39.2
Placement of the stoma	6	11.8	47	92.2
Demarcation and complications	38	74.5	50	98.0
Professional qualified for demarcation	10	19.6	46	90.2
Location of the stoma	43	84.3	50	98.0
Sensitivity testing	42	82.4	50	98.0

Table 3 - Percentage of hits of the nurses according to the domain "Nursing Care in the Immediate, Mediate and Late Post-Operative Period", before and after the test. *Teresina*, PI, Brazil, 2015

Questions	Hits			
	Pre-test		Post-test	
	N	%	N	%
Immediate Post-operative Nursing Care				
Placing the collecting equipment	43	84.3	49	96.1
Characteristics of the collecting equipment	46	90.2	51	100.0
Edema in the stoma	44	86.3	51	100.0
Color of stoma	16	31.4	14	27.5
Stoma shape	42	82.4	50	98.0
Flatus outlet	31	60.8	45	88.2
First eliminations	17	33.3	39	76.5
Aspect of effluent from ileostomy and colostomy	41	80.4	45	88.2
Abnormal amount of effluent in the ileostomy	24	47.1	37	72.5
Peristomial skin	35	68.6	45	88.2
Colostomy protrusion	11	21.6	27	52.9
Colostomy protrusion	7	13.7	14	27.5
Early complications	37	72.5	43	84.3
Stoma diameter	23	45.1	35	68.6
Adhesive base	43	84.3	47	92.2
Choice of collecting equipment	46	90.2	51	100.0
Immediate Post-operative Nursing Care				
Characteristics of the effluent in the descending and sigmoid colostomy	29	56.9	45	88.2
Hospital discharge	50	98.0	49	96.1
Client referencing	47	92.2	47	92.2

Continue...

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Table 3 - Percentage of hits of the nurses according to the domain "Nursing Care in the Immediate, Mediate and Late Post-Operative Period", before and after the test. *Teresina*, PI, Brazil, 2015

Questions	Hits			
	Pre-test		Post-test	
	N	%	N	%
Late Post-operative Nursing Care				
Public policy	50	98.0	51	100.0
Associations of stomas	50	98.0	50	98.0
Colostomy irrigation	16	31.4	28	54.9
Late complications	36	70.6	51	100.0

In the pre and post-test, the means of the correct number were 25.5 (sd=4.2) and 31.5 (sd=3), respectively, and this difference was statistically significant (p=0.000) (Table 4).

Table 4 - Comparison of the average knowledge of nurses on intestinal elimination stomas in the pre and post-test. *Teresina*, PI, Brazil, 2015

	Knowledge		
	Mean	Sd	P
Pre-test	25.5	4.2	0.000[1]
Post-test	31.5	3	

Sd - standard deviation; [1]Wilcoxon test.

DISCUSSION

In this study, the difference between the means of hits in the pre and post-test was statistically significant (p = 0.000), and it was possible to confirm the contribution of semi in-person permanent education programs in order to acquire new knowledge and skills.

This result is in agreement with studies that used EaD for the training of nurses.[14,15] Yet, researches on the impact of the use of educational technologies on nursing are still incipient in the stoma-related area. Of the studies that deal with the evaluation of its application, it is possible to observe satisfactory results.[8]

Although most of the nurses are specialists, there was a shortage of nurses with specialty in the Stoma-therapy Nursing area, because in the state of *Piauí* this specialty was offered from 2018. Previously, nurses who wanted to do this kind of specialization had to move to other states, generating costs for them and losing work days for the work institutions to which they were attached. Previous studies have shown that the presence of the stomatologist in the health services is of fundamental importance, since it contributes to the minimization of complications and allows for the development of better practices in the care for the area of the wound and the stoma.[16,17]

Among the questions related to the concept, indication and classification of intestinal elimination stomas, almost all of them showed an increase in the number of hits in the post-test, except for question 1, which had a decrease in the number of hits in the post-test. The decrease in the number of hits from question 1 in the post-test can be attributed to the lack of attention of some nurses in responding to the post-test specifically with respect to the concept, considering that all 51 (100.0%) question in the pre-test. According to RNAO[18], for an effective therapeutic relationship with the stomized person, the nurse should have specific knowledge about the condition or illness that led to the temporary or permanent surgery and the type of stoma. The study shows that lacking integration of scientific knowledge in practice has contributed to the fragmentation of Nursing care and distrust of users regarding these professionals.[19]

As regards the preoperative period, it is considered one of the most important steps for both professionals and patients and caregivers.[18] In this period, the nurse knowledge about the stoma demarcation as well as its positioning in the pre-test was fragile, with an increase in the number of hits in the post-test, reiterating the importance of the educational process on these issues.

The demarcation reduces the complications of the stomata, the peristomal skin and contributes to the rehabilitation of the stomized person. The choice of the appropriate place should be made previously by the demarcation, whose location on the skin should not have irregularities, to favor the fixation of the collection equipment, and the patients should be placed in various positions, considering their body type, abdomen configuration, motor skills and daily activities.[20] It can be done by the surgeon, stomatologist nurse or a nurse with specific training.[21]

In the study carried out with professors of undergraduate nursing courses from two private universities, it was identified that the majority of the participants knew about the demarcation in the preoperative period.[20] Another study described the growth of the prevalence of stoma demarcation by the nurse and the increase in life quality of people with stomas when the preoperative demarcation was performed by this professional and by the surgeon when compared to the others.[22]

Regarding the immediate postoperative nursing care, there were fewer hits in the pre-test for questions about prothrombiology of the colostomy and ileostomy with 11 (21.6%) and seven (13.7%), respectively, that increased to 27 (52.9%) and 14 (27.5%), respectively, in the post-test. The stoma should be evaluated immediately postoperatively, as well as peristomy skin conditions.[23] An analysis should be made of its location in the abdominal wall as for, bleeding, staining and protrusion, in order to detect early complications.[24] Regarding effluents, their appearance should be monitored at this stage for evaluating intestinal function.[21]

Effluents may irritate the skin and cause complications, so it is necessary to use an adequate collection system. However, the literature shows a deficiency in the knowledge of nurses in this aspect, in which the incorrect indication of the equipment for the storage of effluents impairs self-care and the life quality for the stoma.[19]

Regarding nursing care in the late postoperative period, there was a lower number of hits in the pre-test in the question regarding colostomy irrigation, although this number increased in the post-test. Irrigation allows for more control of intestinal activity, however, it is a qualified and time-consuming procedure.[25] Tallman *et al.*[25] indicate that nurses are limited to teaching patients due to time, space, knowledge, and experience.

This study allows to infer that there was improvement in the knowledge of nurses for almost all the issues related to Nursing care in the perioperative period of surgeries generating intestinal elimination stomas after a program of semi-permanent permanent education. According to the International Declaration of the Rights of Stomized, it is the right of the person with stoma to receive specialized care in the pre, trans and postoperative period by hospital institutions and in their community.

However, the nurse lacks the knowledge and skills to perform this care.[20] In this way, updates through permanent education programs are important to maintain knowledge and enable more specialized care. From this fact, and assuming that the nurse contributes to the process of rehabilitation and self-care of the stomized, it is urgent to consider their knowledge gaps and reflection on measures that can circumvent them.

CONCLUSION

The continuing education program implemented in this study contributed to the nurse knowledge about intestinal elimination stomas, evidenced from the significant improvement in the general performance of the participants on almost all questions, except for: positioning and demarcation of the stoma, protrusion of ileostomies and colostomies, and colostomy irrigation.

Thus, the semi in-person permanent education program may be considered an effective strategy to acquire knowledge about intestinal elimination stomas by nurses, particularly in the hospital context, since it is a flexible method capable of adapting to the characteristics required by the profession.

Considering that the semipresencial permanent education program was elaborated from updated Guidelines and literature, it may be applicable to disseminate scientific evidence on the knowledge of nursing care in the perioperative period of surgeries generating intestinal elimination stomas.

The sample size that does not allow the generalization of the results, and therefore, its replication in other contexts is necessary, is a limitation of this study.

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