

Validation of a Nursing Intervention Strategy as Postgraduate Improvement for Professionals Working in Pediatric Surgical Areas

C Niurka Milán Dobson*

Faculty of Nursing "Lidia Doce", University of Medical Sciences of Havana, Cuba

*Corresponding Author: C Niurka Milán Dobson, Faculty of Nursing "Lidia Doce", University of Medical Sciences of Havana, Cuba.

Received: July 22, 2021; Published: February 25, 2022

Abstract

Introduction: The medical university has the social task of updating and preparing the professionals who work in the National Health System, including postgraduate preparation as a priority aspect.

Objective: Validate a Nursing Intervention Strategy as postgraduate improvement for professionals working in Pediatric Surgical Areas.

Methods: Intervention and development study with pre-experimental design in the period from February 2017 to February 2019 at the William Soler Pediatric Hospital, supported by the number of beds, surgeries performed per year and conditions with more surgical demands, to compare the results of two performance tests carried out on a sample of 30 graduates who work in the surgical area. The following work hypothesis was considered: If the actions of the Nursing Intervention Strategy are executed, the improvement of the professional performance of the Nursing Graduate is achieved from the development of care skills during the care of patients who require surgical interventions.

Results: With the proposed intervention, the improvement of professional performance was achieved from the development of care skills given the need for postgraduate training for Nursing Graduates.

Conclusion: The comparison of the results of the performance tests to the Graduates in Nursing users of the strategy through the different forms of organization of teaching allowed to demonstrate the proposed work hypothesis, and to show that with the preparation received, the improvement of the professional performance.

Keywords: Strategy; Surgical Area; Intervention; Overcoming; Nursing

Introduction

The professional profile describes the contextualized image of the profession at a time and place, guides the determination of curricular objectives and serves as a reference for assessing quality in training. It takes as a point of reference the object of the profession, the main problems it addresses and the modes of action that the professional must acquire in order to respond to their social order. Modes of action that must be specified in professional performance through the activity.

It raises as a general exit objective that the professional must be able to creatively and independently apply the Nursing Care Process (PAE) with a clinical, epidemiological and social approach both in times of peace, war or natural disasters, since the essence of nursing is to ensure the health and well-being of patients, which is synthesized in a primary action: caring. Qualifiers for position, jobs, functions and technical skills are required for graduates.

In accordance with the above, the results of investigations related to the profile and functions allowed the validation in Cuba of Resolution 396/2007 [1], which regulates professional practice. In which the Bachelor of Nursing is recognized as a professional with high scientific technical competencies to care for and help healthy or sick people, with authority to make decisions and deep professional knowledge in different areas, as well as with theoretical and practical skills in specific techniques. and of high complexity of the professional practice.

Based on these requirements, the medical university has the social task of updating and preparing professionals working in the National Health System, which includes their postgraduate preparation as a priority [2]. Hence, the training process has taking into account the need to offer through disciplines and subjects, with Nursing as the leader, a system of knowledge, skills and values that prepare the future professional to perform the aforementioned functions.

The subject Clinical Surgical Nursing (ECQ), for example, is part of the third and fourth Discipline of Nursing of the Study Plan of the Bachelor's degree, therefore it constitutes the main axis of the same. Divided into two programs (ECQ I-II) and designed in a coordinated way with the rest of the subjects so that interdisciplinarity is achieved. Located in the 3rd semester of the degree (2nd year), it is developed in 18 weeks, different forms of teaching organization are used, and linked to education at work they acquire a special relevance to develop skills from the framework of the modes performance of the future nurse.

Nursing care in the perioperative period is the last topic on the ECQ II program. In the methodological guidelines it is stated that it is the most inclusive of the subject and recommends within its knowledge system the development of skills in all stages of the surgical process at different levels of care. However, the detailed analysis of each program from the particularities of each one allowed the author to identify that general skills for work are declared during the perioperative period, without taking into consideration the specific skills to be developed in the services of the surgical area according to what is declared in the professional's model.

Limitations that have not been resolved since continuous and permanent preparation through postgraduate improvement courses becomes scarce as an essential element to prevent the level of development of university graduates from stopping. Today on a global scale, scientific-technological progress in the field of health generates new demands from the professions towards universities since knowledge becomes obsolete very quickly.

Researchers such as Luengo and Sanhueza [3] consider that nursing care constitutes a real challenge in a globalized world. Other authors reiterate the need for professionals to be able to face the challenges of these times and that overcoming is a permanent and continuous process preparing them to be subjects of their own training processes throughout life, a fundamental concept for professional performance successful [4,5].

In this sense, current trends in the training and permanent formation of human capital in Nursing are based on the process of improvement in correspondence with the specific areas of work, in particular those specialties that require individualized modes of action [8], such as this is the case of the care of pediatric patients requiring surgical interventions. It provides Nursing professionals with the necessary skills to make up for deficiencies in professional performance that could not be solved in undergraduate studies through the study plan established for the Bachelor of Nursing career [8], in order to promote development of new knowledge, the development of skills and the formation of values with social, scientific and humanistic relevance [6,7].

The Regulations for Graduate Education of the Republic of Cuba, protected by Resolution 132/2004 of the Ministry of Higher Education, constitutes the main document that regulates graduate education in the national territory. Resolution that determines in one of its final provisions that the Directorate of Postgraduate Education of the Ministry of Higher Education (MES) establishes the rules and procedures for the planning, development and control of this type of activities [6]. Postgraduate education as the highest level of the Cuban education system guarantees the permanent improvement of university graduates and has as essential characteristics the rigor in the quality of the programs that are taught. Hence, the social project establishes the training of flexible, responsible and participatory human resources, with a humanistic approach, that from their professional performance provide solutions to the problems of practice with quality, equity and social commitment [8].

In recent decades there has been evidence of a movement to strengthen improvement in Nursing recognized by the World Health Organization (WHO), which gives a strategic character to its actions. For this reason, the quality of the training of nursing personnel has been a constant concern of the authorities of the Ministry of Public Health (MINSAP) of Cuba and of Medical Education in relation to the performance in the services, which requires a competent practice in the exercise of the profession [9].

In accordance with the above, authors such as Martínez JA [10] consider that the improvement of this staff through the different forms of postgraduate education is necessary, considering them as the training process that provides university graduates with a deep mastery of the method Professional acting scientist and advanced knowledge in the field of knowledge, with a multiprofessional approach. The activities that are conceived should promote the respectful exchange of knowledge, knowledge and experiences among the participants to promote debate and record the main ideas that are the object of reflection [11].

For their part, Salas RS., *et al.* [12] consider that permanent training and systematic updating lead to the improvement of performance, as well as the enrichment of the scientific-technical heritage, so that professional improvement is developed through a set of organizational forms that complement and enable the study and dissemination of social, scientific and technological advances that accredit a given subject.

However, research on the professional performance of nursing personnel in surgical areas from the international context regarding postgraduate improvement concluded that approximately 97% of the selected samples had not received any improvement course in that area [13]. From the national context, the references regarding the subject in pediatric areas are scarce, those found correspond to the adult surgical area [14-16]. Systematization that allowed to identify the contradiction as regularity manifested between the performance required by current Cuban society and the insufficient development of professional skills in the surgical areas of nurses who work in the second and third level of health care.

In the William Soler Pediatric Hospital where the research was carried out during an exploratory study carried out by the author in the surgical area, insufficiencies were found during professional performance from the development of care skills by the Nursing Graduates who in it they work. Among the most significant are: insecurity during the care and preparation of the patient in the preoperative and immediate postoperative periods, non-execution of procedures that are within the professional profile (wound healing), as well as preparation of medications where they are not they fulfill the functional variants and invariants. Insufficiencies detected in all surgical areas of the aforementioned center.

Taking into account the antecedents exposed, this article pursues the objective of validating a Nursing Intervention Strategy (EIE) as a postgraduate improvement for professionals working in the Pediatric Surgical Area (AQP).

Methods

An intervention and development study was carried out, with a pre-experimental design. To validate the strategy, the following working hypothesis was considered: If the actions of the EIE are executed, then the improvement of the professional performance of the Nurs-

ing Graduate is achieved from the development of care skills during patient care in the AQP. It was identified as an independent variable (VI): they carry out the actions of the EIE and as a dependent variable (VD): improvement of the professional performance of the Nursing Graduate from the development of care skills during patient care in the AQP.

The selected scenario was the William Soler Pediatric Hospital, supported by the number of beds (30 or more), total surgeries performed per year and conditions with more surgical demands in pediatric age, in the period from February 2017 to February 2019 the population coincided with the sample and was made up of the 30 Nursing professionals who work in the services of the surgical area of the aforementioned center (hospitalization room, operating room and external consultation).

The study was approved by the Ethics Commission of the Scientific Council of the Faculty of Nursing "Lidia Doce" and by the Scientific Council of the institution. Informed consent was requested from each research participant, the objectives, methodology, benefits and the possibility of withdrawing from the study were explained to them when they considered it pertinent. The results of the investigation were used only by the team in the strictest confidentiality.

From the theoretical level

- **Systematization:** To elucidate common and general features of different trends and strategy approaches, used as theoretical references in the foundation and design, which prevail in the permanent and continuing education of Nursing Graduates.
- **Document analysis:** Allowed to obtain the theoretical foundation on which the proposal is based.
- **Logical history:** To assess the evolution of the process of permanent and continuous training of Nursing professionals in Cuba linked to professional performance.
- **Functional structural systemic approach:** To establish the structural and functional relationship between the theoretical basis of the strategy and the improvement actions to improve professional performance in patient care in the AQP.
- **Modeling:** To design the EIE and from the elements, components and dialectical relationships to achieve the levels of abstraction and graphic representation, by assuming the character of a system as one of the principles of modeling.
- **Performance test (pretest and posttest):** To assess the professional performance of Nursing Graduates with care functions during patient care in the AQP, identify problems, recognize successes, highlight positive changes and the transformation that occurs in the development of these skills from the implementation the EIE.
- **From the empirical level:** Consults experts [17] and specialists for the validation of the strategy and the skills system respectively.
- **From the statistical level:** For quantitative variables, the mean and standard deviation were used as summary measures, after checking their normal distribution through the non-parametric Kolmogorov-Smirnov goodness-of-fit test. For the qualitative variables the percentage calculation was used, for the weighted indices the absolute frequency and a focal group were created. For the processing of the expert consultation, the modified Delphi method [18] and the Iadov Technique were used to determine the group satisfaction index.

Results

Based on the problematic situations identified related to the insufficient professional performance of the Nursing Bachelor who works in the AQP of the William Soler Hospital, the insufficient recognition of the care skills to be carried out during patient care in said area, as

well as inadequacies in the continuous and permanent preparation for their professional improvement, the object of study was parameterized and the variable was established: professional performance of the Nursing Graduate from the development of care skills during patient care in the AQP. From the variable, 3 cognitive nuclei were identified that became dimensions with their respective subdimensions, which were operationally defined as: “modes of action”, “preparation” and “organization”. In addition, 32 indicators were defined which express the details of the care, administrative, teaching and research functions declared in the programs of the Nursing career study plan and in Resolution 396/2007 [19], which were contextualized and expanded to the elaboration of the instruments in correspondence with the functions that these professionals must carry out (Annex 1). To achieve the objective set, the general procedure of the investigation was protected under the dialectical materialist conception.

Below are the results obtained.

Dimensions	Weighted index
Modes of action	2,972
Preparation	2,779
Organization	2,933

Table 1: Result of the participant observation.

Source: Observation tool.

The assessment was determined with the following decision rule: MA: Very Adequate (4), A: Adequate (3), MDA: Moderately Adequate (2), PA: Little Adequate (1), I: Inadequate (0). The category assigned responds to a qualitative scale that expresses the level of professional nursing performance according to the indicators, each category is proposed with its quantitative assessment.

The results of the participant observation before the implementation of the EIE allowed to identify that the variable: Professional performance of the Bachelor of Nursing from the development of care skills during the care of patients in the AQP, is recognized as moderately adequate from the value of the index weighted 2,900.

Variable: Professional performance of the Bachelor of Nursing from the development of care skills during the care of patients in the AQP.					Frequencies			
Dimension	Sub dimension	Indicator	What (4)	A (3)	Bezel (2)	PA (1)	I (0)	index
1: Mode of action	1:1.1	1.1.1	14	16	0	0	0	3,467
		1.1.2	14	15	1	0	0	3,433
		1.1.3	9	21	0	0	0	3,330
			Index of the south dimension					3,400
	2:1.2	1.2.1	13	15	2	0	0	3,367
		1.2.2	17	20	3	0	0	3,133
			Index of the south dimension					3,325

Table 2: Results of the performance test from dimension 1: mode of action.

Source: Observation tool.

The results of the performance test allowed considering dimension 1: mode of action as moderately adequate from the value of the weighted index of 3,325. It was obtained as a regularity that from the dimension of the mode of action of the Nursing Graduates, problems are manifested in the diligence in the face of eventualities and in the management level in the face of unforeseen situations. Results that coincide with studies that have also evaluated nursing professional performance, but from their performance in the teaching-educational process and the lack of resources to develop effective actions in the presence of certain situations and execute correct decisions is evidenced [20].

Variable: Professional performance of the Bachelor of Nursing from the development of care skills during the care of patients in the AQP.		Frequencies
Dimension 2: preparation	Sub-dimension index 1.2.1	2,465
	Sub-dimension index 2.2.2	3,200
	Index of sub-dimension 3.2.3	3,625
Dimension index		3,097

Table 3: Performance test results from dimension 2: preparation.

Source: Observation tool.

The results of the performance test allowed us to consider dimension 2: preparation as moderately adequate from the value of the weighted index of 3.097. The regularities manifested from the results of the preparation of the Nursing Graduates during their care functions, reveals that the greatest Difficulties focus on the lack of interest in increasing learning, in accessing different ways to improve, in understanding the need for the self-preparation process, as well as in the knowledge of the research methodology, of the activity research scientist and participation in scientific events. Dimension considered as moderately adequate from the value of the weighted index of 3,097.

When comparing these results with the previous study, coincidences are manifested, since the indicator related to overcoming is shown in both cases as moderately adequate. An important element to take into account is that professional improvement in nursing focuses its actions on updating knowledge, developing professional skills and training values, in correspondence with performance for professional and human improvement.

Foundations that suggest alternatives from the perspectives of a competent development of professionals, mainly in AQP services. This reveals, in the author’s opinion, the urgency of directing actions to increase motivation in the first instance and then develop actions that allow the transformation of these professionals in their daily actions, hence the elements that will be addressed in the proposed strategy.

The fundamental regularities from the results of the organization of Nursing Graduates for their performance show that the greatest difficulty is found in the organization of work within the health team and during healthcare practice. However, the dimension is considered adequate from the value of the weighted index of 3,274.

Variable: Professional performance of the Bachelor of Nursing from the development of care skills during the care of patients in the AQP.			Frequencies					
Dimension	Sub dimension	indicator	What (4)	A (3)	MDA (2)	PA (1)	I (0)	Index
Dimension 3: organization	1:3.1	3.1.1	14	16	0	0	0	3,467
		3.1.2	13	17	0	0	0	3,433
		3.1.3	9	21	0	0	0	3,300
	Dimension index							3,400
Index of the variable								3,274

Table 4: Performance test results from dimension 3: organization.

Source: Observation tool.

In summary, the results obtained on the application of the direct and participant observation guide to the professional performance of Nursing Graduates allow us to confirm that the variable studied with a weighted index of 2,900 is recognized as moderately adequate. Results that in the opinion of the researcher do not guarantee in the services a good dynamics or assistance, nor teaching, investigative and much less managerial when taking into consideration the importance of teamwork as an expeditious way to achieve respect for organizational policies. Essential aspects are also constituted by the individual and collective interests of the personnel linked to the institution, regardless of the level of responsibility that each one has assigned in order to improve the quality of health care for patients.

Assessment of the results with the implementation of the nursing intervention strategy

The Delphi method was applied for the processing of information from the criteria of experts as established by doctors Alipio Omar Pérez, Norberto Valcárcel, Justo Ché and José Colado in 2005, valid for this type of research as it has a level of reliability of 99.9% and a margin of error of 0.117 From the evaluation of the information coefficients (Kc) and argumentation (Ka), the coefficient was calculated as an expert, which made it possible to select only those considered at the level high and medium for a total of 31 experts. The required tables were elaborated, the images, the cut-off points and the categories were searched to reach the final evaluation of the experts on the EIE for the improvement of the professional performance of the Nursing Graduates, as proof of theoretical and empirical verification of the degree of validity of the proposal.

From the processing and analysis of the information obtained with the application of the instrument, it was found that the experts consulted evaluated all the indicators as Fairly Adequate from the first round, while in the open questions no remarks were made that partially or totally modified the proposal. This allowed the author to ensure that the EIE for the improvement of the professional performance of Nursing Graduates from the development of care skills is viable in the current conditions of Medical Education.

Results of the satisfaction questionnaire applied to graduates of the nursing intervention strategy

To verify the viability of the proposed EIE, the Iadov Technique was applied, which allows knowing the group satisfaction index (ISG) of the study subjects. The satisfaction questionnaire for the 30 Nursing Graduates who participated in the research allowed obtaining a value of 0.9, estimated as very satisfied. The results are evidenced in the following scale shown in table 5.

Table with 3 columns: Index (1-5), Satisfaction Level (e.g., Clear satisfaction, More satisfied than dissatisfied), and Number of Responses (120, 30, 0, 0, 0).

Table 5: Group satisfaction index.

Source: Satisfaction questionnaire.

Comparative analysis of the results of entry and exit performance tests applied to nursing graduates

After the intervention as part of the pre-experiment, a new performance observation was carried out and with it a logistic regression, which made it possible to group the positive changes of the instrument to calculate the modifications that occurred in the professional performance of the subjects. All of which allowed to demonstrate the proposed working hypothesis that with the execution of the EIE actions, the improvement of the professional performance of the Nursing Graduate was achieved from the development of care skills during the care of patients in the AQP. The results are shown in table 6 and 7.

Dimensions	Weighted index before	Weighted index after
Modes of action	2.972	3,325
preparation	2.779	3,097
organization	2.933	3,400

Table 6: Results of participant observation before and after.

Variable	Index before	Contents after	Change
Professional performance of Nursing Graduates from the development of care skills during patient care in the AQP	2,900	3,274	+0,374

Table 7: Final result showing the change.

The main result was the acquisition of knowledge and reorientation of performance from the proposal of the skills system and the alternatives for improvement offered by Advanced Education (Annex 2). The evaluation of the results once the strategy is implemented in practice shows the viability of the proposal to achieve the improvement of the professional performance of Nursing Graduates when developing their care functions in the AQP.

Discussion

With the use of methodological triangulation, the following were identified as problems associated with professional performance from the development of care skills:

- Insufficiencies in equipment management.
- Difficulty in performing wound healing.
- Preparation of drugs with non-compliance with variants and functional invariants.
- Lack of methodological guidelines for the development of care skills.

The following potentialities are also revealed:

- Good ethical projection before the practice of the profession.
- Adequate knowledge as nurses about the specialty.
- Interest in participating in research.
- The great institutional support.

Conclusion

The comparison of the results of the performance tests of the 30 Nursing Graduates who participated in the execution of the EIE through the different forms of organization of the teaching carried out allowed to demonstrate the proposed work hypothesis and show

that with The preparation received is achieved by improving the professional performance of said graduates from the development of care skills during patient care in the AQP of the William Soler Hospital, the main objective of the proposal made.

Conflict of Interest

The author declares to have no conflict of interest.

Annex 1

System of skills for graduates in Nursing with care function during the care of patients in the Pediatric Surgical Area.

From the care

- Apply the resolution that regulates or regulates the practice of the profession for Nursing Graduates.
- Incorporate actions in professional performance that allow analyzing the current health situation of pediatric patients.
- Identify anatomophysiological differences in pediatric patients according to the stage of extrauterine life in which they are.
- Develop actions to incorporate the results of Nursing Science in professional performance that guarantee quality care in pediatric patients.
- Update the training and renewal of knowledge according to the progress of Nursing Science and Biomedical Sciences.
- Identify AQP-specific nursing procedures: inpatient ward, operating room and outpatient clinic.
- Participate in the development of biosafety standards for AQP.
- Establish permanent communication channels between patients and family members.
- Identify the psychological reactions of the patient and the family to the disease and hospitalization.

From the teaching

- Incorporate teaching tasks to achieve full autonomy and professional identity.

From the investigative

- Establish the investigative process as part of the functions of professional performance.

From the managerial

- Assume managerial functions or assigned by the immediate superior chief.
- Collaborate in human and material resources planning.

From values and feelings

- Demonstrate the foundations of Marxist-Leninist ideology and the ideals of Martí and Fidel, as the basis of the Cuban social project and the concrete historical moment.

- Show an integral conduct in your professional activity by complying with the principles of medical ethics and bioethics.
- Maintain effective communication channels that create an environment of trust between patients, family members and the health team.
- Respect the values, customs and beliefs of patients/family members.
- Show discretion over sensitive patient data.
- Keep up-to-date on national and international events in the field of health and its impact on society.

The system of care skills identified for each nursing function is derived from the operations that the Nursing Graduate must perform in each area of action in the services, for this a sample is presented.

In the surgery service for the:

- Preoperative period mediate (36 skills).
- Mediate post-operative period (82 skills).

In the operating room for the:

- Immediate preoperative period (10 skills).
- Immediate preoperative period at the time of reception of the patient (28 skills).
- Immediate preoperative period in the patient's preparation period just before anesthetic induction (12 skills).
- Trans-operative period for the Bachelor of Nursing with circulating function (24 skills).
- Immediate postoperative period for the Bachelor of Nursing with circulating function (8 skills).
- Immediate preoperative period for the Bachelor of Nursing with instrumentalist function (13 skills).
- Trans-operative period for the Bachelor of Nursing with instrumentalist function (11 skills).
- Immediate postoperative period for the Bachelor of Nursing with instrumentalist function (7 skills).

In the external query

- For outpatient intervention (6 skills).
- For postoperative patient care (6 skills).

The documents: Manual for Nursing in Pediatric Surgery and Guide to Nursing Procedures were prepared to be included in the IEE sessions as support for the contents taught and as reference material in the services of the AQP, since there is no documentary evidence to support the work during the care of the patient who is going to be operated on.

Annex 2

Forms of teaching organization taught in the Nursing Intervention Strategy

FOE	Contents
Course I	Patricia Benner's model as a basis for the improvement of clinical practice.
Course II	The Nursing Care Process (PAE): essential to organize the practice of care
Course III	Performance of nursing graduates during the care of pediatric patients who underwent surgery.
Training	Skill system for Nursing Graduates with care function during patient care at the AQP
Workshop	Professional communication in Nursing Graduates
Specialized conference	Communication and scientific production in Higher Education.

Bibliography

1. Torres JM and Urbina O. "Professional profiles, functions and competencies of nursing staff in Cuba". *Revista Cubana de Educación Médica Superior* 20.1 (2006): 4.
2. Barco V., et al. "The continuous improvement of Nursing and its contribution to the performance of excellence". *Revista Cubana de Enfermería* 33.1 (2017): 4.
3. Luengo-Martinez CE and Sanhueza-Alvarado O. "Training of the Bachelor of Nursing in Latin America". *Revista Aquichan* 16.2 (2016): 4.
4. Moyano GB and Sosa NI. "Towards a state of the art in the perspectives of competency development during intensive care nursing training". *Revista Argentina Intensive Care* 36.1 (2019): 6.
5. Casanova X. "Pedagogical strategy for the improvement of the performance of the teaching-care nurse in education at work". [Thesis] Havana: University of Pedagogical Sciences "Enrique José Varona" (2017).
6. Ministry of Higher Education. "Rules and Procedures for postgraduate management". INSTRUCTION No. 01/ (2018).
7. Cueto A., et al. "Strategy of overcoming/training in surgical processes for Graduates in Nursing". *Revista Iberoamericana de Educacion e Investigacion* 6.1 (2016): 8.
8. Urbina O., et al. "Competencies and professional performance from medical education". *Revista Cubana de Salud Pública* 10.1 (2016): 3.
9. Martinez E., et al. "The process of overcoming the nursing professional for the care of the critical neonate". *Rev MEDISAN* 22.9 (2018): 3.
10. Martinez JA. "The formation of specialized clinical-surgical competencies for nurses of the first level of health care [Thesis]". Havana (2011).
11. Milan N. "Professional performance of Nursing from the assistance skills in the Pediatric Surgical Area of the William Soler Hospital [Thesis]". Havana: University of Medical Sciences of Havana. Cuba (2018): 74.
12. Salas RS and Salas A. "Formative model of the Cuban doctor. Theoretical and methodological bases". La Habana: Editorial Ciencias Médicas (2017): 10.

13. Diaz A. "Adaptation and work stress in the personnel of the medical-surgical units". *Rev RICSH Revista Iberoamericana de las Ciencias Sociales y Humanísticas* 2.3 (2013): 4.
14. Martinez JA., *et al.* "Results of the performance tests in the postgraduate improvement for Nursing in clinical-surgical services by specialized professional competencies". *Revista Cubana de Educación Médica Superior* 29.3 (2019): 5.
15. Velázquez Y., *et al.* "Specific nursing competencies in the post-operative mediate of heart transplantation". *Revista Dilemas Contemporáneos: Educación, Política y Valores* 2.10 (2015): 5.
16. Castellanos C. "Specific functions and competencies for nursing graduates in hepatobiliopancreatic irugía [Tesis]". Havana: Universidad de Ciencias Médicas de la Habana. Cuba (2015).
17. Valcárcel N and Che J. "Statistics in educational research. [CD-ROOM]". PhD in Education Sciences. CEPI. Sucre, Bolivia (2005): 62.
18. Morales JA., *et al.* "Parameterization in Educational Research". *Varona Magazine*. ISPEJV. Havana; No. 43 (2010): 8.
19. Republic of Cuba. Ministry of Public Health. Regulations of nursing practice". Ministerial Resolution No. 396/07.
20. Valcárcel N., *et al.* "Project. "Pyramidal improvement strategy for the professional and human improvement of the labor resources of the educational sector of the Provinces of Habaneras". ISPEJV, Cuba; 1998-2001.

Volume 4 Issue 3 March 2022

©All rights reserved by C Niurka Milán Dobson.