

Nursing Care for the Tertiary Prevention of Some Complications Associated with Postpartum

Mercy Silva Martínez^{1*}, Iván Parada Ferrera¹, Gustavo Galán Bermudes¹, Liuba González Espangler², Geovanis Olivares Paizan³

1. Dr. Juan Bruno Zayas Alfonso Teaching General Hospital, Santiago de Cuba, Cuba.

2. Faculty of Stomatology, University of Medical Sciences, Santiago de Cuba, Cuba.

3. Faculty of Nursing-Health Technology, University of Medical Sciences, Santiago de Cuba, Cuba.

*Corresponding author. Email address: mercy.silva@nauta.cu

Abstract: Introduction: The nursing care process includes actions aimed at preventing diseases during postpartum period. Objective: To describe the process of nursing care for the tertiary prevention of some complications related to postpartum. Methods: An observational descriptive and cross-sectional study was carried out at the Dr. Juan Bruno Zayas Alfonso Teaching General Hospital in Santiago de Cuba, from January to December, 2022, which included two population groups integrated by 225 newly-delivered women and 80 nurses. The variables studied were the following: complications, type of care, working time with newly-delivered women and level of knowledge about prevention. Results: In the series there was a prevalence of the hemorrhage (36.4%), pre-eclampsia and thromboembolism (26.0 and 21.1%, respectively) as main complications, besides the care of standardized type (56.5%) and the inadequate knowledge on prevention (58.7%). Conclusions: Nursing care for the tertiary prevention of some complications is offered fundamentally to newly-delivered women with pre-eclampsia, thromboembolism and hemorrhage, reason why the standardized care requires more preparation of the staff that intervenes in the process.

Key words: nursing cares; intensive care; postpartum; obstetric complications; prevention of complications

1. Introduction

The process of nursing care (PNC) aims to help the healthy person to preserve his state of equilibrium with the surrounding environment and the sick person to restore it, in order to activate his return to physical, mental and spiritual well-being. [1] This is the method by which the theoretical bases are applied to professional practice. In accordance with the above, the PNC includes actions aimed at disease prevention, in which nursing personnel play an important role, as they implement measures aimed at reducing risk factors, as well as halting their progression and mitigating the consequences once the disease is diagnosed. [2]

To control a health problem, three types of prevention can be established, [3] depending on the stage of the disease: primary (preventing the onset of an ailment or health problem), secondary (detecting the possible disease in its initial stage) and tertiary (treatment, avoiding complications and rehabilitation); the latter is applied in intensive care units (ICU) during

the care of critically ill patients.

The concept of nursing actions, in addition to requiring the application of knowledge, skills and attitudes in favor of health, includes educating patients on the best practices to preserve it, as well as explaining the risks, in case they do not have an adequate culture of prevention. [1]

There are many diseases associated with the puerperium, which is one of the most vulnerable periods for the appearance of complications, leading to intensive care; a propitious moment for the nursing staff to apply preventive measures to control them and achieve rehabilitation. [4] Among the main complications associated with the puerperium are preeclampsia (16.1%), thromboembolism (14.9%) and hemorrhage (13.1%), in addition to others such as sepsis and renal diseases, all of which are causes of maternal morbidity and mortality worldwide. [5-7] In Cuba, at the end of 2022, the mortality rate due to these causes was 6.3%. [8]

Prevention actions are clearly described in the Maternal and Child Care Program for the primary level; [9] however, they are scarce for the ICU context. It is true that most of the research available on these diseases refers to medical treatment and very little is related to nursing actions; this is why studies are needed to investigate this issue in order to identify shortcomings and draw up more effective care plans. In view of the above, this article was written with the aim of describing nursing actions for the tertiary prevention of some complications associated with puerperium.

2. Methods

A descriptive and cross-sectional observational study was carried out at the Dr. Juan Bruno Zayas Alfonso General Teaching Hospital in Santiago de Cuba, which included two population groups: n_1 , made up of 225 postpartum women admitted to the ICU during 2022, and n_2 , made up of 80 nurses who worked there during that period, selected by simple random sampling and with prior informed consent.

The variables studied included the following: complications (preeclampsia, thromboembolism, hemorrhage, sepsis, uterine atony, pyelonephritis, eclampsia, among others), type of care (individualized, standardized and standardized open to individualization), time working with puerperal women in years (less than 5, 6 to 10 and 11 and more), level of knowledge on tertiary prevention of complications associated with puerperium (adequate or inadequate).

The information was obtained from the clinical histories of the selected patients and through the questionnaire applied. For the variable knowledge level, the score obtained in the questionnaire was taken into account, which was evaluated by experts with a reliability level of 97.3 %. Statistical processing was carried out using the SPSS program, version 21.0, and summary measures such as absolute and relative frequencies were used.

It is worth mentioning that the present study is part of a doctoral thesis project included in the Provincial Registry of Health Research in Santiago de Cuba, so that it was previously approved by the Scientific Council and the Ethics Committee.

3. Results

Among the types of complications, hemorrhage prevailed (36.4%), followed by preeclampsia and thromboembolism (26.0 and 21.1%, respectively). In decreasing order were sepsis, uterine atony, pyelonephritis and eclampsia, among others. Out of a total of 274 cases (Table 1), the majority corresponded to standardized care (115, for 56.5%), mainly in puerperal women who suffered hemorrhage (109, for 39.7%).

Table 1. Types of nursing care according to complications during the postpartum period

| Type of nursing care | Complications | | | | | | Total | |
|--|---------------|------|-----------------|------|------------|------|-------|-------|
| | Preeclampsia | | Thromboembolism | | Hemorrhage | | | |
| | No. | % | No. | % | No. | % | No. | %* |
| Standardized | 50 | 32.2 | 45 | 29.0 | 60 | 38.7 | 155 | 56.5 |
| Individualized | 23 | 29.1 | 22 | 27.8 | 34 | 43.0 | 79 | 28.8 |
| Standardized open to individualization | 12 | 30.0 | 13 | 32.5 | 15 | 37.5 | 40 | 14.5 |
| Total | 85 | 31.0 | 80 | 29.1 | 109 | 39.7 | 274 | 100.0 |

*Percentages calculated on the basis of total. Percentages calculated based on total rows.

More than half of the respondents (Table 2) had inadequate knowledge about prevention of complications (47, for 58.7%), with a predominance of those who had worked with puerperal women for 6-10 years (51, for 63.7%).

Table 2. Knowledge of tertiary prevention of puerperium-associated complications according to time spent working with puerperal women

| Knowledge level | Time working with postpartum women (in years) | | | | | | Total | |
|-----------------|---|------|---------|------|-------------|------|-------|-------|
| | Less than 5 | | 6 to 10 | | 11 and more | | | |
| | No. | % | No. | % | No. | % | No. | %* |
| Adequate | 10 | 30.3 | 21 | 63.6 | 2 | 6.0 | 33 | 41.2 |
| Inadequate | 11 | 26.2 | 30 | 63.8 | 6 | 12.7 | 47 | 58.7 |
| Total | 21 | 26.2 | 51 | 63.7 | 8 | 10.0 | 80 | 100.0 |

*Percentages calculated on the basis of total. Percentages calculated based on total rows.

Obstetric complications are a cause of maternal morbidity and mortality throughout the world, especially during the puerperium, whether immediate or late, because it is a stage in which important physiological and emotional changes occur. [5]

In this casuistry, postpartum hemorrhage predominated, which coincides with what is reported in the literature about it being one of the most feared obstetric complications and is among the 3 leading causes of maternal mortality in the world. [10]

With reference to preeclampsia, the hypertensive disorder detected in the present series is in agreement with some studies that describe it as the second cause of maternal death. It is important to point out that aggravated cases are admitted to the ICU, since it is basically an early pregnancy disease, characterized by hypertension and proteinuria, which is observed in 2-8% of pregnancies. [11]

Thromboembolism is included among the vascular diseases associated with puerperium; however, given the scarcity of prospective, randomized clinical studies, there is no clear evidence to support the efficacy and safety of treatment in those who suffer from it. The true incidence of deep vein thrombosis and pulmonary thromboembolism is between 0.26-0.7%. [12]

Regarding other complications, Flores et al. [7] reported a higher incidence of retained placental debris (12.1%), as well as pyelonephritis (5.6%), uterine atony (4%), puerperal hemorrhage (1.6%), sepsis (1.6%) and convulsions (0.8%); comments similar, to some extent, to those made in the present study.

What is certain is that these complications require better care by the nursing staff in the ICU, since they constitute causes of maternal mortality; hence, care can be varied and include different actions, viz:

- Prepare the patient psychologically and provide emotional support.
- Offer educational talks.
- Assess the characteristics and intensity of the pain.
- Apply physical measures.
- Follow up, control and monitor ventilatory and vital parameters (blood pressure, heart rate and temperature).
- Examine the state of consciousness.
- Perform endotracheal suctioning.
- Check and interpret the results of complementary tests.
- Assess and quantify bleeding.
- Assess thermal gradient.
- Manually express breast milk.
- Perform passive and active limb movements.
- Change posture.
- Quantify drainage of secretions.
- Evaluate the phlogistic signs of wounds.

Similarly, several authors [13-15] agree that the application of standardized care is a scientifically based work, in which the responses of a person, family or group type to a health situation are defined, as well as specifying the responsibility and nursing care for each of these situations; all this through a common language: nursing diagnoses (NANDA type), patient outcomes (NOC) and nursing interventions (NIC).

Thus, when faced with a puerpera with hemorrhage, a nursing care plan should be implemented for the prevention and early detection of this complication, which will prevent death. In this sense, it is necessary to analyze the quality of health interventions to deal with this excessive blood loss, which requires knowledge, attitude and commitment; [16] therefore, the authors of this article suggest the application of standardized care open to individualization, as it allows combining care directed to a specific situation and individualizing it according to personal needs.

In accordance with the above, adequate preparation of the nursing staff is needed, since they are the ones who spend most time with the puerpera in the ICU. In this regard, the inadequate knowledge of tertiary prevention of these complications was revealed, related to the limited experience of the personnel located in these services, which, in general, does not exceed 10 years.

Regarding the types of care, Hernández et al. [13] state that the most common are individualized, standardized, standardized with modifications and computerized, with a predominance of the latter.

The authors of this article consider that, rather than creating new instruments, it is necessary to carry out improvement activities related to these complications and to update the nursing protocols in order to reach an agreement for each clinical situation. Likewise, it is necessary to bear in mind that the nursing care plan is also a management tool, since it identifies situations in which nurses intervene, autonomously or as part of a team, and determines the activities they carry out to obtain good health outcomes; therefore, it helps to create a scientific knowledge base on which nursing theory and practice are based. [17-19]

As we have seen, the nursing profession implicitly involves the concept of care, which is vital for the subsistence of humanity and the relationships of solidarity between individuals. From this perspective, caring is an indispensable activity for humanity, since it is not only a matter of survival, but also of promoting and developing activities related to the common good of individuals and groups. [20]

In this context, prevention is fundamental not only to avoid the appearance of the disease, but also to limit the damage, avoid complications and achieve the patient's rehabilitation, where the nursing staff has a leading role. The limitations of the present study lie in the non-homogenization of the clinical histories in terms of nursing evolution, which interfered in the grouping of care. It is concluded that nursing care for the tertiary prevention of some complications is basically provided to puerperal women with preeclampsia, thromboembolism and hemorrhage, so that standardized care predominates, which requires greater preparation of the personnel involved in the process.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- [1] La O Jiménez Y, Camue Torres VI, Soler Fonseca VD, Lamas Lamas JL. Promoción y prevención de salud, responsabilidad social en el desempeño del profesional de enfermería. *Rev Cuban Tecn Salud*. 2022;13(1). Disponible en: <https://revtecnologia.sld.cu/index.php/tec/article/view/3735/1556>
- [2] Serrano García L, Serrano García L, Rodríguez Báster AJ. Breve análisis conceptual de los términos salud, enfermedad, prevención y prevención de enfermedades. *Arch Hosp. Calixto García*. 2019. Disponible en: <https://revcalixto.sld.cu/index.php/ahcg/article/view/401/364>
- [3] González Espangler L, Mena García G, Romero García L. Prevención en malformaciones congénitas bucomaxilofaciales desde la atención primaria estomatológica. *Rev Cuban Genét Comun*. 2022;14(1). Disponible en: <https://revgenetica.sld.cu/index.php/gen/article/view/123>
- [4] García Prieto J, Alonso Sánchez J, Martínez Chamorro E, Ibáñez Sanz L, Borrueal Nacenta S. Complicaciones del puerperio: mecanismos fisiopatológicos y principales hallazgos radiológicos asociados. *Radiol*. 2021;63(1):22-31. Disponible en: <https://www.elsevier.es/es-revista-radiologia-119-articulo-complicaciones-del-puterperio-mecanismos-fisiopatologicos-S0033833820301041>
- [5] Mauricio K, Huamán R, Espinoza R. Factores asociados a complicaciones posparto según la encuesta demográfica y de salud familiar en Perú 2019-2020. *Rev Fac Med Hum Lima*. 2023;23(1):61-72. Disponible en: http://www.scielo.org.pe/scielo.php?script=sci_arttext&pid=S2308-05312023000100061
- [6] Sierra Alfonso V. Caracterización de las complicaciones quirúrgicas de la puérpera cesareada y su tratamiento. *Medimay*. 2023;30(2). Disponible en: <https://revcmhabana.sld.cu/index.php/rcmh/article/view/2018/pdf>
- [7] Flores Venegas SR, Germes Piña F, Levario Carrillo M. Complicaciones obstétricas y perinatales en pacientes con anemia. *Ginecol Obstet Méx*. 2019;87(2):85-92. Disponible en: https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0300-9041201000200085&lng=es&nrm=iso&tlng=es
- [8] República de Cuba. Ministerio de Salud Pública; Dirección de Registros Médicos y Estadísticas de Salud. Anuario estadístico de salud 2021. La Habana: MINSAP; 2022. Disponible en: <https://files.sld.cu/dne/files/2022/10/Anuario-Estadistico-de-Salud-2021.-Ed-2022.pdf>
- [9] Santana Espinosa MS, Esquivel Lauzurique M, Herrera Alcázar VR, Castro Pacheco BL, Machado Lubián MC, Cintra Cala. Atención a la salud materno-infantil en Cuba: logros y desafíos. *Rev Panam Salud Pública*. 2018;42:e27. Disponible en: <https://doi.org/10.26633/RPSP.2018.27>
- [10] Fernández Llombard JO, Elías Sierra R, Elías Armas KS, Bayard Joseff I. La hemorragia posparto. *Rev Cuba Anestesiol Reanim*. 2019;18(2):e245. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1726-67182019000200003

[11] Santa Cruz Pavlovich FJ, Salmeron Salcedo CA, Ponce Rivera MS, Luna Flores A. Preeclampsia: revisión. *Rev Homeostasis*. 2023;5(1). Disponible en: <https://www.medigraphic.com/cgi-bin/new/resumenI.cgi?IDARTICULO=112071>

[12] Irigoín V, Lorenzo M, Grille S, González V. Enfermedad tromboembólica venosa en el período grávido-puerperal. Diagnóstico, tratamiento y profilaxis. *Rev Urug Med. Int.* 2021;6(2):7-21. Disponible en: http://www.scielo.edu.uy/scielo.php?script=sci_arttext&pid=S2393-67972021000200007

[13] Hernández Rodríguez LC, Graña León MC, González Montero L, Santana del Río M, Miranda Guerra AJ. Plan de cuidados de enfermería estandarizado para asesoramiento genético de embarazadas con alfafetoproteína alterada en Caibarién. *Rev Cuba Enferm.* 2016;32(3). Disponible en: <https://revenfermeria.sld.cu/index.php/enf/article/view/1330/1980>

[14] Naranjo Hernández Y, González Hernández L, Sánchez Carmenate M. Proceso atención de enfermería desde la perspectiva docente. *Arch Méd. Camagüey.* 2018;22(6). Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1025-02552018000600831&lng=es&nrm=iso&tlng=es

[15] Barbero CM. Estandarización del diagnóstico y plan de cuidados enfermero ante el riesgo del síndrome de la fragilidad del anciano. *Rev Ene.* 2020;14(2). Disponible en: <http://ene-enfermeria.org/ojs/index.php/ENE/article/view/980>

[16] Castillo Ayón M, Delgado Choez GS, Briones Mera BM, Santana Vera ME. La gestión de la calidad de cuidados en enfermería y la seguridad del paciente. *Salud Vida.* 2023;7(13):40-9. Disponible en: http://ve.scielo.org/scielo.php?script=sci_arttext&pid=S2610-80382023000100040

[17] Ibáñez Alfonso E, Fajardo Peña MT, Cardozo Ortiz CE, Roa Díaz ZM. Planes de cuidados enfermeros de estudiantes de pregrado: comparación de dos modelos. *Rev Univ Ind Santander. Salud.* 2020;52(1):33-40. Disponible en: http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0121-08072020000100033

[18] Solano López AL. El proceso de enfermería como estrategia para desarrollar la empatía en estudiantes de enfermería. *Index Enferm.* 2020;29(3):165-9. Disponible en: https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1132-12962020000200014

[19] Aguirre Raya DA. Retos y desafíos de la enfermería en el mundo moderno. *Rev. Habanera Cienc Méd.* 2020;19(3). Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1729-519X2020000300001

[20] Mulens Ramos I. Análisis de los cuidados de enfermería ante las respuestas humanas en el aborto espontáneo. *Rev Habanera Cienc Méd.* 2009;8(3). Disponible en: <https://revhabanera.sld.cu/index.php/rhab/article/view/1560/1349>

Author Contributions

Mercy Silva Martínez: conceptualization, data curation, formal analysis, research, methodology, original draft-writing, drafting-revising and editing. Participation: 35 %.

Iván Parada Ferrera: research, methodology, original draft-writing, drafting-revision and editing. Participation: 20 %.

Gustavo Galán Bermúdez: research, methodology, original draft-writing, drafting-revising and editing. Participation: 20 %.

Liuba González Espangler: project management, supervision, visualization, original draft-writing, drafting-revising and editing. Participation: 15 %.

Geovani Olivares Paizan: project management, supervision, visualization, drafting, drafting and editing. Participation: 10 %.