



Knowledge and strategic actions of nurses for venous thromboembolism prophylaxis

Conocimientos y acciones estratégicas de enfermeros para la profilaxis del tromboembolismo venoso

Conhecimentos e ações estratégicas de enfermeiros para profilaxia de tromboembolismo venoso

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Abstract

The aim was to verify the knowledge of nurses from inpatient units about risk factors and venous thromboembolism prophylaxis. The study is descriptive and prospective with a quantitative approach and data were collected from the analysis of medical records and questionnaires applied to nurses. The results showed the existence of an important deficit in the knowledge of nurses regarding the prophylaxis of venous thromboembolism and it was identified that these professionals are not inserted in the process of prophylaxis of the disease, while they do not record information about risks, prophylaxis or conducts aimed at preventing the onset of the disease. It was concluded that the non-inclusion of nurses in the process of screening for venous thromboembolism risks negatively impacts their prophylaxis, generating high costs to the Unified Health System due to a preventable disease. And the non-recognition of its role in disease prevention limits its insertion in the prophylaxis process and reduction of this serious public health problem.

Descriptors: Nursing; Venous Thromboembolism; Knowledge; Risk Factors; Health Education.

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Resumén

El objetivo fue verificar el conocimiento de enfermeros de unidades de hospitalización sobre factores de riesgo y profilaxis de tromboembolismo venoso. El estudio es descriptivo y prospectivo con abordaje cuantitativo y los datos fueron recolectados a partir del análisis de historias clínicas y cuestionarios aplicados a enfermeros. Los resultados mostraron la existencia de un importante déficit en el conocimiento de los enfermeros sobre la profilaxis del tromboembolismo venoso y se identificó que estos profesionales no están insertos en el proceso de profilaxis de la enfermedad, mientras no registran informaciones sobre riesgos, profilaxis o conductas encaminadas a prevenir la aparición de la enfermedad. Se concluyó que la no inclusión de los enfermeros en el proceso de pesquisa de riesgos de tromboembolismo venoso impacta negativamente en su profilaxis, generando altos costos al Sistema Único de Salud por enfermedad prevenible. Y el no reconocimiento de su papel en la prevención de enfermedades limita su inserción en el proceso de profilaxis y reducción de este grave problema de salud pública.

Descriptores: Enfermería; Tromboembolia Venosa; Conocimiento; Factores de Riesgo; Educación en Salud.

Resumo

Objetivou-se verificar o conhecimento de enfermeiros de unidades de internação sobre fatores de risco e profilaxia do tromboembolismo venoso. O estudo é descritivo e prospectivo com abordagem quantitativa e os dados foram coletados a partir da análise de prontuários e de questionários aplicados a enfermeiros. Os resultados apontaram a existência de déficit importante sobre o conhecimento dos enfermeiros em relação a profilaxia do tromboembolismo venoso e identificou-se que esses profissionais não estão inseridos no processo de profilaxia da doença, ao passo em que não registram informações sobre riscos, profilaxia ou condutas voltadas para a não instalação da doença. Concluiu-se que a não inserção dos enfermeiros no processo de rastreamento de riscos de tromboembolismo venoso impacta negativamente na sua profilaxia, gerando altos custos ao Sistema Único de Saúde por uma doença evitável. E o não reconhecimento do seu papel na prevenção da doença limita a sua inserção no processo de profilaxia e redução desse grave problema de saúde pública.

Descritores: Enfermagem; Tromboembolia Venosa; Conhecimento; Fatores de Risco; Educação em Saúde.

Introduction

This research presents results of extension actions arising from the project entitled "Prevention of risks of venous thromboembolism: actions and strategies to reduce morbidity and mortality and increase patient safety in health care environments" developed at the State University of Rio de Janeiro.

Venous thromboembolism (VTE) involves both deep vein thrombosis (DVT) and pulmonary thromboembolism (PTE). The first condition results from blood clotting within deep vessels, usually causing edema and local pain that appear in a few hours or days, due to reduced blood flow in the affected region. The second generates a more serious compromise, implying in blood flow limitation in the pulmonary artery due to its partial or total obstruction with serious threat to the patient's life.

It is a silent, neglected disease that generates a huge budgetary impact for the health system around the world, mainly due to the consequences of its non-prevention, being normally detected after its installation, culminating in an increase in the number of days of hospitalization and with a high risk of producing sequelae or even death.

Recent literature points out that one in four deaths worldwide is due to venous thromboembolism, which is now considered the third leading cause of cardiovascular death,

behind only acute myocardial infarction (AMI) and cerebrovascular accident (CVA)¹.

The risk factors for VTE are well defined by International Consensus and by the Brazilian Guideline on disease prophylaxis, but it is observed that this knowledge is still incipient when it comes to health professionals working in direct care of hospitalized patients, which increases the degree of complexity regarding the control of its occurrence²⁻⁴.

It appears that the fact that nurses are continuously accompanying patients in clinical inpatient units, when compared to the presence of other health professionals, can represent great allies in the fight against the onset and installation of the disease.

Considering the existence of risk factors already described in the national and international literature, such as the consensus of the American College of Chest Physicians (ACCP) and the Brazilian Guideline for VTE prophylaxis of the Brazilian Medical Association and the Federal Council of Medicine, nurses can act as trackers and early risk identifiers for the disease, producing information and communicating it through rounds and the record itself in medical records with a view to disseminating information with other professionals, thus sharing the need to initiate measures that limit the risks of their disease installation in inpatients.



The presence of VTE risk factors implies the need for its prophylaxis, which can be carried out both with chemoprophylaxis, through the use of drugs that prevent its occurrence, and with mechanical prophylaxis, when using physical devices such as elastic stockings. compression, pneumatic compressor or physiotherapy and also the use of transcutaneous electrostimulation, a procedure that triggers electrical impulses with a low intensity electrical current, but capable of generating involuntary movements of the muscles that are sufficient to avoid blood stasis and improve the venous return.

In the case of electrostimulation, its use occurs mainly in cases where patients have impediments or contraindications for other possibilities of prophylaxis, often due to the increased risk of bleeding when chemoprophylaxis is used.

Due to the existence of several risk factors that are predisposing to the disease, hospitalization in hospital units involves several clinical conditions that favor the occurrence of venous thromboembolism, and when there are risk factors associated with hospitalization, the chance of an event of this nature gets even bigger³.

It is important to highlight that pulmonary thromboembolism is responsible for many complications, being recognized as the main predictable cause of death in hospitalized patients^{2,4}.

The study aims to verify the knowledge of nurses from inpatient units about risk factors and venous thromboembolism prophylaxis.

Methodology

This is a descriptive study with a quantitative approach, developed prospectively, whose data collection took place through the distribution of questionnaires to care nurses of inpatient units of a quaternary hospital that is part of the Unified Health System (SUS).

The development of the study took place after consideration and approval by the Research Ethics Committee of the institution that approved it under opinion No. 2,492,406 and whose data collection began in 2020, focusing on the identification of nurses' knowledge about risk and prophylaxis actions for venous thromboembolism.

The participants were nurses working in nursing care in inpatient units for adults, with the exception of postoperative inpatient units, given the fact that in these units there are different behaviors with the use of protocols for the prevention of venous thromboembolism. .

The inclusion criteria in the research were age greater than or equal to 18 years and being a nurse in clinical inpatient units. Exclusion criteria: working in surgical or post-anesthetic recovery units.

Data collection took place through the application of a questionnaire to professionals whose questions were related to venous thromboembolism, its risk factors, prophylaxis and educational actions for nursing professionals that can contribute to reducing the impact of the disease in units of care. clinical hospitalization.

Additionally, records from hospitalized patients' charts were analyzed in order to obtain information

recorded by nurses on risk factors and venous thromboembolism prophylaxis for patients who were hospitalized.

The medical records whose records were analyzed underwent randomization to eliminate selection biases, and in this way 5 medical records of patients hospitalized in each of the 10 units included in the study were drawn, regardless of the number of hospitalized patients, with all units included with a higher number to 5 hospitalized patients and according to the inclusion criteria.

All information was entered into the Microsoft Excel® program to facilitate data analysis, using simple descriptive statistics to obtain absolute and relative frequencies, mean, median and standard deviation, as well as the creation of tables resulting from the agglomeration of resulting information. of the study. We then proceeded to compare and correlate the information obtained with the results of national and international studies available in the available literature.

Resultados

The study sample consisted of 30 nurses from clinical inpatient units, whose characterization is shown below.

Characterization of the study population

Table 1. Distribution of participants by gender and age. Rio de Janeiro, RJ, Brazil, 2022 (N = 30)

Gender	F	%
Male	05	16,66
Feminine	25	83,33
Age - Mean ± SD (min. – max.)	39± 9 (29,5 – 60)	100%

Characterization of the variables analyzed in the study

Table 2. Knowledge and identification of VTE risks. Rio de Janeiro, RJ, Brazil, 2022

Variable	F	%
Reports knowing how to identify VTE risks	28	93,3%
Reports not knowing how to identify VTE risks	02	6,7%
Identifies by Physical Exam	06	21,43%
Identifies by Risk Factors	22	78,57%

Table 3. Knowledge of professionals about risk factors for VTE. Rio de Janeiro, RJ, Brazil, 2022

Risk factors presented correctly	F	%
Unknown or presented wrong factors	04	16,66
Had 01 risk factor	01	04,16
It presented 02 risk factors	06	25,00
It presented 03 risk factors	07	29,16
It presented 04 risk factors	07	29,16
It presented 05 risk factors	03	12,50
It presented 07 risk factors	01	04,16
Presented 10 risk factors	01	04,16

Table 4. Know VTE prophylaxis protocols and risk identification. Rio de Janeiro, RJ, Brazil, 2022

Variable	F	%
Knows prophylaxis protocols	04	13,33%
Unaware of prophylaxis protocols	26	86,66%



Knows how to identify risk factors	26	86,66%
Does not know identify Risk Factors	04	13,33%

Table 5. Knowledge about prophylactic methods for VTE. Rio de Janeiro, RJ, Brazil, 2022

Variable	F
Knows 2 methods and presents them	1
Know 3 methods and introduce them	7
Knows 4 methods and presents them	9
Know 5 methods and introduce them	8
Knows 6 methods and presents them	2
Knows 7 methods and presents them	3

Table 6. Regarding guidance to patients at risk of VTE. Rio de Janeiro, RJ, Brazil, 2022

Variable	F	%
Have you ever screened for VTE risks?	10	33,33%
Never screened for VTE risks	20	66,66%
Have you ever given some guidance to the patient at risk	16	53,33%
Never gave any patient guidance at risk	14	46,66%

Table 7. Frequency on the type of guidance given to the patient at risk of VTE. Rio de Janeiro, RJ, Brazil, 2022

Variable	F
Early ambulation	13
LL elevation	07
Use of MCE	06
Active and passive exercises	03
Medication use	03
Stop smoking	01
Need for weight loss	01

Table 8. "Do nurses play a role in caring for clients at risk of VTE?". Rio de Janeiro, RJ, Brazil, 2022

Variable	F	%
Play a role in caring	25	83,33
Does not play a role in care	05	16,66
Total	30	100%

Table 9. "What is the role of the nurse with the client at risk of VTE?". Rio de Janeiro, RJ, Brazil, 2022

Variable	F
Implementation and guidance on prophylaxis	18
Identification of risk factors	09
Therapeutic follow-up	02
Conducting a physical examination	02
Total occurrences	31

Table 10. "Registration of information on VTE risks in medical records". Rio de Janeiro, RJ, Brazil, 2022

Variable	F	%
Records VTE risks in medical records	12	0%
Does not record VTE risks in medical records	18	0%
Total	30	00%

Table 11. Analysis of the variable "The type of record performed in medical records". Rio de Janeiro, RJ, Brazil, 2022

Answers	F
Changes in evolution	02
Observations and physical examination	02
High risk of VTE	02
Risk assessment and precautions	01
Prior history of VTE	01
Nursing prescription care	01
Presence of edema	01
Bed restriction	01

Table 12. "Register of nurses on VT risks and their prophylaxis". Rio de Janeiro, RJ, Brazil, 2022

Variable	F
Audited records	50
Nurse records on VTE risks and prophylaxis	0

Discussion

From the sample of 30 nurses of both genders presented in Table 2 (16.66% male and 83.33% female), aged between 29.5 and 60 years, with mean and standard deviation aged 39 ± 9 years, it was clear, as shown in Table 4, that professionals do not know how to correctly identify the risk factors for VTE and are unaware of all the risk factors, consequently, they do not identify which patients need the most appropriate care.

The maximum number of risk factors correctly presented were 10 (Table 4) by only 1 (4.16%) nurse, not reaching at least half of the risk factors considered in this study, which total 24 risk factors for VTE in hospitalized patients with based on the Brazilian VTE Prophylaxis Guideline and on the International Consensus on disease prophylaxis. Also, according to Table 4, it was found that 4 (16.66) of the professionals are totally unaware of risk factors for VTE.

Even so, Table 3 shows that in relation to nurses' knowledge about identifying patients at risk for VTE, 28 (93.3%) of the interviewees said they knew how to identify the risks for VTE in the hospitalized population, which was not confirmed. given the low number of risk factors known by the population studied.

In Table 3, it can be seen that 22 (78.57%) professionals report that they identify the risks of VTE in the patient through the identification of risk factors and 08 (21.43%) by physical examination, while 02 (6, 7%) say they do not know how to identify such risks. Knowledge about VTE prevention protocols was also investigated (Table 5) and it was found that only 4 (13.33%) are aware of VTE prophylaxis protocols, while 26 (86.66%) are unaware of any protocol aimed at this purpose.

Bearing in mind that the nurse becomes an element of great importance in the VTE prevention process and considering their participation and performance with the patient and the multiprofessional team, communication between team members is essential for the proper process of care for the patient, and knowledge about the protocols allows the standardization of information and the performance of appropriate practices.

As for the prophylactic methods for VTE, 11 were made available so that the participants could inform whether or not they knew about each of them and it was verified (Table 6) that among the 30 nurses, 01 reported knowing two prophylactic methods, 07 referred to 03 prophylactic methods, 09 reported knowing 04 methods, 08 reported knowing 05 methods, 02 reported knowing 06 methods and only 03 reported 07 VTE prophylactic methods, among the chemical (with drugs) and mechanical methods. This information also indicates a low level of knowledge,



since 22 (78.57%) professionals do not know 50% of the available methods.

According to the study, at least 24 risk factors for the disease are emphasized and among the factors are stroke, cancer, use of central and Swan-Ganz catheters, surgery with anesthesia time > 30 min, severe inflammatory disease, rheumatologic disease acute, inflammatory bowel disease, acute myocardial infarction, congestive heart failure, age over 40 years, prolonged immobilization, ICU admission, obesity, lower limb paresis or paralysis, chemotherapy or hormone therapy, hormone replacement, nephrotic syndrome, thrombophilia, varicose veins or chronic venous insufficiency, many of these factors with a high incidence in inpatient units, reinforcing the need for professionals to approach this topic².

Table 7 shows that nurses are little involved in the process of screening risks for the disease with hospitalized patients, as only 10 (33.33%) state that they performed risk screening at some point. The other 20 (66.66%) had never screened their patients for VTE risks. Regarding guidance to patients at risk, 14 (46.66%) reported that they never gave any type of guidance to patients at risk of developing VTE.

It is understood that nurses play an important role in this process, since, by holding this knowledge, they can adequately and critically provide more appropriate care, implying in tracking risks for VTE and, consequently, in greater effectiveness in prophylaxis, contributing to the reduction of morbidity and mortality and ensuring adequate treatment when, unfortunately, the disease is already established. In this sense, the nurse, together with the multidisciplinary team, presents all the conditions to guarantee the quality of care and monitoring of the hospitalized patient³.

Regarding the types of guidance given to patients at risk of VTE (Table 8), it was possible to identify that the greatest recurrence is in early ambulation, being referred 13 times, followed by lower limb elevation 07, use of ECM 06, active exercises and liabilities 03, use of medication 03, importance of quitting smoking 01 and need for weight loss 01.

As for the role played by nurses (Table 9) in providing care to clients at risk of VTE, 25 (83.33%) state that nurses have a role in this process and 05 (16.66%) state that nurses do not play a role some in the care of patients at risk of VTE. This role understood by the 25 nurses (Table 10) was defined as the implementation and guidance on prophylaxis (18 occurrences); as the identification of risk factors (09 occurrences); physical examination (02 occurrences) and therapeutic follow-up (02 occurrences). It is important to highlight that the role of the nursing team in monitoring hospitalized clients 24 hours a day, that is, in uninterrupted attention and dedication, where nurses, appropriating their theoretical and practical knowledge, guide their clients, aiming at comfort and well-being, especially with regard to self-care, favoring their recovery and promoting the client's own health occurs³.

From the analysis of the study, the nursing team presents all the conditions to act and play an important role in the prevention of risk and treatment of venous

thromboembolism, since it remains in care 24 hours and is able to promote prophylactic actions, including the identification of risk factors for the disease⁵.

As for the records of information on the risks of VTE, 12 participants stated that they recorded the risks in medical records while 18 did not record the risks of VTE in the medical records. It was found, however, that in 50 medical records of hospitalized patients (Table 11) the lack of any record related to prophylactic actions at risk of venous thromboembolism, which conflicts and goes against the answers presented by professionals according to Table 9.

Regarding the type of record that professionals claim to perform (Table 12) 02 record changes in evolution, 02 record observations and physical examination, 02 record high risk of VTE, 01 record risk assessment and precautions, 01 record previous history of VTE, 01 records care in the nursing prescription, 01 records the presence of edema and 01 records bed restriction.

It was also verified in the study whether the professionals who participated in the study (Table 3) know any application that allows tracking the risks of VTE, with only 01 (3.33%) professional having knowledge of an application for this purpose, while 29 (96.66%) say they are unaware of any tracking application.

It is worth mentioning the existence of applications that allow the assessment of the risk of venous thromboembolism through software scores such as Caprini[®], which provides recommendations for the prevention of VTE in surgeries, as well as for the perioperative management of antithrombotic therapy as low to high risks for VTE.

There is also an application distributed to the population of health professionals by the Oswaldo Cruz Foundation since 2015, allowing the evaluation through scores, on the risk of the patient presenting VTE.

Conclusion

VTE prophylaxis remains a fundamental measure to reduce the occurrence of venous thromboembolism in clinical patients, considering the high rates of morbidity and mortality resulting from the absence of simple prophylactic measures.

For the group of participating nurses, insufficient knowledge about venous thromboembolism and its risk factors was identified, reinforcing that these professionals are not inserted in the context of VTE prophylaxis when caring for their patients. In this sense, they present difficulty in pointing out risk factors for VTE, which is a limitation for the correct screening of risks and for the guidance of patients who are at potential risk of developing the disease.

It was possible to identify insufficient knowledge about venous thromboembolism and its risk factors and that a low-cost strategy, which can have a positive effect, can be training on VTE prophylaxis, which may even function as a valuable tool capable of bring them closer to knowledge about the pathology and its risk factors.

It was also possible to conclude that most professionals do not or have never provided guidance on VTE



prophylaxis when caring for their patients, making it clear that they are not part of the risk prevention process.

A more effective participation in the prophylaxis process can significantly contribute to reducing the impact of this disease on the Brazilian population, even reducing the costs presented by the SUS with prolonged hospitalizations and the incidence of deaths resulting from VTE.

This study brings contributions to a better understanding of the problem presented and the importance of inserting nurses in the prophylaxis process, which can be an effective strategy, provided they are trained for this role, starting to contribute positively to the SUS and to the population at risk.

The study achieved its purpose by allowing verification of how nurses are inserted in the VTE prophylaxis process, in addition to proposing simple and low-cost strategies, which can be reproduced in any care setting,

since training and the creation of indicators for this purpose can have an impact on reducing morbidity and mortality and on VTE prophylaxis.

Finally, the study allowed us to conclude that: There is a significant deficit in the knowledge of care nurses about VTE prophylaxis for clinical patients, as previously mentioned³. The inclusion of nurses in the risk screening and prophylaxis process is feasible and inexpensive; Effective communication related to VTE findings and the risks of its occurrence can increase hospitalized patient safety, preventing the onset of the disease.

Teams composed of nurses, doctors and physical therapists, faced with information related to risks, can follow the best conduct in the disease prevention process. The role of nurses in the prophylaxis process as a whole can generate positive consequences for patients, hospital units and the Unified Health System

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