

THE ROLE OF THE NURSE ALONG THE PERIOPERATIVE PERIOD IN ORDER TO PREVENT DEEP VEIN THROMBOSIS

Papel do enfermeiro no período perioperatório para prevenção da trombose venosa profunda
Rol del enfermero en el período perioperatorio para la prevención de la trombosis venosa profunda

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ABSTRACT: Objectives: Determining how nurses implement deep vein thrombosis (DVT) prevention during the perioperative period in patients submitted to large surgeries and detecting the risk factors to the occurrences of DVT previously traced by nurses. **Methodology:** A case study with a qualitative approach. A sample of 12 nurses in the inpatient unit, operating room, and postanesthesia recovery room of a hospital specializing in trauma Porto Alegre (RS), Brazil. We used semi-structured interviews with 10 leading questions. For data interpretation, the Content Analysis Method introduced by Bardin was adopted. **Results:** Three final categories came up from the content analysis: risk factors to DVT, preventive measures to DVT, and adversities in implementing the systematization of nursing care in perioperative. **Conclusion:** Nurses perform prevention of DVT with massage, observation, physical examination/assessment, protective measures, and change of position but lack autonomy to apply some preventive measures. They showed several risk factors for the occurrence of DVT according to the literature, proving they have the knowledge about the disease.

Keywords: Venous thrombosis; Perioperative nursing; Disease Prevention.

RESUMO: Objetivos: Conhecer como os enfermeiros realizam a prevenção da Trombose Venosa Profunda (TVP) em pacientes submetidos a cirurgias de grande porte no período perioperatório; e levantar os fatores de risco para o desenvolvimento de TVP identificados pelos enfermeiros. **Método:** Estudo de caso com abordagem qualitativa. Amostra composta por 12 enfermeiros da unidade de internação, centro cirúrgico e sala de recuperação pós-anestésica de um hospital especializado em trauma de Porto Alegre (RS). Utilizou-se entrevista semiestruturada com 10 questões norteadoras. Para interpretação dos dados utilizou-se Análise de Conteúdo de Bardin. **Resultados:** Emergiram três categorias: Fatores de Risco para TVP; Medidas Preventivas de TVP e Dificuldades na Execução da Sistematização da Assistência de Enfermagem Perioperatória. **Conclusão:** Os enfermeiros realizam prevenção de TVP com massagem, observação, exame físico/avaliação, medidas protetivas e mudança de posição, entretanto falta autonomia para aplicar algumas medidas preventivas. Apontaram vários fatores de risco para a ocorrência de TVP conforme literatura, evidenciando conhecimento sobre a patologia.

Palavras-chave: Trombose venosa. Enfermagem perioperatória. Prevenção de Doenças.

RESUMEN: Objetivos: Conocer como los enfermeros realizan la prevención de la trombosis de la vena en los pacientes sometidos a las cirugías de porte grande en el período perioperatorio; y coleccionar los factores de riesgo para el desarrollo de la trombosis de la vena que fueron identificados por los enfermeros. **Método:** Estudio del caso con el enfoque cualitativo. La muestra fue compuesta por 12 enfermeros de la unidad de hospitalización, quirófano y sala de recuperación post-anestesia de un hospital especializado en traumas en Porto Alegre, Rio Grande do Sul, Brasil. Se aplicó una entrevista semiestruturada con 10 preguntas principales. Se utilizó, para la interpretación de los datos, el análisis del contenido de Bardin. **Resultados:** Se emergieron tres categorías: los factores del riesgo para la trombosis de la vena; las medidas preventivas de la trombosis de la vena y las dificultades en la ejecución de del Sistematización de Atención de Enfermería Perioperatória. **Conclusión:** Los enfermeros realizan la prevención de la trombosis de la vena con el masaje, la observación, el examen / evaluación física, las medidas de protección y el cambio de posición, pero carecen de autonomía para aplicar algunas medidas preventivas. Ellos mostraron varios factores de riesgo para la aparición de la trombosis de la vena de acuerdo a la literatura, mostrándose el conocimiento sobre la enfermedad.

Palabras clave: Trombosis de la vena. Enfermería perioperatoria. Prevención de Enfermedades.

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INTRODUCTION

The fundamental role of nursing in the perioperative period involves the promotion, maintenance, and recovery of the health of patients who underwent a major surgery. It is important that the nurse has the necessary knowledge in order to evaluate the kind of surgery and identify the occurrence probability of a deep vein thrombosis (DVT)¹.

Some attributions are specific of nurses who work in this service, such as, for example, supervising the nursing actions necessary for each patient; developing rules and routines for each area; knowing how to list the priorities of each patient. Depending on the routine of the health service, the nurse performs the preoperative evaluation of the patient, among others².

The systematization of nursing care in perioperative (SNCP) has the objective of developing a “full, continued, participatory, individualized, documented and evaluated assistance”³.

The perioperative period is defined as the interval that encompasses the preoperative, intraoperative and postoperative phases².

The DVT is the development of a blood clot within a venous blood vessel, owing to an inflammatory reaction or trauma, determining total or partial obstruction of the vessel⁴. It may lead to venous thromboembolism (VTE), in which the clot travels through the vessel, subject to developing a pulmonary embolism (PE), which is an important cause of morbidity and mortality⁵.

The VTE is considered a public health issue; besides having a high mortality rate, it affects much of the population hospitalized. Another important aspect of this complication is that most deaths caused by VTE could be avoided; however, the pharmacological prevention methods are underused⁶. Since the early twentieth century, it is recommended to prevent VTE among surgical patients; but only in the last 25 years, there was an objective concern about this matter and a deepening of the researches and prophylactic methods⁴.

Before undergoing a surgical procedure, the patient must be evaluated by the team regarding their risk factors and the type of surgery they will perform and then determine the risk of developing DVT⁷.

The guidelines of the American College of Chest Physicians (ACCP) not only recommend observing whether the patient is under risk of developing DVT and VTE but also advise

hospitals to create strategies identifying these risks and, consequently, avoiding mortality⁸. Therefore, it is important to evaluate, in addition to the age of the patient, their physical status and the size of the surgery (major or minor); the so-called medium and major surgeries, including the intrathoracic, intraabdominal, orthopedic, neurological, arterial, and surgeries of high hemorrhagic risk, have higher surgical risk of developing VTE⁷.

The drug prophylaxis for VTE, despite effective, does not reduce the incidence of postoperative DVT to zero. Data indicate the incidence of postoperative DVT in cases of hip surgery, when prophylaxis is not carried out, in up to 70% of patients⁹. A process for caring and recovering is necessary, with measures on the control of this complication. The SNCP is essential within a hospital environment in order to implement potentially satisfactory interventions in surgical patients, considering their risk factors and, consequently, providing better assistance¹⁰.

There are not many studies in the nursing area identifying the real role of the nurse in the prevention of DVT in the perioperative period of major surgeries. Besides, the evaluation of the records of intervention regarding this care does not allow the discussion of the preventive actions adopted.

Given the aforementioned facts, this study had the overall objective of getting to know the nurses who performed the prevention of DVT in the perioperative period of patient undergone major surgeries. The specific objective was to raise the risk factors identified by the nurses for the occurrence of DVT.

METHOD

We chose to use a qualitative study design, as this type of research allows interpreting the data of the context researched, in an attempt to seek for new answers to represent reality, revealing the different points of view about the objective of the study¹¹.

The field of action was a reference hospital in trauma treatment, especially among victims of traffic accidents, work accidents, and violence and burned patients, in Porto Alegre, Rio Grande do Sul, Brazil. The hospital has 264 beds for services of the specialties of traumatology, orthopedics, bucomaxillofacial, neurosurgery, burn victims, plastic surgery, trauma surgery in general, among others. It serves 100% over the Unified Health System [*Sistema Único de Saúde (SUS)*].

Sample intentionally consisted of 12 nurses, 4 from the hospital admission unit (AU), 4 from the surgical center (SC), and 4 for the postanesthesia care unit (PACU) where the major surgery patients remain, in the preoperative, intraoperative and postoperative phases. This study included the nurses who had been working for 1 year or more in the AU, SC, and PACU of the hospital. This study excluded nurses who had not been working in the hospital, due to medical leave or vacations, during the period of data collection.

The technique used was the network sampling (also called “snowball sampling”)¹². In this approach, the first study participants refer others who meet the inclusion criteria.

The data were collected by a semi-structured interview, with a script divided into two parts:

1. identification data of the participant, in order to characterize the subjects. It was decided to name the subjects in the research with the letter “N” meaning “nurse”, followed by the number according to the interview;
2. 10 guiding questions for the interview, namely:
 1. What do you understand as SNCP?
 2. In this hospital, how does the SNCP of patients of major surgeries work?
 3. Name some risk factors for the occurrence of DVT in patients undergone major surgeries.
 4. What measures do you judge important for the prevention of DVT?
 5. Do you use measures to prevent DVT in patients of major surgeries? If so, what are those measures?
 6. How is performed the prevention of DVT in patients undergone major surgeries in preoperative, intraoperative and postoperative phases?
 7. Have you ever attended patients of major surgeries who developed DVT or VTE?
 8. If so, we asked: In this patient, were there preventive measures in the perioperative implemented?
 9. Report a case that developed DVT or VTE.
 10. In your point of view, how do you judge the SNCP of patients undergone major surgeries should be carried out for the prevention of DVT?

Each interview lasted approximately 10 minutes.

A pilot study was conducted with two nurses in order to identify whether the interview met the objectives proposed and there was no need for changes. The interviews with nurses in preoperative were conducted in a room

of the AU; with the nurses in intraoperative, it was conducted in the nurses’ room in the SC; and with the nurses in postoperative, they were conducted in a room located in the PACU.

The interviews were carried out between April and June 2015, recorded in a mobile device and fully transcribed, ensuring the accuracy of the information. In order to interpret the data, the Content Analysis Method was used¹³.

The technique followed the three recommended steps:

1. Preanalysis: the transcription of the interviews, the organization of the material, the brief reading of the texts, and the beginning of the systematization of ideas for the plan of analysis were made.
2. Analytical description: categorization of the data, separating by the thematic criteria and grouping all themes with the same meaning.
3. Inferential interpretation: the data obtained were interpreted and unveiled, and inferences were made with the objective of making the results valid and significant.

The analysis was performed after the reading and construction of the map with all the questions and answers in full. After reading and rereading in horizontal and vertical of the first map, repetitions were identified, building the second map, emerging five precategories grouped according to the unit of similar meanings. In the third and last step, the last map with the final categories was built.

The project of this research was submitted via *Plataforma Brasil* to the Research Ethics Committees of the University and the Hospital, being evaluated and approved by the Committee of the University under the number CAAE 39220814.7.0000.5345 and by the Committee of the Hospital under number CAAE 39220814.7.3001.5530.

RESULTS

With regard to the profile of the 12 subjects researched, 11 of them were female subjects; the age varied from 26 to 59 years; and the professional experience, from 3 to 35 years.

In the analysis of content performed, three final categories emerged: risk factors for DVT; preventive measures for DVT; and difficulties in the execution of the SNCP. In these categories, the units of similar meanings were grouped and quantified by the number of times in which the speech lines

of the subjects were repeated, resulting in subcategories, according to Chart 1.

Category: risk factors for deep vein thrombosis

In the first category, named “Risk Factors for DVT”, the participants pointed out determinants for DVT as some surgeries, elderly patients and their comorbidities, immobility, obesity, traumas and fractures, and lack of preventive measures. In the subcategory “Surgeries,” the participants indicated those of higher risk to develop DVT, such as: hip; acetabulum; femur; brain tumor; spine; plastic; long surgeries; orthopedic surgeries in general; surgeries that complicate; and various kind of surgery concomitantly. In response to one of the questions, which requested the subject to report a case of DVT or VTE, two nurses said:

I’ve seen it in other patients in the hospital hip surgery that had DVT and I’ve heard stories also of hip replacement surgery where the patient had tromboembolism, it’s almost always death (N5).

[...], but usually they are surgeries with complications, such as trochanteric surgeries, femur surgeries and elderly. Those are the patients with more DVT (N1).

We grouped a subcategory “Elderly People and Comorbidities,” because, usually, the elderly patients have other conditions, owing to age, which start being considered as comorbidities. The following were mentioned as risk areas for DVT: elderly patients; clinical or physical impossibility (disorders); and patients of strokes and comorbidities, as reported:

If the patient is already an elderly, there’s suspicion of something, so try to fit into this pre-hospital period some maneuver to avoid they get here and develop DVT (N10).

We have plenty obese patients here [...]. Diabetes; hypertensive patients; but there are a lot of [risk] factors like that (N9).

In the subcategory “Immobility,” risk factors for DVT were mentioned as long stay in the same position and the positioning of the patient.

So the patient in bed for a long time is a patient that involves a risk, right, of developing thrombosis (N11).

The risk is the permanence in bed, low mobility and the impossibility of the patient getting out of bed. Clinical or physical impossibility, anyway. But it’s the time the patient stays in bed (N4).

“Obesity” has emerged as the fourth most mentioned category when asked to the participant: Name some risk factors for the occurrence of DVT in patients undergone major surgeries,” according to the following statements:

Obesity. Patients that stay a long time in bed (N6);

Chart 1. Categories, subcategories, and quantitative registration units about deep vein thrombosis. Porto Alegre, 2015.

Final categories	Subcategories	Registration Units
Risk factors for DVT	Surgeries	22
	Elderly People and Comorbidities	20
	Immobility	16
	Obesity	7
	Traumas and Fractures	5
	Lack of Preventive Measures	4
Preventive measures for DVT	Anticoagulation	31
	Change of Position	27
	Venous Return Boot	24
	Nursing Care	22
	Pneumatic Tourniquet	5
	Physical Therapy	3
Difficulties in the execution of the SNCP	Inexistence of Systematization	16
	Limitation to Medical Prescription	9
	Measures Based on Experience	6
	Lack of Knowledge and Initiative	4

DVT: deep vein thrombosis; SNCP: systematization of nursing care in perioperative.

and she had the issue of being an obese patient [...] (N9);

age is a predisposing factor and obesity is too, where there's risk of developing thrombosis (N7).

In the subcategory named "Traumas and Fractures," the following were considered as risk factors: large fractures; polytrauma; long bone fracture, and patients with spinal cord trauma.

Our risk patients that are the SCT (Spinal Cord traumas); patients with stroke who become paraparetic; so they are high risk patients

A patient with severe polytrauma, who had severe neurological sequelae, in bed for a long time, came to us in ICU with a very important edema in their right leg [...] (N11).

So actually [...], the patients stay in bed for too long, specially the elderly patients, patients with long bone fractures [...] (N3).

In the subcategory "Lack of Preventive Measures," the participants mentioned: no use of venous return boots; a lot of resistance from the team, and deficit in human resources.

Many times a dependent patient had the risk of their own dependency and the human resources which are often deficient (N4).

Also the lack of preventive measures, in the case of their own, we have the venous return boot that would be used during this period, but it has little acceptance by the team (N1).

Category: preventive measures for deep vein thrombosis

In the second category, named "Preventive Measures for DVT," the respondents pointed out anticoagulation, change of position, venous return boot, nursing care, pneumatic tourniquet, and physical therapy as essential measures for the prevention of DVT. In the subcategory "Anticoagulation,"

the participants mentioned the use of anticoagulant drugs in the perioperative period for the prevention of DVT:

The preparation of the patient in the preoperative with the use of intermittent systemic anticoagulants (N1);

there's also the use of anticoagulants in the perioperative period (N2).

In the subcategory "Change of Position," the participants named preventive measures and mobilization of feet extremities; elevated members; change of position; and early mobilization:

Stimulate movement; early ambulation of patients who have conditions (N6).

Moving of the patient in immediate postoperative, as early as possible (N5).

The third subcategory was mentioned as an important measure in the prevention of DVT, the "Venous Return Boot." However, the use of the venous return boot is related to the medical prescription, limiting their use for the prevention of DVT.

I, in the recovery room, unfortunately can only act if the doctor guides. The nurse in the recovery room can't place the venous return boot on their own. Then the boot is placed with the guidance of the surgeon and has to be prescribed to be executed (N1).

When the respondent was questioned about which measures they use for prevention of DVT, they said:

Venous return boots only with medical prescription (N8).

In the subcategory "Nursing Care," the following were grouped: postoperative guidance of the patient; massaging; observation; protective measures to avoid complications; improvisation of preventive measures; physical examination/evaluation of the patient; compression stockings; and the knowledge of the nurse team in relation to the prevention of

DVT. When asked: “What measures do you judge important for the prevention of DVT?,” the respondents said:

It to made daily observation of the patient as a whole; to observe if the patient has a good venous return, if the pedis pulse is palpable, if they don't have edema in their lower limbs; specially in lower limbs, but also in upper limbs, to analyze if there's no edema, infiltrated ones; so we have to be very attentive to those things (N11);

knowledge; trying to mobilize the patient as soon as possible [guiding the patient in the postoperative about moving a lot in order to avoid complications]. I try to, this way, evaluate, check them out in general and look for questioning them about pain or color alteration (N10).

In the fifth subcategory, named “Pneumatic Tourniquet,” it was shown as one of the measures used in the prevention of DVT in perioperative.

Shorter inflation time of the pneumatic tourniquet which is an instrument very used in trauma or orthopedic surgeries (N5).

In the perioperative it is the care with the [pneumatic] tourniquet, temperature and positioning of the patient (N7).

The last subcategory, named “Physical Therapy,” was mentioned by some respondents when asked about how the prevention of DVT was made in patients who undergone major surgeries:

The preoperative is medicated; venous return boot in the perioperative and also in the postoperative and then there are the physical therapy services (N6).

In the question: “Do you use measures to prevent DVT in patients of major surgeries? If so, which are they?,” it was reported:

They also do Physical Therapy in the postoperative, if they have any kind of paralysis, hemiplegia, they already have the right to physical therapy care, which is very important in prevention (N9).

Category: difficulties in the execution of the systematization of nursing care in perioperative

In the category “Difficulties in the Execution of the SNCP,” it was identified the “Inexistence of Systematization” as the subcategory most often mentioned by the participants, in which the need of its creation appeared in participant's speech: basic routines, with some standardized actions being defined, depending on the specialty; difficult to maintain informal planning/organization, both for deficient human resources and for the profile of the institution (trauma hospital); and it is not institutionalized; there is need to implement nursing diagnosis to the prescription of care. Here are some excerpts exemplifying this subcategory:

[...], but in the postoperative I think there could be done an implementation of the diagnosis, the systematization itself, implementing the systematization with the documentation, evaluation of needs [...] I think it would be very important (N4).

When asked about the functioning of the SNCP, a respondent reported:

It doesn't work because it's not institutionalized. There is no perioperative systematization. Some routine care of the unit is performed, and in the perioperative it is not performed even because of the shortage of nurses for this kind of care (N5).

The lack of human resources is a factor that interferes in the implementation of the SNCP, in addition to the hospital profile being a complicating aspect:

Look, I'd say that when we look into the surgical scale we make a plan, but it is very complicated to be kept, since working in a emergency room is subject to a lot of alterations throughout [...] not always all you plan is what you get to do (N2).

The second most often mentioned subcategory was “Limitation to Medical Prescription,” where nurses reported having difficulties in planning nursing assistance in order to perform the preventive measures for DVT because

they depend on the medical prescription. They are simple actions, which the nursing professionals know how to perform and are aware of the importance of performing them, but for which they have no autonomy and, somehow, not implementing them can increase the risks for the patient, as exemplified next:

In the preoperative, even with lower rates of thrombosis, there are also prevention measures taken; if the patient cannot leave their bed, it has physical therapy all the same, but we need medical clearance for everything [...]. This patient couldn't get out of bed, she didn't have medical clearance to get out of bed, then it's much easier for you to perform this prevention (N9).

We are limited here to prescriptions [referring to medical prescriptions]; even with nursing we take care of the decubitus, the positioning; however the use of pneumatic boots is attached to [medical] prescription and also the use of heparin (N12).

This nursing limitation in the perioperative period hardens the implementation of the SNCP and directly affects the prevention of DVT:

And nursing has more autonomy in this sense, because I see it very attached to medical prescription; so there's a vision of changes which must be valued (N10).

The "Measures Based on Experience" were proven to be of some relevance for the difficulty in execution of the SNCP.

We have some measures which are standard routine for each specialty. This systematization was made based on our experience and not on literature measures; we are the ones who set our routines [...] there isn't a very balanced systematization, it depends on the moment of each patient (N1).

When asked about the functioning of the SNCP in major surgeries, a respondent answered:

We don't have it; the thing is individualized according to the professional who is attending care at

that moment; there's nothing written down, to be followed, with a protocol, nothing (N12).

The last subcategory, named "Lack of Knowledge and Initiative," shows how much the professionals did not develop a critical look toward their patients, many times focusing only in the pathology and forgetting about establishing the clinical thinking in case of other symptomatology occurring simultaneously.

Sometimes a little ignorance from the team itself, that does not pay attention to the factors and will only realize it when the patient is already presenting the symptoms (N10).

[...] I think there is also a little lack, not only of liberty, but also of initiative for people in nursing to be more attentive to the symptoms, the complication that can happen (N1).

DISCUSSION

In the risk factors for DVT, the subjects interviewed pointed out immobility, age, orthopedic surgeries such as femur, among others, in a similar manner they were mentioned in another study⁸, which pointed out higher risk of developing DVT among patients in bed, elderly patients, and patients submitted to femur fracture surgery.

In the SC, the nurse deals with more than one medical team; therefore, an interaction between the professionals with the objective of developing the work in an efficient and effective manner is important¹⁴. This research identified difficulty in performing the preventive conduct for DVT owing to the resistance of the medical team in prescribing certain effective preventive measures; thus, a better communication between nursing and the medical teams that work in the SC is necessary, with the objective of exchanging experiences in relation to the patient and planning the preventive measure in an interdisciplinary format.

The Brazilian Society of Angiology and Vascular Surgery (*A Sociedade Brasileira de Angiologia e Cirurgia Vascular*)¹⁵, in the rules of clinical orientation for prevention, diagnosis and treatment of DVT, mentions the following as risk factors: obesity, trauma, duration of the surgeries, among others.

The participants interviewed mentioned obesity, traumas, and fractures as risk factors; however, they did not mention varicose veins, general anesthesia, and pregnancy, which are risk factors also pointed out by the Society.

The fracture of the femur increases the risk of VTE; the patients with fracture of the femur revealed higher incidence of PE, also probably as a result of prolonged immobility⁸.

In relation to the preventive measures of DVT, the participants pointed out a change in decubitus in order to prevent the DVT, revealing the importance in moving the patient as soon as possible, according to each case. A recent study⁸ showed that the incidence of PE (one of the most severe complications of DVT) was higher among patients in bed if compared with those who are not in bed. The change of position of the surgical patient is a measure regarding nursing to carry out, with the objective of preventing not only skin lesions but also DVT³.

The Brazilian Society of Angiology and Vascular Surgery¹⁵ reinforces the importance of the use of anticoagulants for any kind of surgery. Anticoagulation was the preventive measure most often mentioned by the participants, highlighting the importance of the use of anticoagulants both before and after major surgeries.

The use of venous return boot and compression stockings in surgical patients are efficient regarding the prevention of DVT, considering they help blood flow and, consequently, reduce the venous stasis, one of the risk factors for the development of thrombosis¹⁶⁻¹⁷. Some participants of the research mentioned the use of compression stockings when possible, in case there are no contraindications for a certain patient. The pneumatic tourniquet is an equipment used by the teams in orthopedic surgery and traumatology. In this preventive measure, the nursing team cannot intervene, because the medical team is the one to decide carrying it out during perioperative.

In relation to the difficulties in the execution of the SNCP, the participants pointed out the lack of human resources in order to be able to perform an appropriate, evaluated, and documented assistance. The lack of knowledge and initiative by the professionals influences the nonadhesion of the systematization. Another study mentions the risk factors previously mentioned; however, it states that the nurse is focused more in administrative activities than in assistance activities and, by lack of clarity in relation to the SNC, ends up wasting a lot of time in the elaboration of the plan of activities¹⁸.

This study corroborates with the literature regarding the difficulty of implementation of the SNCP owing to the reduced number of nurses to perform it³. In practice, it is observed that the SNCP is being partially carried out, with the need of implementing a documentation, with the planning of care¹⁹. Another factor that influences the SNCP is the fact that the profile of the hospital is a trauma emergency room, usually acting upon one specialty, in which the rooms have to be prepared for eventual complications, depending largely on the evolution of the patients, not having a specific systematization²⁰.

The knowledge and capacitation of the nursing team are factors that can avoid complications in the postoperative³; the nursing team should know and be attentive to possible aggravations of the surgery, evaluating individually each patient to prevent the DVT.

FINAL CONSIDERATIONS

This research allowed knowing how the nurses of a reference hospital in trauma performed the prevention of the DVT in the perioperative period of patients submitted to major surgeries. The nursing cares mentioned for the prevention of DVT in the perioperative period were massaging; observation; physical examination/evaluation of the patient; improvisation in protective measures; and change of position. It was found that, from the words of the participants, there is a lack of autonomy for the nurse to apply some preventive measures, such as use of venous return boot and compression stockings, as the use of those are conditioned to the medical prescription. This fact interferes in one of the stages of the SNCP, as it is not possible to plan a full assistance. Besides, there is a deficiency of human resources and lack of knowledge by the team in relation to the systematization process of assistance, complicating the execution of the SNCP.

The nurses pointed out various risk factors for the occurrence of DVT in the perioperative according to the literature, evidencing the knowledge on the pathology; however, varicose veins and pregnancy were not mentioned.

It is important that the nurses have knowledge, ability, and attitude for their empowerment, exercising their role in the health team and modifying the existing practice, still very focused in the biomedical model.

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