

# Nurse-led patient training improves deep vein thrombosis knowledge and self-care practices



Ayşe Serpici, RN, MSN, and Ayla Gürsoy, RN, PhD

*The study focused on assessing the effect of nurse-led deep vein thrombosis prevention training on patients' knowledge and self-care practices. Forty patients participated in this quasi-experimental study. Participants were trained by the guidebook prepared by the researchers before the surgery. Data were collected with Autar Deep Vein Thrombosis Risk Assessment Scale and questionnaires before and after the training. The questionnaires were prepared by the researcher. Data were evaluated with Mann–Whitney U, Wilcoxon, Kruskal–Wallis variance analysis, significance of difference test between two means, and one-way variance analysis tests. The average deep vein thrombosis knowledge score was  $0.1 \pm 0.5$  over 54 before the training, whereas it was  $20.2 \pm 5.7$  after the training, and there was a statistically significant difference in patients' deep vein thrombosis knowledge scores after training period ( $P = .000$ ). Patients performed an average of 8.8 out of 13 protective self-care practices during the postsurgery period. The majority of the patients were satisfied with the training. The training provided by the nurse contributed to the fact that the patients had knowledge about their own health problems and took responsibility for self-care. We have not been able to increase the awareness we want on some groups such as those older than 52 years. Other studies should be carried out, especially in these groups, with different training methods. (J Vasc Nurs 2018;36:53-63)*

Thrombosis that often occurs in lower extremities but rarely in upper extremities and pelvis deep veins is defined as deep vein thrombosis (DVT). If pieces of thrombus break loose and block a pulmonary artery or venous branches, it is called pulmonary emboli (PE), but if PE occur with DVT, it is called venous thromboemboli (VTE).<sup>1,2</sup> DVT, a factor in the start of VTE, is characterized with thrombus formation in deep veins of the body for no apparent physiological reasons.<sup>3,4</sup>

The prevalence of DVT ranges from 15% to 75% among hospitalized patients.<sup>2,5</sup> Reports indicate that patients with DVT face this problem during surgery. In fact, DVT signs and symptoms develop in 75% of these patients during the first 48 hours of the postsurgery period.<sup>6-8</sup>

Several factors can influence the development of DVT. Virchow has defined the main causes of thrombus as trauma to veins, stasis of venous circulation, and blood coagulation factors.

These include the duration of the surgery, type of anesthesia used, position of surgery, length of immobility before and after surgery, hydration status, age, cancer, obesity, and the presence of sepsis.<sup>6,9,10</sup> Vascular dilatation causes endothelial damage that prepares the ground for development of emboli. Anesthesia causes sympathetic nerve system suppression and dilatation in peripheral veins.<sup>7</sup> Some studies have reported that the prevalence of DVT after regional anesthesia is lower than its prevalence after general anesthesia, even if prophylaxis is not used.<sup>6</sup>

Despite today's advanced medical and surgical treatment options, DVT remains a serious health problem because it can lead to clinically critical outcomes such as venous gangrene, chronic venous failure, PE, and postthrombotic syndrome.<sup>11</sup> The objective of primary prophylaxis is to prevent DVT. Primary prophylaxis, which is the most effective way to prevent DVT, is either totally neglected or not performed properly.<sup>12</sup> A study carried out in our country with patients who were treated in general surgery clinics revealed that prophylaxis was not performed properly. According to this study, owing to the use of prophylaxis only for 65.9% of hospitalized patients at high risk for VTE, treatment options which are not based on the guidelines are still common in daily practice in surgery clinics.<sup>13</sup>

The objective of DVT prophylaxis is to provide anticoagulation, to prevent venous stasis, and to eliminate risk factors. There are economical, easy-to-use, and effective primary prophylaxis practices used to augment venous return and blood circulation. These practices are early and frequent standing up, doing foot-leg exercises, leg elevation, doing deep-breathing exercises, maintaining adequate hydration, patient training, wearing graduated compression elastic stockings (CES), and using pneumatic compression systems. During the postoperative

*From the Karadeniz Technical University, Faculty of Health Sciences, Nursing Department, Surgical Nursing, Trabzon, Turkey; Cyprus International University, Faculty of Health Sciences, Nursing Department, Surgical Nursing, Lefkoşa, Turkish Republic of Northern Cyprus.*

*Corresponding author: Ayşe Serpici, RN, MSN, Karadeniz Technical University, Faculty of Health Sciences, Nursing Department, Surgical Nursing, 61040 Trabzon, Turkey (E-mail: [aysegonul@ktu.edu.tr](mailto:aysegonul@ktu.edu.tr)).*

1062-0303/\$36.00

Copyright © 2018 by the Society for Vascular Nursing, Inc.

<https://doi.org/10.1016/j.jvn.2018.03.002>

period, pneumatic compression devices have been specifically reported to be as effective as low-molecular-weight heparins (LMWHs). Specific pharmacologic thromboprophylaxis is not recommended for low-risk patients. Unless the patient has a high risk of bleeding, for moderate-risk patients, LMWH, low-dose unfractionated heparin, or fondaparinux is recommended. For high-risk patients, LMWH, fondaparinux, and oral vitamin K antagonist are recommended. In addition to anticoagulant therapy and to enhance the protective effect, mechanical thromboprophylaxis methods that are used to prevent DVT may be implemented in cases where anticoagulants are contraindicated among the patients who have a bleeding risk. For patients who receive care with mechanical thromboprophylaxis methods, optimal results can be obtained when caution is exercised during the implementation of the therapy.<sup>8,12,14-17</sup>

Nurses should help and encourage patients to move as soon as possible. Furthermore, nurses, who are responsible for the patient care for a long time in a day, play an important role in teaching patients how to do foot, leg, and deep-breathing exercises; in using CES and intermittent pneumatic compression devices; and in checking whether the learned information is correctly implemented by the patients.<sup>18-20</sup>

It is crucial for health personnel to know and promote effective mechanical prophylaxis methods to prevent DVT and to encourage patient's participation in their own care.<sup>14</sup> There are a lot of things that will affect DVT; nursing education cannot remove all of them. As we know, we did not reach any studies in our country and throughout the world that evaluated effects of training given by nurses in the prevention of DVT. The purpose of the present study was to evaluate the effect of nurse-led DVT training on the DVT knowledge and protective self-care practices of patients at the surgery clinics.

## METHODS

### *Study design*

This research was undertaken at the general surgery, urology, and chest surgery clinics of a university hospital as a quasi-experimental study. The population of the study was composed of patients who were treated at the abovementioned clinics during a 1-year period. Patients who were recruited to the study were  $\geq 18$  years old, able to speak Turkish, literate, conscious, able to communicate, hospitalized at least 1 day before the surgery, planning to stay at the hospital for at least 2 days after the surgery, undergoing major surgery (80% of the patients were diagnosed with cancer), and had received CES in the presurgery period which would also be used in the postsurgery period. Patients with health problems that would prevent mobilization were excluded from the study as were those with a history of DVT, vascular diseases, any psychological diseases or treatments, visual-hearing and speech disabilities, or any condition that would prevent communication. After a power analysis, with 80% and 95% confidence interval, the number of participants was determined as 40.<sup>21</sup> The data were gathered through face-to-face interviews. During the data collection phase, researchers contacted 131 patients. Those who were not included in the study were four patients whose surgery had been postponed, two patients who had died during the postsurgery period, one patient whose training guidebook was lost, and 84 patients for whom the use of CES was not recommended.

### *Data collection tools*

Patients' DVT risk was identified using the Autar DVT Risk Assessment Scale. The validity and reliability tests of the scale, developed by Autar, were carried out in 1994, and the scale was revised in 2003 (Table 1).<sup>15</sup> The Turkish validity and reliability tests of the scale were performed by Büyükyılmaz and Şendir<sup>22</sup> in 2005. Internal consistency reliability by Cronbach  $\alpha$  coefficient for the Autar DVT Risk Assessment Scale was 0.62–0.67, which indicates that the tool was homogenous. For content validity, a panel of professional experts assessed the content and clarity of the items in detail. Construct validity was established by contrasting patients with DVT and non-DVT subjects (N = 84).<sup>22</sup> A score of  $\leq 10$  was assessed as low risk, a score of 11–14 was a moderate risk, and a score of  $\geq 15$  was considered a high risk in terms of DVT. After reviewing the relevant sources, other data were collected using the below-mentioned forms designed by the researcher.

The forms were prepared by the researcher after the literature research.<sup>1,4,5,16,22-25</sup> Expert opinion was received from a general surgeon, a plastic surgeon, a cardiovascular surgeon, three nurses, six research assistant, and an associate professor in nursing department. After developing questionnaires, a preimplementation phase was initiated with 10 patients who met the inclusion criteria. Their task was to evaluate the questions for intelligibility; however, they were not included in the sample. Necessary arrangements were made as a result of expert and patient opinion.

### *Patients' descriptive characteristics questionnaire*

Patients' descriptive characteristics questionnaire for patients' descriptive characteristics included 15 questions. The form requested the patients' demographic characteristics, presence of chronic diseases, status of previous surgery, and availability of medical care equipment.

### *Patients' DVT knowledge questionnaire*

Patients' DVT knowledge questionnaire was used to determine patients' DVT knowledge levels. Patients' knowledge about the practices used to be protected from DVT was also questioned. The form, which was administered before the patient training and again on the second postsurgery day, had a possible maximum score of 54 points. Internal consistency values of the knowledge form were 0.618 before the training and 0.804 after the training.

### *Patients' self-care practices of DVT questionnaire*

Patients' self-care practices of DVT questionnaire, which focused on patients' self-care practices of DVT, was designed in line with the references and the literature. Its purpose was to explore the status of patients' practices after completion of training. An assessment of the frequency of 13 self-care practices was made, and if the practices were not completed, the reasons were recorded. It is based on the self-report by patient. The Cronbach Alpha value of the form was 0.667. The practices, for which patients received one point for each one they completed, included checking for DVT signs, standing up 1 day after surgery, lifting legs over heart level, changing positions in bed, doing deep-breathing exercises, doing foot exercises in bed, doing leg exercises in bed, wearing CES, measuring leg circumference, measuring foot pulse, checking legs, increasing daily fluid intake, and checking undesired effects of anticoagulation therapy.

Download English Version:

<https://daneshyari.com/en/article/8576258>

Download Persian Version:

<https://daneshyari.com/article/8576258>

[Daneshyari.com](https://daneshyari.com)