



The Impact of Deep Venous Thrombosis (DVT) Education on Improving Patient's Therapeutic Outcomes: A Cross Sectional Descriptive Study

Ahmed Senaid Elgemaily¹, Heba Hamed Salem^{2*}, Maali Al-Aswad Al-Shammri³ and Hassan Mohamed Eweidah⁴

¹Department of Pharmacy, Rafha Campus, Northern Border University, Kingdom of Saudi Arabia

²Department of Natural Product and Evidence Based Herbal Medicine, College of Pharmacy (Female Section) Rafha Campus, Northern Border University, Kingdom of Saudi Arabia

³Department of Clinical Pharmacy, College of Pharmacy (Female Section), Northern Border University, Kingdom of Saudi Arabia

⁴Department of Medicine, Alexandria University, Alexandria, Egypt

*Corresponding e-mail: heba_salem48@yahoo.com

ABSTRACT

The present study aims to investigate the impact of Deep Venous Thrombosis (DVT) education on improving the therapeutic outcomes among DVT patients. For this purpose, 150 patients diagnosed with DVT were recruited from Rafha General Hospital to conduct a cross-sectional descriptive study. The present study evaluates the following therapeutic outcomes; health status, drug compliance, and quality of life which were excellent in 90%, 91%, and 88% of DVT patients who have an acceptable level of knowledge about their medical condition, respectively. On the other hand, previously mentioned therapeutic outcomes were excellent in only 20%, 24%, and 20% of DVT patients who have a non-acceptable level of knowledge about their illness, respectively ($p < 0.05$). The results of our study pointed out that an increased level of knowledge of DVT patients regarding their medical condition was associated with excellent therapeutic outcomes. We tried to encourage our participants to acquire essential knowledge about their medical conditions. Furthermore, this study provides us with a clear idea about the impact of health education on therapeutic outcomes among DVT patients for current evaluation and future implementation of programs aiming towards achieving excellent therapeutic outcomes through proper health education of DVT patients.

Keywords: Deep venous thrombosis, DVT, Health education

INTRODUCTION

Deep vein thrombosis, commonly referred to as DVT, occurs when a blood clot or thrombus develops in the large veins of the legs or pelvic area. The incidence of DVT is estimated to affect approximately 1 per 1000 annually in adult populations [1]. DVT is associated with fatal and serious long-term sequelae such as pulmonary embolism and post-thrombotic syndrome [2]. However, prompt diagnosis and treatment of deep venous thrombosis decrease the incidence of its complications. Previous studies showed a significant reduction (about 45%-60%) in postoperative DVT incidence by administration of Low-Molecular-Weight Heparin (LMWH) and other anticoagulant prophylaxis [3,4]. Nevertheless, health education is strongly linked to health practices and increases adherence of the patient to the therapeutic regimens [5]. Hence, studying the impact of health education on patients suffering from DVT is essential to provide them with the best therapeutic outcome. The primary goal of this study is to investigate the impact of health education on the therapeutic outcomes of DVT patients.

MATERIAL AND METHODS

Protocol

Participants were recruited at Rafha province from February to April 2020. We conducted a cross-sectional observational study for three months and collect the data by using an interview-administered questionnaire [6]. The questionnaire was prepared in the English language, consisting of 10 questions as shown in Table 1. The estimated time to complete the questionnaire was approximately 2 minutes. The questionnaire had been pilot tested by the research team to refine all aspects of it to ensure accuracy and clarity. The questionnaire had three components to test:

If the patient knows the nature of his/her condition

If the patient takes the prescribed medication on time

The patient's quality of life

Table 1 The interview-administered questionnaire that was given to study participants to collect data needed for the study

No.	Question	Answer			
1	Do you understand your medical condition very well?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
2	Are you practicing your daily life normally?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
3	Do you know the side effects of your medications?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
4	Are you aware of the complications of DVT in case you neglect the treatment?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
5	Do you take your medications on time?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
6	Has your knowledge about DVT affected your health status?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
7	Is DVT a contagious disease?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
8	Can DVT cause complications in different body systems?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
9	Is DVT an inherited disease?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
10	Do you have a family member who was diagnosed with DVT?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>

Sample Size

The total sample size was 150 deep venous thrombosis Saudi patients. Their demographic data are presented in Table 2.

Data Collection

We gathered data from the questionnaire as well as from hospital records in concern to the patients' health status. Statistical analysis of the obtained data was performed to investigate whether there is a significant improvement in the health status of DVT patients who received health education about their medical condition or not.

Statistical Analysis

Patients' data were analyzed using the Chi-square test. p-value less than 0.05 was considered statistically significant. All values were expressed as number and percentage (%) as shown in Table 2.

Table 2 The therapeutic outcomes about the level of patient's knowledge about DVT, values expressed as numbers and percentages

Therapeutic Outcomes		Level of Patient's knowledge about DVT			
		Acceptable	%	Not acceptable	%
1) General Health Status	Excellent	82'	90%	12'	20%
	Bad	9	10%	47	80%
2) Drug Compliance	Excellent	83'	91%	14'	24%
	Bad	8	9%	45	76%
3) Quality of Life	Excellent	80'	88%	12'	20%
	Bad	11	12%	47	80%

(') p-value<0.05; Chi square test

RESULTS

According to the obtained results, DVT patients have been classified into two groups. The first group consists of DVT patients who have an acceptable level of knowledge about their medical condition, representing 61% of the total study sample. The second group consists of DVT patients who have a non-acceptable level of knowledge about their illness, representing 39% of the total study sample (Figure 1). The therapeutic outcomes including health status, drug compliance, and quality of life in the first group were found to be excellent in 90%, 91%, and 88%, respectively. Furthermore, previously mentioned therapeutic outcomes in the second group were found to be good in only 20%, 24%, and 20% respectively (Table 2, and Figure 2).

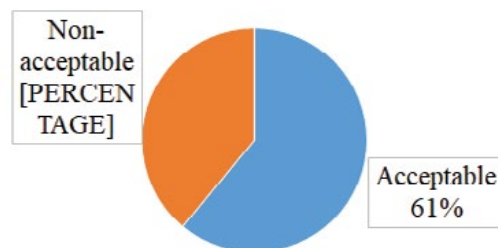


Figure 1 Level of knowledge about DVT among study participants

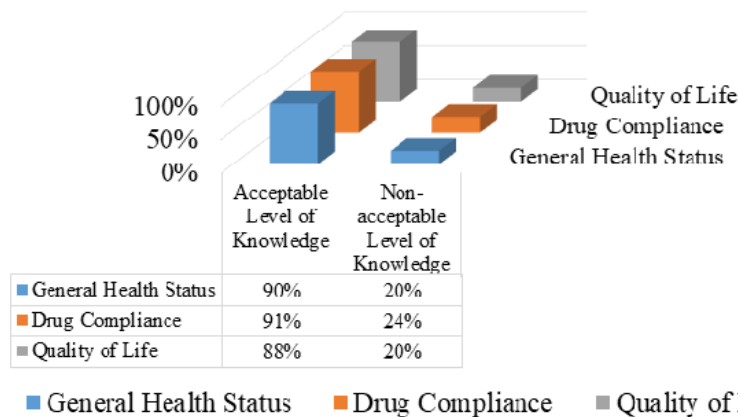


Figure 2 Excellent therapeutic outcomes about the knowledge level of DVT patients

DISCUSSION

We carried out a cross-sectional descriptive study. The present study aims to investigate the impact of patient education about DVT on improving his/her therapeutic outcomes. We have used an interview-administered questionnaire to classify study participants according to their level of knowledge about DVT into two groups; the first group consists of patients who have an acceptable level of knowledge about DVT regarding its symptoms, complications, and side effects of the prescribed medications. The second group consists of patients who have a non-acceptable level of knowledge about DVT as they give wrong answers in the given questionnaire.

First, we ask the patients in questions 1, 4, 7, 8, 9, and 10 about their knowledge background of DVT. Patients who give the right answers to these questions were considered to have an acceptable level of knowledge about DVT. On the other hand, we declare the patient to have a non-acceptable level of knowledge about DVT if he/she gave a wrong answer to the previously mentioned questions.

Then, we classified the therapeutic outcomes into three components: general health status, drug compliance, and quality of life. Each component was further classified into excellent or bad according to patient answers in the given questionnaire. Questions 3 and 5 in the questionnaire were used to decide if the patient has excellent drug compliance.

Moreover, questions 2 and 6 have been asked to determine if the patient has excellent quality of life. However, as there is no standard measurement of a patient's general health status, we used the patient's hospital health records to determine if he/she has an excellent general health condition.

Health Education and General health Status

Patients who were well-educated about DVT were found to have a high level of general health status. This could be attributed to practicing several health habits that prevent the progression of DVT. Also, increased awareness of educated patients towards their medical condition was found to affect significantly patient health status. Healthy habits such as regular walking, the elevation of legs while sitting for a long period, and drinking six glasses of water per day were practiced by patients who have an acceptable level of knowledge about DVT. These healthy habits improve the treatment of DVT and decrease the incidence of its complications.

Health Education and Drug Compliance

Results of the present study showed that drug compliance was significantly increased in patients with an acceptable level of knowledge about DVT. Being well-educated seems to encourage the patient to take prescribed medications on time. Also, well-educated patients were found to give feedback to their doctors about the side effects of their medications. This improvement in drug compliance plays an important role in achieving excellent general health status. Besides, good drug compliance is associated with an excellent level of quality of life, as taking prescribed medications on time plays an important role in preventing DVT complications.

Health Education and Quality of Life

Quality of life and health education were significantly associated with each other. The obtained results showed that increased patient knowledge about DVT was significantly associated with a high level of quality of life.

Comparison with Other Studies

The results of our study pointed out that increase patient's level of knowledge about DVT was associated with excellent general health status, good drug compliance, and a high level of quality of life. Moreover, our findings have been supported by previous studies [7]. Piazza G, et al. conducted a cohort study and found that patient education sessions were associated with higher medication adherence ($p < 0.0001$) [8].

Clinical Implications and Future Research

Health education is linked clinically with a great improvement in therapeutic outcomes. Our study showed that general health status, drug compliance, and quality of life were significantly affected by the level of patient's knowledge about DVT. Therefore, early intervention for DVT patients with proper health education is mandatory for encouraging patients to practice healthy habits, take medications on time, and check-up with the physician regularly to avoid the development of complications.

CONCLUSION

Agreeing with other studies, health education improves general health conditions, drug compliance, and quality of life. Among those who were well educated, we found a significant improvement in therapeutic outcomes in comparison with those who have a non-acceptable level of knowledge about DVT.

DECLARATIONS

Ethics

A written, informed, and explained consent had been obtained from all the participants before giving the questionnaire and all received information had been anonymized.

Ethics Committee Approval had been obtained before implementing the questionnaire (Approval no. J27MDQ039).

Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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