

A Study to Assess the Knowledge and Practice Regarding Prevention of Deep Vein Thrombosis among Bedridden Patients in a Selected Hospital, Mangalore

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Abstract

Introduction: The vascular system is a vast network of vessels through which blood circulates in the body. Blood leaving the ventricles is distributed through arteries and arterioles in progressively smaller branches to the capillaries. Deep vein thrombosis is a medical condition that occurs when a blood clot forms in a deep vein. A world wide survey conducted by CDC shows that 900,000 people could be affected by DVT (1 to 2 per 1,000) each year in the United States. Among people who have had a DVT, one-half will have long-term complications. DVT is a serious condition that can be life-threatening. However, it's largely preventable and treatable. **Aim:** To assess the knowledge and practice regarding prevention of deep vein thrombosis among bedridden patients. **Materials and Methods:** A cross-sectional study was carried out among the bedridden patients of Yenepoya Medical College Hospital, Mangalore. The content validity of the tool was established in consultation with 7 experts. The reliability of the tools were found to be $r_{(6)} = 0.8$ and 0.7 which was statistically significant. The tools were found to be reliable. Non probability convenience sampling was used to select the subjects for the study. Pilot study was conducted to find out the feasibility of the study. Data collected from the 95 subjects were analyzed by descriptive and inferential statistics using SPSS (Version 23). **Results:** The findings of the study demonstrated that among 95 bedridden patients, that maximum percentage (61%) were belonged to the age group of 47 years and above. Majority (72%) were males. (41%) of were completed primary education. Majority (62%) of the respondents were physically active workers. 58% of subjects had inadequate knowledge and 42% of subjects had moderate knowledge and none of the subjects had adequate knowledge on prevention of deep vein thrombosis and 22% of subjects had low practice, whereas majority 66% of respondents had moderate practice level and 12% of subjects had high practice level. Mean knowledge score was 11.14 and mean practice score was 9.85. There existed a positive relationship between knowledge and practice (correlation coefficient = 0.662*) at 0.05 level of significance. The study also indicated that chi-square value of demographic variables have no significant association with knowledge scores and practice scores of bedridden patients.

Keywords: Knowledge, Practice, Deep Vein thrombosis.

Introduction

Venous thrombosis, including deep vein thrombosis and pulmonary embolism, occurs at an annual incidence

of about 1 per 1000 adults. Rates increase sharply after around age 45 years, and are slightly higher in men than women in older age¹. Death from DVT-associated massive pulmonary embolism (PE) causes as many as 300,000 deaths annually in the United States². VTE is a major healthcare problem worldwide. In 2007, over 500,000 deaths in the EU were associated with an estimated 1.1 million venous thromboembolic events approximately one-third of these events manifested as

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PE. In the US, DVT and PE together affect an estimated 350,000–600,000 people each year, leading to an estimated 100,000–300,000 deaths³.

According to a study done on 60,000 patients in more than 32 countries, almost one out of every two hospitalized patients in medical and surgical wards worldwide and in India was at risk of developing DVT. The study revealed that although the risk of DVT was very high, only 17 per cent of these patients in India received any prophylaxis⁴. DVT is a serious condition that can be life-threatening. However, it's largely preventable and treatable⁵. DVT is preventable and treatable if discovered early⁶.

In the 21st century, venous thromboembolism still accounts for 10% of deaths in hospital patients. Venous ulcers develop in at least 300 per 100,000 population and the proportion due to DVT is approximately 25%.^{4, 5} It has been estimated that the management of venous ulcers in the UK costs £100-300 million every year, nursing time accounting for most of this cost⁷.

Global public awareness is substantially lower for pulmonary embolism (54%) and deep-vein thrombosis (44%) than heart attack (88%) and stroke (85%). Over time, the incidence and MRs of these conditions have improved in developed countries, but are increasing in developing countries. Public health efforts to measure disease burden and increase awareness of symptoms and risk factors need to improve in developing countries⁸.

Material and Methods

A descriptive cross-sectional study was conducted from 19 September 2019 to 29 September 2019 at Yenepoya Medical College Hospital, Mangalore after getting ethical permission (Ref.no: YEC-1/061/2019). By using the Non-probability convenience sampling technique, 95 bedridden patients of Yenepoya Medical College Hospital were selected. The patients were informed and explained the objective of the study. The written informed consent duly signed individually by them was obtained. The inclusion criteria were: Patients Confined to bed for duration of 14 days and more and

patients in medical ward, surgical ward, orthopedic ward and intensive care units. Patients who were unconscious and who were seriously ill and sedated were excluded from the study. Demographic variables were collected in terms of Age, gender, education, marital status, monthly income, place of residence, occupation, and duration of hospitalization.

A structured knowledge questionnaire has 32 multiple choice questions and these were classified in different areas, such as i) Information regarding deep vein thrombosis, ii) General information about deep vein thrombosis iii) Causes and symptoms for deep vein thrombosis iv) Complications of deep vein thrombosis v) Prevention of deep vein thrombosis. A self reported checklist consisting of 20 items were prepared to assess the practice. The both tools were prepared based on the extensive review of the literature. Each correct answer carries one mark and the total score was 32 and 20 respectively. The prepared tool was validated by the seven experts, out of this 6 were from the nursing department, one was from the General medicine department and another from the General surgery department. The Reliability analysis was computed by Guttman split-half coefficient and Kuder-Richardson Formula 20(KR-20). The reliability obtained was 0.8 and 0.7 respectively, hence the tools were found reliable, valid and feasible.

Statistical Analysis

The collected data were coded, tabulated and analyzed by using descriptive and inferential statistics. Association of knowledge and practice with demographic variables was done by Chi-square test and Karl Pearson's correlation co-efficient was calculated to find the correlation between knowledge and practice scores

Results

Distribution of subjects according to their demographic characteristics.

The study shows that majority (61%) of the subjects belonged to the age group of 47 and years above.

Majority (72%) were males. (41%) of subjects were completed primary education. Majority (62%) of the respondents were physically active workers, (77%) were married, majority (39%) had income between 1001-3000, 65% of subjects belonged to rural area, (72%) were admitted between 14 days -30days, Majority (76%) of the respondents got information from verbal report.

Table 1: Classification of respondents knowledge score on knowledge level on Prevention of deep vein thrombosis

N=95

Sl.No	Knowledge scores	Knowledge level	Frequency	Percentage
1	0-11	Poor knowledge	55	58
2	12-22	Average knowledge	40	42
3	23-32	Good knowledge	0	0

Table 1. Depicts that 58% of subjects had poor knowledge and 42% of subjects had average knowledge and none of the subjects had good knowledge on prevention of deep vein thrombosis.

Table 2: Classification of respondents practice score on practice level on prevention of deep vein thrombosis

N=95

Sl no	Practice scores	Level of practice	Frequency	Percentage
1	1-6	Low practice	21	22
2	7-13	Moderate practice	63	66
3	14-20	High practice	11	12

Table 2. Depicts that (22%) of subjects had low practice, whereas majority (66%) of respondents had moderate practice level and (12%) of subjects had high practice level.

Table 3: Correlation between the knowledge and practice scores on prevention of deep vein thrombosis among bedridden patients

N=95

	Max. scores	Response				Correlation significant (r)
		Mean	Mean %	SD	SD%	
Knowledge	32	11.14	12	2.68	3	0.662*
Practice	20	9.85	10	3.92	4	

Table 3. Depicts that mean knowledge score is 11.14 and mean practice score is 9.85. There exists a positive relationship between knowledge and practice (correlation coefficient $r = 0.662^*$) at 0.05 level of significance

Association between level of knowledge and selected demographic variables

The study reveals that the calculated chi-square value with regard to the age ($\chi^2 = 29.931$ $p > 0.05$), gender ($\chi^2 = 13.698$), educational status ($\chi^2 = 57.691$), occupation ($\chi^2 = 30.631$), marital status ($\chi^2 = 18.992$), monthly income ($\chi^2 = 42.108$), place of residence ($\chi^2 = 13.524$) duration of hospitalization ($\chi^2 = 32.965$) and source of information ($\chi^2 = 26.448$) $P > 0.05$ were less than table values at 0.05 level of significance.

Association between practice scores and selected demographic variables

The study reveals that the calculated chi-square value with regard the age ($\chi^2 = 49.131$), gender ($\chi^2 = 18.762$), educational status ($\chi^2 = 78.707$), occupation ($\chi^2 = 35.080$), marital status ($\chi^2 = 23.821$), monthly income ($\chi^2 = 60.272$), place of residence ($\chi^2 = 25.313$), duration of hospitalization ($\chi^2 = 43.726$) and source of information ($\chi^2 = 36.613$) $p > 0.05$ were less than table values at 0.05 level of significance.

Discussion

Alberto Okuhara et al., (2014)- A study was conducted in Brazil to determine the incidence of deep vein thrombosis and prophylaxis quality in hospitalized patients undergoing vascular and orthopedic surgical procedures. The total sample comprised 335 patients. Regarding the distribution of sex, 98 (33.3%) were women and 198 (66.6%) men. The mean age was 57.7 years.⁹

A study conducted to assess knowledge of venous thrombo embolism among hospitalized patients. Among the study samples (83%) were aware that they were receiving injections to prevent blood clots and (81.2%) reported hearing of DVT, of the participants who had

heard of DVT knew immobility was a risk factor but had limited knowledge of symptoms and prevention modalities.¹⁰

A study was conducted to assess the knowledge and practice of immobilized orthopedic patients and their caregivers regarding prevention of complication of immobility. The sample consisted of 40 patients and their caregivers and study results showed that the highest mean percentage practice score of patients was in the area of constipation (61.75%) and least mean percentage of practice score of patients was in the area of pressure sore (35.5%).¹¹

The current study findings were supported by a study conducted to assess correlation between the knowledge scores and practice scores on prevention of deep vein thrombosis among bedridden patients. The study showed that correlation between the post test level of knowledge with skill regarding prevention of DVT in the experimental group was calculated by using Karl Pearson's correlation coefficient and it was found that the 'r' value of $r = 0.15$, was not statistically significant¹⁰.

Almodaimegh H et al., (2017) - A cross sectional study was conducted in Saudi Arabia to assess the awareness of venous thromboembolism and thromboprophylaxis among hospitalized patients. The percentage of respondents reporting awareness of DVT or PE was significantly higher among those with a personal or family history of VTE: 68% versus 32%, $p = 0.001$, and 57% versus 35%, $p = 0.046$, respectively. Awareness of DVT was not associated with any of the other factors such as age, gender and level of education.¹²

Jemini K - A study was conducted to assess the knowledge and practice of immobilized orthopedic patients and their caregivers regarding prevention of complication of immobility. The sample consisted of 40 patients and their caregivers and study results showed that association between practice score in relation to age ($r = 0.13$), gender ($p = 0.45$), level of education ($r = 0.00$), marital status ($p = 0.72$) was not significant.¹¹

Conclusion

The findings of the study showed that majority of the bedridden patients have poor knowledge and low practice regarding prevention of deep vein thrombosis. This study will help the bedridden patients to understand about the seriousness of this condition thereby they have to learn and practice about how to tackle the particular condition in safer way. The present Study was conducted on a Small group within a specific areas and only confined to bedridden patients of selected hospital. A similar study can be replicated on a large sample and in different settings.

Financial support and sponsorship: NIL

Conflicts of Interest: None

Acknowledgment: The authors are thankful to all the patients who took part in the study. Authors are grateful to editorial board members and a team of reviewers of medico legal updates who have helped to bring quality to this manuscript

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