Review Article

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Narrative Review on Prevalence of Venous Thromboembolism and Public Awareness in India

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ABSTRACT

Information regarding public knowledge about thrombosis in a broad sense and specifically venous thromboembolism (VTE) is not widely available. This review aims at understanding the true picture of venous thromboembolism prevalence among the Indian population over the last two decades. Although a majority of research studies had identified the occurrence of venous thromboembolism among Orthopaedic patients, it was not a rarity in neurosurgery, urology, burns, gynaecology, and critical care patients. The history of long travelling /flying had also proved a significant causative factor. Healthcare professionals should be alert to this hospital never event and follow best practice treatment algorithms based on international guidelines. Public awareness through social media should also be created to understand venous thromboembolism which can be fatal at times.

Keywords: Deep Vein Thrombosis, Pulmonary Embolism; Public Awareness; Prevalence; Venous Thromboembolism

INTRODUCTION

About 10 million people around the world develop venous thromboembolism (VTE) each year. Although common among hospitalized patients, the occurrence of deep vein thrombosis (DVT) and pulmonary embolism (PE), together known as VTE, was often underdiagnosed, and the fatal consequences were an unknown fact. In an autopsy-based study conducted for about six years and three months in one of the tertiary hospitals in North India, 15.9% (159/1000) of adult autopsy cases were detected to develop pulmonary embolism. (Kakkar & Vasishta, 2008). Venous thromboembolism was even traced in healthy individuals who are often travelling for long hours (Choudhry & Upadhyay, 2009). The development of venous thromboembolism is having a high impact on the economic and humanitarian burden on society.

METHODOLOGY

An extensive search of the research articles and review articles have been conducted using the PubMed and Scopus databases from 2003 to 2021.

Inclusion/Exclusion Criteria

Altogether 57 published original research studies and review articles were identified. Only those studies related to venous thromboembolism prevalence among the Indian population were included. The articles regarding the analysis of the clinical manifestations and exclusive treatment modalities were excluded. (Figure 1).

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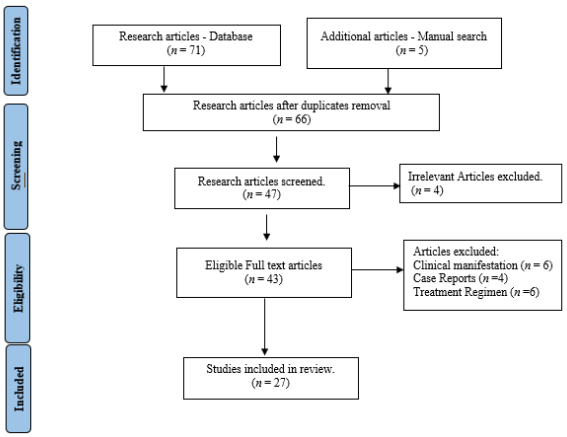

Venous Thromboembolism Prevalence in India

Most of the researchers had chosen their expertise in acute care setups and tried to identify VTE cases retrospectively and a few prospectively (Agarwal *et al.*, 2009) in single-center or multi center.

Orthopedic Surgery

Seven studies among orthopedic patients undergoing major surgical procedures in the lower extremities like THR (Total Hip Replacement) and TKR (Total Knee Replacement) and PFF (Proximal Femur Fractures) were identified. The study showed a high prevalence of VTE in 49/94 (52.1%) patients Agarwala, Bhagawat, & Modhe (2003). Compared to two studies by Sen *et al.*, (2011) and Singh *et al.* (2017), where venous thromboembolism prevalence was 16/56 (29%) and 62/301 (21%) patients respectively. (Figure 2).

Low prevalence was stated in studies by Jain *et al.* (2004); Bagaria *et al.* (2006); Dore *et al*. (2017) and Avulapati *et al.* (2019). In the prospective study by Jain *et al* there were a total of 2 patients who had developed venous thromboembolism out of 60 THR in 45 patients and 46 TKR in 26 patients (2.8%). Interestingly, in Bagaria et al. study out of 147 patients undergoing THR and TKR, 9 patients (6.12%) had VTE, out of which PE was 0.6%. Whereas among the total of 101 patients 8 patients (7.92%) had developed DVT and 2 of these patients had complications of PE (Dore *et al.*, 2017; Avulapati *et al.*, 2019) revealed a different aspect in their retrospective study, with the prevalence of symptomatic DVT as low as 0.22% (1 out of 447 patients) and PE 0%.

Neurological Surgery

Among neurosurgical patients, 33 out of 273 patients (12%) developed VTE. (Borde *et al.*, 2017)

Cardiology and Clinical Hematology

In a current retrospective observational conducted in the departments of Cardiology and Clinical Hematology, at a tertiary care center, Punjab; a total of 330 admissions related to VTE were recruited over three years. The further diagnosis confirmed 303 patients (92%) having an acute episode of VTE at actual. (Singh *et al.*, 2021)

Abdominal Surgery

Another retrospective descriptive study on 334 patients who underwent any sort of major abdominal surgery (>1hr duration) from Government Medical College, Thiruvananthapuram, for 2 years. Among them, only 4 patients (1.19%) developed deep venous thrombosis during the postoperative period (Kuttanchettiyar & Chisthi, 2018).

Venous Thromboembolism Risk in Intensive Care Patients

Pandey *et al.* (2009) found that 111 (94%) out of 117 patients (68 in wards and 49 in ICU) fall under the risk category of deep vein thrombosis development when assessed through Dr. Caprini's risk score (Caprini, 2010). 100 % of the ICU patients (n=49) and 57.5% (n= 39) in the ward were at the highest risk for deep vein thrombosis

development. A similar prospective study was conducted on a total of 210 patients over one year by Panda, Kumar & Ketkar (2017) where 150 (60%) patients were from intensive care units and 60 (40%) were from surgical wards. Using the same Caprini tool, VTE risk was found to be highest in 45.3%, higher in 33.3% and moderate in 21.3% among the 150 critical unit patients. However, among 60 post-surgical patients, 50% had the highest risk, 36.6% had the higher risk, and 13.3% had a moderate risk of venous thromboembolism.

Proximal and Distal Deep Vein Thrombosis

In one pioneering retrospective VTE prevalence study conducted in India, 60.7% of patients had proximal and 33.6% distal deep vein thrombosis out of 438667 admissions (Lee *et al.*, 2009). Whereas in the retrospective study by (Naqvi *et al.*, 2016), 215 patients (73.33%) had proximal, and 78 patients (26.26%) had distal deep vein thrombosis out of the total sample of 293 patients. In the study (Singh *et al.*, 2017), 27.41% of patients were identified with symptomatic deep vein thrombosis, of which 58.06% had proximal and 37.09% had distal deep vein thrombosis (Singh *et al.*, 2017). According to a study by Basavanthappa *et al*. (2019), further, out of 1024 medical records that were reviewed and analyzed, 812 (79%) medical records met the inclusion criteria. Here, 719 (88.5%) patients had proximal and 62 (7.6%) had distal deep vein thrombosis (Figure 3).

Pulmonary Embolism

Parakh *et al.* (2006) reflected a different overview of venous thromboembolism cases in their study by enrolling a total of 1552 inpatients and outpatients based on the initial clinical suspicion of lower limb DVT at Gangaram Hospital, Delhi. The study aims to determine the frequency of PE among Indian patients with symptomatic lower limb venous thrombosis. Out of these clinically assessed subjects, confirmed DVT was diagnosed through radionuclide venography in 744 patients. These patients had also undergone lung perfusion scans within 24 hours of presentation. The high probability of PE was among 294 (39.5%) patients and the intermediate probability was among 135 (18.1%) patients. Further, out of the total high probability scanned patients, 47% had no clinical manifestations of pulmonary embolism. In another study pulmonary embolism was observed in 14 out of a total of 100 AECOPD patients (Acute exacerbation of chronic obstructive pulmonary disease). Of these suspected PE patients, deep vein thrombosis in the lower extremity was diagnosed among 9 patients (Chaudhary *et al.*, 2021).

Overall Venous Thromboembolism Prevalence

In the RAVS study 14.2 patients per 100,000 admissions were having VTE in comparison to the Lee *et al*. study conducted at Christian Medical College Vellore, where 17.46 patients per 10,000 admissions were detected with VTE (Lee *et al.*, 2009). However, in a retrospective cross-sectional level II audit study (Pawar *et al.*, 2020), there were a total of 518,111 admissions during the six-year study period, with a VTE prevalence of 19.49/10,000 cases. In the ARRIVE study there was an analysis of 949 medical records from three tertiary hospitals that confirmed 549/949 (57.8%) VTE cases after doppler ultrasonography for DVT and computed tomography, pulmonary angiography, and V/Q scan for PE (Kamerkar *et al.*, 2016) from a period of 2006-2010. The total recorded patients having acute VTE without PE were 64% (352/549) and 23% (124/549) with PE, whereas only PE was 13% (73/549).

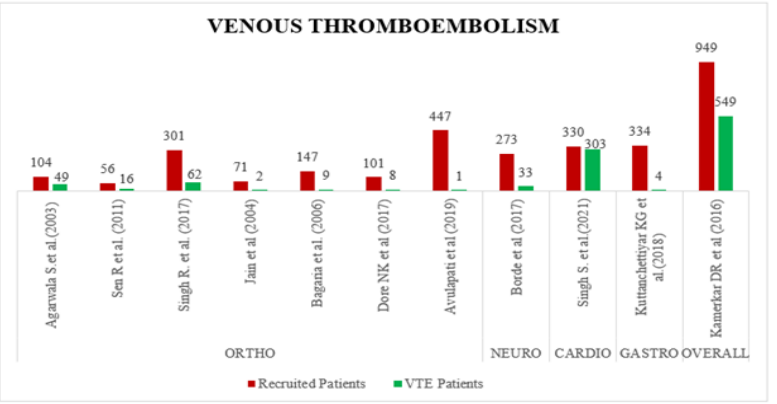

Figure 2: Prevalence of Venous Thromboembolism among Major Patient Group

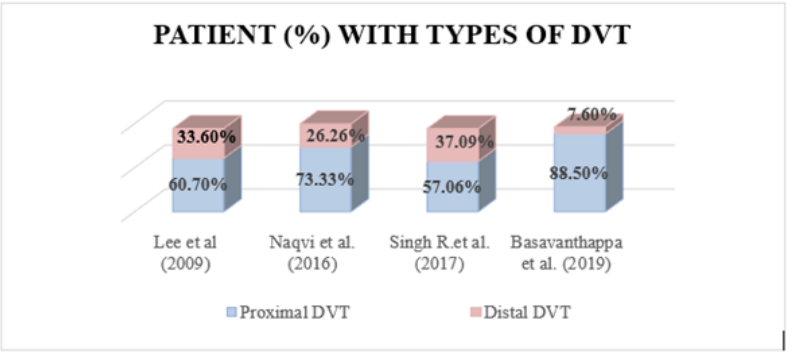

Figure 3: Proximal and Distal Deep Vein Thrombosis in major India study findings

Common Risk Factors Identified

Many original studies conducted in the Indian scenario stated the various risk factors that might be the reason for the development of venous thromboembolism (Stephen *et al*., 2017).

Naqvi *et al.* (2016) conducted a major study to discover the prevalence of deep vein thrombosis over the past 25 years and its underlying risk factors. There was a significant record of 126 (43%) post-partum patients with deep vein thrombosis within the age group of 30 years. Apart from this, there was a previous history of lower limb trauma (14.3%), advanced malignancy (10.3%), and a history of major surgery (8.8 %). However, in 19.4% of cases, no definite risk factor was found. In the Kamerkar *et al.* 2016 study, among the total 549 diagnosed venous thromboembolism cases, 34% had a history of deep vein thrombosis, 28% had surgery, including orthopedic surgery, 16% suffered trauma, 14% of patients were immobilized for >3 days, 7% were detected with malignancy, 2% were pregnant /postpartum patients and 0.9% had a history of long-distance travel, including air travel. Ramakrishnan & Detect-DVT Investigators (2017) conducted a prospective observational study from 23 hospitals in India to assess the prevalence of symptomatic deep vein thrombosis in Indian patients with acute sepsis. A total of 275 patients were recruited from six hospitals in North India, seven from the South, three from the East, and seven from West India.

The prevalence of symptomatic deep vein thrombosis in patients among whom the majority (n = 127, 46.2%) did not have severe sepsis and were not in septic shock, followed by a few cases of severe sepsis (n = 94, 34.2%) and septic shock (n = 54, 19.6%). Whereas cardiovascular risk was found among 16.2% of patients who were at the highest deep vein thrombosis risk in the study by Pandey *et al.*, (2009) along with 35.5% of patients having respiratory disease and 25.6% of patients having sepsis and septicemia as risk factors.

Malignancy, being one of the major factors provoking venous thromboembolism, was identified to be 6.8% (n= 8) in Parakh *et al.*, (2006), 31% in Lee *et al.*, (2009), 10.3% (n= 30) in Naqvi *et al.*, (2016), 7%(n=38) in Kamerkar *et al*., (2016), 13% (n= 72) Men and 29% (n= 133) Women in Pawar *et al.*, (2020) and 16% (n=11) in Singh *et al*., (2017).

Table 1: Major Research Articles of India

AUTHOR	NATURE OF STUDY	STUDY PERIOD	LOCATION IN INDIA	SUBJECT	DVT/VTE PREVALENCE	COMMENTS
Agarwala S. *et al.* (2003)	Prospective randomized study	-	P. D. Hinduja National Hospital and Medical Research Centre, Mumbai	104 enrolled 94 evaluated (patients with major orthopedic lower limb surgery)	49 patients (52.1%)	• Distal calf DVT was found commonest which significantly lead to PE in many cases. • LMWH has reduced DVT frequency to 47%. • Recommended to use LMWH for Indian patients undergoing major joint surgery.

Jain V. *et al.* (2004)	Retrospective study	Jan 2015-Jan 2016	Faridabad, Haryana,	60 hips in 45 patients and 46 knees in 26 patients undergoing THA and TKA	2 patients (undergone THA)	• Diagnosis of acute PE among suspected clinical profile of patients was confirmed based on CT pulmonary angiography. • About 58.5% of patient had at least one risk factor for PE. • Smoking was the major risk factor found in 22 (41.5%).
Bagaria V. *et al.*(2006)	Prospective study	-	KEM Hospital, Mumbai	147 patients undergone TKR,THR and PFF	VTE - 6.12% (PE - 0.6%)	• Between 6-10 days post-operatively all cases were screened with ultra-duplex study and clinical observation • VTE prevalence was found low.
Parakh R *et al.*(2007)	Prospective cohort study	January 2001 - July 2004	Sir Ganga Ram Hospital, New Delhi	1552 inpatient & out patient with suspected lower limb DVT	DVT- 744 patients	• Presented at the VI th Asian Vascular Society Conference, November 2004, Bangalore, India. • 70% (521/744) had suprapopliteal DVT, • Lung Scan suggestive of high-probability PE in 39.5%(294/744) and intermediate–probability PE in 18.5% (135/744) patients
Kakkar N *et.al.*(2008)	Necropsy study	7 Year (Nov1997-Jan 2004)	PGIMER, Chandigarh	1000 autopsy in Medical patients	PE - 159 patients (15.9%)	• Autopsy cases were classified into three groups based on fatal PE, PE associated with other pathology and incidental PE. • 32.07% (51/159) of PE cases had a primary diagnosis of sepsis
Lee A.D. *et al.*(2009)	Retrospective study	10 Year (1996-2005)	Vellore, Tamilnadu	438 667 admissions	17.46 per 100,000 admissions	• General surgical operations were the major predisposing factor for postoperative DVT (40.3%), while malignancy was for secondary VTE. • PE cases in 14.9 % of patients • Correct use of prophylaxis would bring down the mortality rates and reduce the DVT prevalence in India.

Sen RK *et al*. (2011)	Prospective study	Two year (Jan 2008-Dec 2009)	Level I Trauma Centre, PGIMER; Chandigarh	56 Postoperative patients (pelviacetabular injury) underwent Open Reduction and Internal Fixation	16 patients (28.6%)	• Clinical Observation still six weeks' post-surgery and radiological findings identified VTE cases • Proximal DVT (12/16) is high • Pulmonary Embolism developed among 10 patients
Naqvi S.E. *et al*. (2016)	Retrospective study	31 years (1983 - 2014)	JN Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh	293 patients	Proximal DVT 215 (73.33%) Distal DVT 78 (26.26%)	• Majority of VTE cases were young primigravida, postpartum females • Post Thrombotic Syndrome detected in 25% of the cases • Efficacy of Administration of unfractionated heparin is assessed
Kamerkar D.R *et al*.(2016)	Multicentre retrospective registry	5 years (2006-2010)	Ruby Hall Clinic, Pune; CMC, Ludhiana; MS Ramaiah, Bangalore	949 Medical Records	549 patients (57.8%)	• A total of 64% (352/549) patients had acute DVT without PE • 23% (124/549) of patients had acute DVT with PE • 13% (73/549) of patients had PE.
Nachiketan K Dore *et al*. (2017)	-	-	Devadoss Multispeciality Hospital, Madurai	101	8 (7.92%)	• The total joint replacement cases include 51 cases of total hip arthroplasties, 40 cases of knee arthroplasties and 10 cases of hip hemiarthroplasty
Borde T.D *et al* (2017)	Prospective cohort based study	Nov 2013 - Dec 2014	NIMHANS, Bangalore	273 Neurosurgical patients	33 (12.08%) Patients	• Position (Supine/Lateral) and duration (> 5 hrs) during neurosurgery results high DVT rates. • Suggested algorithm for elective neurosurgery focusing on initial Doppler screening and effective prophylactic regimen (mechanical/ chemical)
Singh R *et al*. (2017)	Prospective cohort based study	Nov 2014-Dec 2016	Government Medical College Jammu	301 Ortho Surgery (Major Lower extremity)	62 (21%) patients	• High DVT rates observed among elderly post - operative females with comorbities and had undergone periarticular knee surgeries

Avulapati SK *et al*. (2019)	Retrospective Study	Jan 2017-July 2018	BIRRD (T) Hospital, Tirupati	447 post-THA patients	1 patient	• Low prevalence proves the effectiveness of customized chemoprophylaxis administration after THA among poor socio - economic rural group.
Basavanthappa R.P. *et al*.(2019)	Retrospective single center study	Jan 2007-March 2018	Ramaiah Medical College, Bangalore	1024 patients	14.2 VTE / 10,000 patients	• Primary care Physicians/ surgeons,of South India should be updated about VTE.
Pawar P *et al*.(2020)	Retrospective cross sectional Level II audit study	Jan 2012 - Dec 2017	Sri Ramachandra Medical College, Chennai	518111 patients	1010 (19.49/ 10,000 cases)	• Acute DVT (<14 days) contributed to 66% of the patient mostly at lower limb. • The mortality rate was 50 /170 patients with PE. • 61 patients underwent IVC filter insertions • 10.7% (13/117) DVT cases from recent General and Ortho surgery had received any prophylaxis.
Singh S *et al*.(2021)	Retrospective observational study	Jan 2017 - Jan 2020	DMC Hospital, Ludhiana	330 patients	303 patients (92%)	• Recent Surgery and malignancy were highlighted risk factors • In hospital mortality rate is 8.9 % • Unprovoked DVT in 76% of patients

Table 2: Common Risk Factors Detected in Indian Studies

STUDY	SUBJECT	DVT/VTE	MEAN AGE	GENDER	SURGERY	GYNAE	ONCO	TRAUMA	INFECTION	OTHERS
Agarwala, Bhagwat & Modhe, (2003)	104 Gr I - 51 with prophylaxis, Gr II- 53 without prophylaxis	49 (52.1%) patients	62.1 years	Gr I (45%Men 58%Women) Gr II (30%Men 70%Women)	48(46.1%)-TKR 37(35.6%)-THR 19(18.3%)-PFF	-	-	-	-	-
Pandey A *et al*. (2009)	117 patients [68 in wards and 49 in ICU]	88 patients (75 %) [39 in wards and 49 in ICU]	43.7 ±19.46 years	72(61.5%) -Men; 45(38.5%) - Women	-	-	-	-	-	Respiratory-49(41.8%) Cardiovascular -20(17.1%) Diabetes 20(17.1%)

A.D. Lee *et al* . (2009)	438667 Admissions	722 patients	45.1 years	48% Men 52% Women	30%	-	31%	4%	-	Another medical conditions- 21% Hematological condition-12%
Sen R.K. *et al* . (2011)	56 patients	16 (28.6%) patients	36.42 years	48(85.7%) - Men 8 (14.3%) –Women	-	-	-	56 (100%) pelvis acetabular	-	11 patients had 13 associated injuries
Naqvi SE *et al.* (2016)	293 patients	Proximal DVT - 215 (73.33%) Distal DVT- 78 (26.26%)	34.5 ± 11.5 years	83 (28.3%) Men 210(71.6%) Women	26 (8.8%)	126 (43%)	30 (10.3 %)	42 (14.3%)	-	History of estrogen intake - 12(4%)
Kamerkar DR *et al* . (2016)	949 patients	352(64%)- Acute DVT without PE; 124 (23%) - Acute DVT with PE; 73(13%) - PE	47 ± 16 years	70% Men 30% Women	119 (22%)	11 (2%)	38 (7%)	89 (16.2 %)	16 (2.9%)	Past History DVT- 189(34.4%) Past history PE - 46(8.4%) Immobilization >3days - 76(13.8%) Contraceptive - 2(0.4%) Varicose vein - 59 (10.7%) Long-distance travel including air travel - 5 (0.9 %)
Dore N.K *et al.* (2017)	101 patients	8 (7.92%) patients	59.7 years	43 (42.6%)- Men; 58(57.4%) - Women	101 (100%) Joint surgery	-	-	-	-	-

Borde TD *et al.* (2017)	273 patients	33 (12.08%) patients	43 years	171(62.6%)- Men 102(37%) - Women	273 (100%)	-	3.3% (11 /33)	-	-	Hypertension, Frequent alcohol take, smoking and obesity
Singh R *et al*. (2017)	301 patients	62 (21.26%) patients	53.04 years	178(59.1%)- Men; 123(40.9%)-Women	301 (100%)	-	-	-	-	-
Avulapati SK *et al*. (2019)	447 patients	1 patient (symptomatic)	48 years	298(66.7%) Men 149(33.3%) Women	447 (100%)	-	-	-	-	-
Pawar P *et al*. (2020)	518111 patients	1010 (19.49/ 10,000 cases) patients	± 42 years	55% (551 /1010) Men 45% (459/1010) Women	47% (259/10 10) Men 29% (133/10 10) Women	13% (60/1010) Women	13% (72/101 0) Men 29% (133/10 10) Women	-	-	Medical Specialties 40% (220 /1010) Men 29% (459/ 1010) Women
Singh S *et al*. (2021)	330 patients	303 (92%) patients	50 years	60.7% (184/303) Men 39.3% (119/303) Women	56% (41/ 303)	2.3% (7/303)	16% (11/ 303)	-	-	Past History VTE- 22.4% (68/303) Prolonged Immobility- 8 /303 Recent Travel - 2/ 303 Genetic Thrombophilia – 22 /303

DISCUSSION

Venous thromboembolism is one of the quality indicators as per the study involving 358 hospitals across 32 countries (Cohen *et al.*, 2008). It was revealed that the proportion of Indian patients considered at risk for VTE is 53.6%, like that of the global patients at risk for VTE (51.8%). However, unlike the Global ENDORSE study, where 50.2% of at-risk patients received ACCP-recommended prophylaxis (Kearon *et al.*, 2012), in India, a deficient proportion of at-risk patients (17.4%) received ACCP-recommended prophylaxis (Pinjala, 2012). VTE Core Group Leaders from all major medical-surgical fields– Gastrointestinal, General and Vascular, Hematology, Critical Care, Orthopedics, Gynae & Obstetrics and Oncology in India held a series of meetings from August 2005 to January

2006, to identify the significant prevalence of DVT among the Indian population as compared with Western World data. To address this matter of concern, an in-depth analysis of the guidelines of the American College of Chest Physicians (ACCP), the International Union of Angiology (IUA), and the Royal College of Obstetricians and Gynecologists (RCOG) was done, and their relevancy with respect to Indian patients was judged, as mentioned in the review article. An outline was framed and concluded (Parakh, Kakkar & Kakkar, 2007). Ramakrishnan *et al*., (2022) had also suggested adherence to ACCP guidelines in VTE prevention. Shirol *et al.* (2017) conducted a survey, where the majority of plastic surgeons admitted the usage of low molecular heparin after considering the patient's age, comorbidities, degree and percentage of burn and lower limb involvement. A similar questionnaire-based survey on 100 active general surgeons was taken by Venkataram *et al*., (2013). The survey result showed that 97% knew about VTE, and 49% of surgeons had experienced patient deaths due to PE. Noticeably, 64% of surgeons do not practice preoperative DVT risk scoring, while 33% of surgeons practice institute –based protocol.

To achieve institutional accreditation from national and international quality bodies, it is not the physician's duty alone to identify patients at VTE risk and follow up for treatment protocol. Antony emphasizes that nurses are equally responsible for early detection of the risk of DVT along with implementing the right prescribed prophylaxis as a part of the hospital patient safety protocol. Daily assessment through risk assessment tools like Wells Score should be practiced attending nursing care excellence. Effective training for the nursing team should also be imparted (Antony, Moly & Dharan, 2016).

Public Awareness

Modern hospital care style emphasizes patients' and their relatives' involvement by sharing information about their health condition and making them participate in the decision-making process (Vahdat *et al*., 2014). Hence social media is a crucial messenger to the public (Lavall, 2014). On Post-World Thrombosis Day, in Economic Times Health World Dr. Suviraj John had emphasized the perception of an unrecognized multiple risk factor preventive stratagem following Asian Venous Thromboembolism Guidelines (Akter, 2016). A case was reported about India's cricketer-commentator and politician, Mr. Navjot Singh Sidhu, being hospitalized with DVT in his leg, and later, he recovered from it (PTI, 2015). India Today reported Dr. Jyoti B. Sharma's statement (India Today Web Desk, 2015) that "Sitting for a long period every day may cause this disease. People taking long flights are often diagnosed with DVT". ACCP guidelines recommend walking, calf muscle exercises, and sitting in an aisle seat for long-distance travelers.

In his interview to ET Healthworld (Akter 2019), Dr R. Sekhar believed, people should know that the primary threat to DVT is sudden cardiac arrest due to the clots that can get broken loose and travel to the lungs. He mentioned some high-risk factors like fractures, hip and pelvic surgery and cancer patients, as well as moderate risk factors like old age and long overseas flights of more than 4hrs, which can aggravate the condition. Times of India (Sinha Kounteya, 2010 reported a case of a UK-based lecturer who had taken a long-haul flight from London to Delhi. He had ignored his left leg swelling which had gradually turned pale over time during the journey. However, soon after his landing, he had to rush to the nearest hospital due to the sudden deterioration in his condition. Brar and Saha (2019) stressed the urgency that the airlines have moral responsibilities towards their customers exposed to DVT risk as they opt for flight travel, especially when it is more than 4 hrs. Passenger awareness should be conducted through in-flight announcements, and leaflets should be distributed with the importance of VTE, which might be aggravated due to existing risk factors (Brar & Saha, 2019).

Corporate employees are susceptible to developing venous thromboembolism as a result of frequent flying or extensive travel obligations for job-related requirements, a condition often referred to as travelers' thrombosis (Dimberg *et al.*, 2001; Johnston & Hudson, 2014). Even constant desktop jobs can lead to such conditions, called e-thrombosis (Healy *et al.*, 2010; Suadicani *et al.*, 2012). Future studies among corporate employees in India can be an eye-opener.

CONCLUSION

There is need to endeavor towards maximizing the impact of the VTE campaign by intensifying public awareness efforts. This is essential to sensitize individuals about this inconspicuous yet perilous condition and its corresponding risk factors. In contemporary times, numerous hospitals in India have taken the initiative to collaborate with various organizations in commemorating World Thrombosis Day, aimed at offering benefits to citizens. Through such initiatives, we aspire to effectively tackle this significant clinical challenge.

Conflict of Interest

The authors declare that they have no competing interests.

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