Original Research Article

Prophylaxis of venous thromboembolic disease: knowledge, attitudes and practices of health care personnel in a hospital setting in Parakou in 2017

ABSTRACT

Aims: To describe the knowledge, attitudes and practices of health care personnel regarding venous thromboembolic disease prophylaxis (VTE) in the hospital setting to Parakou in 2017.
Study design: A descriptive cross-sectional study with prospective data collection.
Place and Duration of Study: Departments of medicine and medical specialties, Departments of surgery and surgical specialties, Departments of gyneco-obstetrics and intensive care at the Hospital University of Parakou (CHUD-B), in northern Benin, between February 2017 and May 2017.
Methodology: We included all health professionals working in these services who consented to participate. The American College of Chest Physicians (ACCP) guidelines for the management of VTE were used as the reference for the assessment of knowledge, attitudes and practices. The evaluation form consisted of two parts, one addressed to physicians and the other to paramedics. The data were analyzed with SPSS 21 software with a significance level of 5% for comparisons.
Results: A total of 223 health workers participated in the study. The knowledge level of the health workers was good in 52.47%, attitudes were correct in 37.67% and practices were adequate in 4.32%. Overall, health professionals had a good knowledge-attitude-practice (KAP) score in 5.83% of the cases. Factors significantly associated with a good overall KAP score were practice on medical departments, continuing education of staff, status of doctors, knowledge of VTE guidelines and existence of VTE prevention protocols.
Conclusion: Venous thromboembolic disease prophylaxis is moderately known by the health care personnel in Parakou, but attitudes and practices are not satisfactory. This highlights the need for continuous training.

Keywords: [Venous thromboembolic disease; prophylaxis; knowledge-attitudes-practices, Benin]

1. INTRODUCTION

Venous thromboembolism (VTE) is a common and fatal condition and represents in terms of morbidity, the third most important cardiovascular disease, after ischaemic stroke and ischaemic heart disease [1]. It is responsible for the death of 500,000 people/year in Europe in 2015 [2]. Its curative treatment is very expensive for patients; costing about 348,000 FCFA for 8 days of hospitalisation in Ivory Coast in 2008 [3]. The high cost of curative treatment often exceeds the financial possibilities of the majority of patients who suffer from this disease. It is therefore essential to focus on preventive treatment based on international

guidelines [4]. According to several studies, these guidelines are not, in most cases, known or respected by health care professionals [5-8]. The international ENDORSE study noted that 78.3% of patients in France were at risk of VTE and only 62.4% of them received prophylaxis in accordance with ACCP recommendations. This rate of appropriate prophylaxis in France was comparable to the UK (61.1%) and the US (58.1%). On a global scale, the situation is less satisfactory than in France as this study noted a total prophylaxis adequacy rate of 50.2% [5]. According to Pessinaba et al in Togo in a study conducted in 2014 on 40 doctors in medical settings, 57.5% of them felt sufficiently informed about VTE prophylaxis but daily practice was far from satisfactory [6]. Dangwe et al in Ouagadougou (Burkina-Faso) in 2012 also noted that the performance of VTE prophylaxis by health professionals is insufficient despite the existence of specific good practice recommendations [7]. In Benin, adapted thromboprophylaxis is still very low (6%) according to the study made by Houenassi et al in 2008 in Cotonou [10].
In this paper, we focus on the knowledge, attitudes and practices of health care professionals regarding VTE prophylaxis in a hospital setting in Parakou in 2017.

2. MATERIAL AND METHODS

This cross-sectional, descriptive with an analytical aim study, was carried out in the departments of general medicine and medical specialties, the departments of general surgery and chirugicales specialties, the departments of gyneco-obstetrics and intensive care of the Departmental and University Hospital Center of Borgou-Alibori (CHUD-B) of Parakou in northern Benin. It was a prospective data collection that took place during the period from February 15 to May 15, 2017.
The study population consisted of all health personnel at CHUD-B (physicians, students in their 6th or 7th year of medicine, nurses and midwives).
We carried out an exhaustive recruitment of health workers present at the post during the data collection period, working in the hospitalization sectors and having given their free consent to participate in the study after being informed.
Nursing assistants, paramedical trainees, and general medicine external trainees were not included in the study.
Data were collected through a self-administered questionnaire completed by the caregiver. The investigator (a 7th year medical student) was present to clarify any concerns of the participant if necessary. The questionnaire was designed and pretested based on the American College of Chest Physicians (ACCP) recommendations for the management of VTE [4].
The dependent variable was the global level of knowledge, attitudes and practices of the health care professionals. For the assessment of knowledge, the questions (items) focused on knowledge of VTE, its definition, risk factors, means of prevention and knowledge of the existence of recommendations/rules governing VTE prevention. With regard to attitudes, we assessed the health care professionals' perception of the severity of VTE, their opinion one the need for prevention, their intentions of care when faced with a patient at risk, and their opinion of the time frame for prevention. Practice was judged on the basis of the health professionals' statements on the application of VTE preventive measures, the methods of prevention usually chosen, the existence of a protocol or guide for VTE prevention in the department, the reasons given for not preventing VTE, and some major contraindications to anticoagulants. Each of these questions was given a score of one point. This point was awarded when the number of correct answers ticked by the respondent was greater than the number of wrong answers. This scoring is detailed in Appendix 1. The percentage of correct answers was calculated firstly by item (knowledge, attitudes and practices) and secondly, taken together. Based on the model of Essi et al [9], an assessment was given for each item and globally according to the percentage of correct answers obtained.

The other variables collected were socio-demographic characteristics (age, sex) and professional characteristics including professional qualification (doctor, 6th or 7th year medical student, nurse or midwife), seniority in the profession, current practice setting (medical, surgical or gyneco-obstetrical) and the existence of continuing education.
The data collected were entered and analyzed using Epi data 3.1.fr and SPSS 21 software, respectively. Quantitative variables were expressed as the mean with their standard deviation and qualitative variables by simple count and percentage. Univariate analysis was performed to identify factors associated with a good global KAP level. Pearson's Chi2 or Fisher's exact test was used as appropriate for comparison of proportions. For comparisons, a level of $p < 5\%$ was used for variables found to be significant. The prevalence ratio was used to measure the degree and stability of associations.

3. RESULTS

3.1. General characteristics of the health care professionals

A total of 223 health workers participated in the study out of the 247 who were targeted, meaning a participation rate of 90.28%. There was a male predominance with 128 (57.40%) men and a sex ratio of 1.3. The mean age was 29 ± 5.8 years with extremes of 23 and 59 years. Surgical staff represented 54.26% of the sample and medical staff, 45.74% (Figure 1). There were 128 (57.40%) medical students in the final stages of training and their work experience was not taken into consideration. Of the remaining 95 health care professionals, 21 (22.10%) had a work experience less than 5 years; 40 (42.10%) a work experiences comprises between 6 and 10 years and 34 (35.80%) a work experience of more than10 years. The mean work experience was globally of 9.28±4.76 years with extremes of 1 year and 16 years. In our study 11 (4.93%) health practitioners claimed to have received continuous training on VTE prevention while the other 212 (95.07%) had never received it.

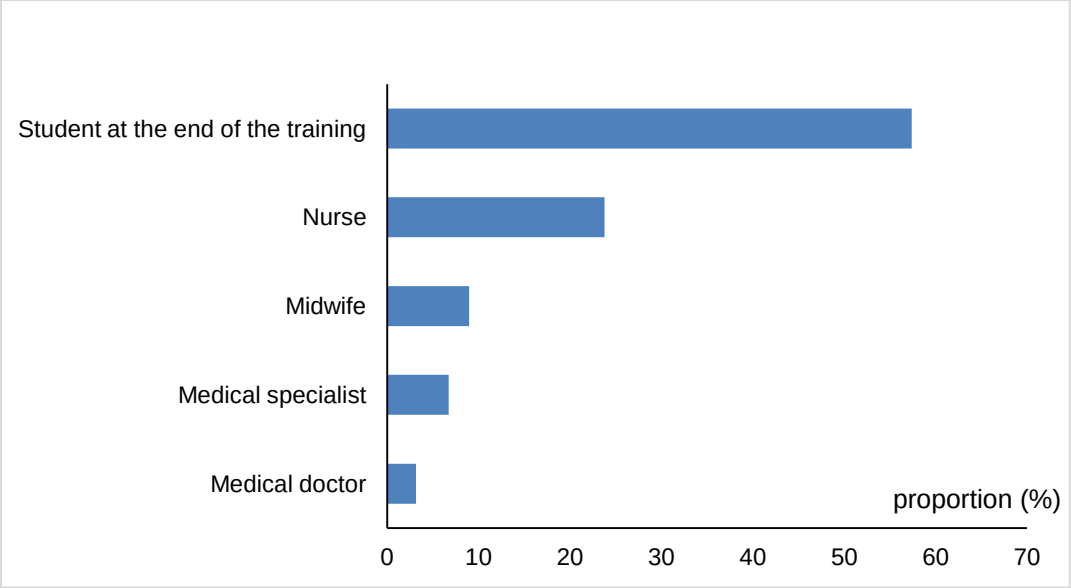

Fig.1. Distribution of health care professional according to their qualification (Parakou 2017, N=223).

3.2. Knowledge of VTE prevention

Almost all (98.65%) of the health care professionals had responded that they had heard about VTE and its prevention at least once. The sources of information cited were: courses received during basic training (96.86%), professional practice (31.84%) and reading books (22.42%). The most cited risk factors for VTE were: recent surgery (72.20%), bed rest (70.85%), obesity (69.06%), pregnancy and postpartum (45.29%), advanced age (26.01%). These data are presented in Table 1.
The most cited means of prevention were: low molecular weight heparins (93.27%), early lifting (66.82%), and antiplatelet agents (49.33%). These data are presented in Table 2.
The existence of VTE prevention recommendations was known by 14 (06.28%) health care professionals.
The level of knowledge was good for 117 (52.47%), moderate for 85 (38.12%) and insufficient for 21 (9.42%) of the healthcare professionals.

Table 1I. Distribution of healthcare professionals according to knowledge of risk factors for venous thromboembolic disease (Parakou 2017, N=223).

	Number (N=223)	**Proportion (%)**
Recent surgery	161	72.20
Bed rest	158	70.85
Obesity	154	69.06
Pregnancy and postpartum	101	45.29
Advanced age	58	26.01
Contraceptives	53	23.77
History of DVT or PE	52	23.32
Polytrauma	51	22.87
Cancer	45	20.18
Thrombophilia	35	15.70
Paralysis	16	07.17
Varicose vein	16	07.17
Presence of a central venous catheter	7	03.14

Low Molecular Weight Heparin, early lifting, and aspirin were the most cited means of prevention. The majority (98.65%) of respondents said that VTE can be prevented
The table 2 below shows the distribution of health care staff according to knowledge of the means of prevention.

Table 2. Distribution of health care personnel according to knowledge of means of prevention (Parakou 2017, N=223).

	Number (N=223)	Proportion (%)
Low Molecular Weight Heparin	208	93.27
Early lifting	149	66.82
Antiplatelet agent	110	49.33
Active or passive mobilization	92	41.26
Elastic contention	16	7.17
Vitamin K antagonists	14	6.28
Intermittent pneumatic compression	7	3.14
Unfractionated Heparin	6	2.69

3.3. Attitudes towards VTE prevention

Almost all healthcare professionals 220 (98.65%) had stated that VTE is a serious condition and 209 (93.72%) of them agreed to do daily prevention for any patient at risk. In the surgical setting, 33 out of 121 (27.27%) healthcare professionals thought to start prevention before 12 hours post-op, while in the medical setting 22 out of 102 (21.57%) thought to start it from the 1st day of hospitalization.
The assessment of the attitudes revealed that they were correct in 84 (37.67%), approximate in 84 (37.67%) and wrong in 55 (24.66%) of the healthcare professionals. The table 3 below shows the distribution of caregivers according to their attitude in a surgical setting.

Table 3: distribution of healthcare professionals according to their attitude in a surgical setting (Parakou 2017, n=121).

	Number (N=223)	Proportion %
<12 hours	33	27,27
24 hours	48	39,66
2nd day	8	06,62
3rd day	24	19,83
4th day	8	06,62

The table 4 below shows the distribution of nursing staff according to their attitude in the medial environment.

Table 4: distribution of healthcare professionals according to their attitude in the medial environment (Parakou 2017, n=102)

	Effectif	Proportion en %
1st day	22	21.58
2nd day	12	11.76
3rd day	60	58.82
4th day	8	07.84

3.4. VTE prevention practices

The majority of the healthcare professionals (185; 82.96%) stated that they practiced VTE prevention. This practice was systematic for 102 (55.13%), occasional for 57 (30.81%) and rare for 26 (14.05%) agents. We noted that 05 health workers (2.24%), all practicing in a surgical environment, stated that they had protocols on VTE prevention.
Among the 185 health workers who did prevention, 126 (68.10%) used risk factors as an indication for prevention and 6 (3.24%) used risk levels. These data are presented in Table 5. The reasons given by the agents who did not practice prevention are presented in Table 6. In the surgical setting, 16 (58.64%) health workers performed prophylaxis during the entire immobilization period, whereas in the medical setting, no health professional performed prophylaxis during the entire immobilization period.
Overall, the practices of health care professionals were adequate in 08 (4.32%), inadequate in 174 (94.05%) and harmful in 03 (1.62%).

Table 5. Distribution of healthcare professional according to prevention prescribing (Parakou 2017, N=185).

	Number (N=185)	Proportion (%)
Risk factors	126	68.11
Routine prevention	46	24.86
Clinical Signs	7	3.78
Risk levels	6	3.25

The reasons given by the agents who did not practice prevention were presented in Table 6.

Table 6. Distribution of healthcare professionals according to the reasons given for not practicing prevention (Parakou 2017, N=38).

	Number (N=38)	Proportion (%)
Recommendation not known	33	86.84
Lack of training	27	71.05
Prevention method not known	16	42.11
Presumed low incidence of VTE	8	21.05
Lack of financial means of patients	6	15.79
Means of prevention not available	1	2.63
High risk of bleeding	1	2.63

Factors associated with good overall knowledge, attitudes and practices

The global KAP score was good in 13 (5.83%), poor in 39 (17.49%) and acceptable in 171 (76.68%) of the cases. The practice in medical settings, physician's status, continuing education, knowledge of recommendations and the existence of a protocol on VTE prevention in the department were associated with a good global KAP score (Table 7).

Table 7. Factors associated with a good overall venous thromboembolism knowledge, attitude, and practice (KAP) score among health care professionals in CHUD-B to Parakou in 2017.

	N	Good KAP score		RP[$IC_{95\%}$]	*P*
		n	%		
Health Care Setting (N=223)					***.04***
Surgical	121	3	2.48	1	
Medical	102	10	9.80	4.95[1.12-13.98]	
Continuing Education (N=223)					***.000***
Yes	11	5	45.45	12.05[4.71-30.79]	
No	212	8	3.77	1	
Professional qualification (N=223)					***.000***
Physicians	150	13	8.67	-	
Paramedics	73	0	0.00	-	
Professional seniority (N=95)					*.13*
≤ 5	21	5	23.81	1	
> 6	74	8	10.81	2.20[0.80-6.03]	
Knowledge of recommendations (N=223)					***.000***
Yes	14	8	57.14	23.89[8.99-63.49]	
No	209	5	2.39	1	
Existence of protocol on prevention (N=223)					***.000***
Yes	5	4	80.00	19.38[8.92-42.08]	
No	218	9	4.13	1	

4. DISCUSSION

4.1. Strengths and Weaknesses

The objective of our work was to study the level of Knowledge, Attitudes and Practices (KAP) of health professionals working in hospitals in Parakou and to identify the factors associated with a good overall KAP score. The exhaustive nature of our sampling and the participation rate of 90.28% guarantee a good representativeness of our sample. The use of a self-administered questionnaire based on the international recommendations and its adaptation to the level that could be understood by a nurse helps us make the questions asked simple and precise. As for us, this is the minimum requirement level of knowledge that non-vascular disease specialists should have, regarding VTE. The use of multiple-choice questions (MCQs) helped us make the questions less difficult and allowed the respondent to come back to the answers in case of omissions. However, certain biases must be taken into account. Indeed, the use of questionnaires made at a nursing level and administrated to doctors may overestimate the different levels of knowledge, attitude and practice for this category of practitioners. Moreover, in any MCQ, there is a risk of random choice by the participant, which may bias the final result. Despite these weaknesses, the information reported in this work is reliable and usable.

4.2. Knowledge on VTE prevention

The risk factors most cited by health professionals in our study were: recent surgery (72.20%), bed rest (70.85%), obesity (69.06%), pregnancy and postpartum (45.29%) and advanced age (26.01%). These same factors had been found in the studies of Pessinaba et al [6] in Togo in 2014 and Dangwe et al [7] in Burkina-Faso in 2012. These factors are probably known by health professionals because of their frequent involvement in the occurrence of VTE in routine practice. For example, in a study realized by Houenassi et al in Cotonou in 2008 on hospitalized patients, the main risk factors for VTE found were: a history of DVT, obesity and advanced age [8]. Ikama et al in Congo (Brazzaville) in 2016, found that the most observed risk factors were: bed rest and advanced age [10]. These factors should continuously be sought in order to ensure better prevention. The most means of prevention reported in our study were LMWH (93.27%), early lifting (66.82%), antiplatelet agent (49.33%). These results are similar to those reported in the literature. In the study of Pessinaba et al in Togo in 2014, health professionals had cited as means of prevention: active and passive mobilization (92.5%), early lifting (87.5%) and the use of low molecular weight heparins (95%) or unfractionated heparin (30%) [6].
Half (52.47%) of the health care professionnels in our study had globally a good level of knowledge in Parakou. Dangwe et al [7] in Burkina-Faso in 2012 found a lower result with a rate of good knowledge of 46.5%. These results show that the level of knowledge of health care personnel in general about VTE prevention is still low. The seriousness of this condition requires rapid retraining of health professionals to improve this situation.

4.3. Attitudes towards VTE prevention

In surgical setting, most of the health practitioners (27.27%) thought to start prevention from 24hrs post-operative. This attitude differs from that reported by Özel et al in Istanbul (Turkey) in 2014 where 71% of the surveyed subjects used prophylaxis 7h after surgery [11].
This difference could be explained by the fact that in the study of Özel et al, the study population consisted only of specialists (surgeons) who have a better knowledge of VTE prevention recommendations. It should be remembered that according to the ACCP, prevention should be started at the latest before 12 hours postoperatively in a patient at risk

[4]. In the medical setting, most health practitioners (58.82%) thought that prevention should be started from the third day of hospitalization. These results differ from those found by Pessinaba et al in Togo in 2014 where the majority of the subjects surveyed (65%) thought to start prophylaxis from the first day of hospitalization [6]. In fact, in this study, the study population consisted only of general practitioners and specialists whose level of professional training differs from that of paramedics (nurses and midwives) who are part of our study's population. According to the ACCP, prevention should begin on the first day of hospitalization in at-risk patients and should continue until active mobilization or discharge from the hospital [4]. In the Beninese health system, paramedics are on the front line even in hospitals. It is therefore important to reduce this disparity in competence between doctors and paramedics in VTE prophylaxis.
Overall, the attitude was right in just 37.67% of the cases. This level of correct attitude in our study was lower than that of Zairul-Nizam et al in Malaysia in 2003 who noted 57.6% [12]. This better attitude reported in this country is probably due to the existence of prevention protocols in the services surveyed.

4.4. VTE prevention practices

In our study 82.95% of the health care staff claimed to practice prevention. These results are close to those found by Pessinaba et al in Togo in 2014 [6] who had found a proportion of 80%. On the other hand, in the study by Özel et al in Istanbul in 2014 [11], 65% of the subjects surveyed declared that they practiced VTE prevention. We notice that there is a high intention to prescribe thromboprophylaxis in our study and this proves that the severity of VTE is well perceived by our nursing staff. However, only 2.24% of the health care professionals claimed to have a VTE prevention protocol in their department. Ouro-Bang'na et al in Togo in 2006 found that 12% of the staff had a protocol [13] and this rate, although low, was higher than what has been found in our study. Our results are clearly inferior to those of Prasannan et al [14] in Malaysia in 2005 who noted the existence of a protocol in 43% and those of Zairul-Nizam et al [12] in Malaysia in 2003 who noted the existence of a protocol in 55.7%. In this situation where there are no guidelines in the services, the practice of VTE prophylaxis is very variable in our study. While some professionals used risk factors (68.48%) to prescribe prevention, others did it routinely (24.46%) or based on the risk level (3.26%). According to Dangwe et al in Burkina-Faso in 2012 for a study conducted in medical settings, nineteen (47.5%) physicians considered acute medical conditions and thirty-nine (97.5%) VTE risk factors as indications for VTE prevention [7]. In contrast, in the study of Prasannan et al in Malaysia in 2005, DVT history 40% and risk level 26% were cited as indications for prophylaxis [14]. Elsewhere Özel et al in Istanbul in 2014 found the risk level in 90% in general surgery and 80% in thoracic surgery as indications [11]. It should be remembered that international recommendations suggest that risk levels should be used as the basis for the indication of a possible prophylaxis [4]. In our study, very few caregivers cited this indication.

Factors associated with a good overall WTP

The overall KAP score was good in only 13 (5.83%) health practitioners in our study. This low score could be explained by the absence of continuous training and prevention protocols in the hospital wards. No study in the literature had assessed this overall KAP score.
The factors associated with a good overall KAP score were the practice environment (medical), professional qualifications (physicians), continuing education, knowledge of the recommendations, and the existence of a VTE prevention protocol in the department. It is therefore necessary for each department to have a VTE prevention protocol and for health practitioners to receive continuing medical education as much as possible.
To our knowledge, there is a lack of data in the literature to compare the associated factors found in our study with those of other authors. This could be explained by the fact that our

dependent variable was a good overall KAP score, unlike the other studies. This study therefore seems to be the first to approach the subject in this way.

5. CONCLUSION

Half of the health care personnel in Parakou are aware of venous thromboembolic disease prophylaxis. Attitudes towards prophylaxis are still far from satisfactory, as are prophylaxis practices, which are not yet adequate for most practitioners. Overall, the KAP score was poor for the majority of the health professionals. In order to better prevent this condition, it is therefore necessary to train the nursing staff and to establish protocols on the prevention of venous thromboembolism in the various departments.

CONSENT

All authors declare that written informed consent has been obtained from the patient

ETHICAL APPROVAL

The study received a favorable opinion from the Local Ethics Committee for Biomedical Research of the University of Parakou (Ref:0006/CLERB- UP/P/SP/R/SA), the authorization of the Director of the University and Departmental Hospital of Borgou/Alibori (N°0617/MS/DC/DDS-B/CHUD-B/SAAE/DGAP). The anonymity and confidentiality of the data collected were respected.

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APPENDIX

Appendix 1. Attitude and practice knowledge assessment items.

N°	QUESTIONS	MODALITIES OF ANSWERS	CORRECT ANSWERS	Note
1	**KNOWLEDGE**			
1.1.	Have you ever heard of thrombophlebitis or pulmonary embolism?	1- yes 2 -no	1	1
1.2.	According to you, what does “Deep vein thrombosis (thrombophlebitis)” mean?	a) obstruction of an artery of the lower limbs b) obstruction of a deep vein by a blood clot c) incontinence of the veins of the lower limbs	b)	1
1.3.	According to you, what does “Pulmonary embolism” mean	a) infection of the lung parenchyma b) acute pulmonary edema c) obstruction of the pulmonary artery by an embolus	c)	1
1.4.	Name the conditions or causes of this pathology (at least 5)	1-alcohol 2-recent surgery, 3-Poly trauma, 4-smoking 5-pregnancy and postpartum, 6-Dyslipidemia 7-contraceptives, 8- history of DVT or PE, 9- advanced age 10-Paralysis 11- cancer, 12-HBP 13-obesity, 14-varices, 15-thrombophilia 16-breastfeeding 17-diabetes 18-blood transfusion 19-intravenous injection 20- Presence of a central venous catheter	2 ;3 ;5 ;7 ;8 ;9 ;10 ;11 ;13 ;14 ; 15 ;16 ;20	5
1.5.	Can it be prevented?	1- yes 2 -no	1	1

1.6.	If yes, name the means of prevention that you know (at least 04)	1-Passive or active mobilization 2-Early rising, 3- sports activities 4-intermittent pneumatic compression, 5-hygienic and dietary measures 6-elastic support (socks) 7-HBPM, 8-Hypolipidemics 9-HNF 10-antihypertensive drugs 11-aspirin, 12-AVK 13-antibiotics	1 ;2 ;4 ;6 ;7 ;9 ;11 ;12	4
1.7.	Have you heard of any recommendations or guidelines for VTE prevention?	1-yes 2 -no	1	1
2	**ATTITUDES**			
2.1.	Do you think VTE is a serious condition?	1-yes 2 -no	1	1
2.2.	In your opinion, is it necessary to systematically prevent it when in front of a patient at risk?	1-yes 2 -no	1	1
a)	**In a surgical setting**			
2.a.1	What would be your attitude in front of a patient with a low risk of VTE?	1-No need to ensure prevention 2-prevention by physical means 3-prevention by moderate dose heparin 4-prevention with high-dose heparin 5-prevention with low dose aspirin 6-Prevention with anti vitamin K	1 or 2	1
2.a.2	What would be your attitude in front of a patient with a moderate risk of VTE?	1-No need to ensure prevention 2-prevention by physical means 3-prevention by moderate dose heparin 4-prevention with high-dose heparin 5-prevention with low dose aspirin 6-Prevention with anti vitamin K	2 and 3	2
2.a.3	What would be your attitude in front of a patient with a high risk of VTE?	1-No need to ensure prevention 2-prevention by physical means 3-prevention by moderate dose heparin 4-prevention with high-dose heparin 5-prevention with low dose aspirin 6-Prevention with anti vitamin K	2 and 4	2
2.a.4.	From what moment after surgery is VTE prevention necessary?	the correct answer: 1- ≤ 12h 2- 24h 3- 2 days 4- 3 days 5- 4 days	1	1
b)	**In a medical environment (medicine and medical specialties):**			
2.b.1.	Name 5 conditions for which VTE prevention is mandatory during hospitalization	1-chronic pulmonary heart, 2-diabetes 3-HBP 4- rheumatic diseases, 5-cancer 6-Acute heart failure 7-Renal failure 8-embolism heart disease 9-infectious diseases	4 ;5 ;6 ;8 ;10,12,13 ;15	5

		10-STROKE 11-viral hepatitis 12-IDM 13-Neurological paralysis 14-pulmonary tuberculosis 15-Coma		
2.b.2.	When a patient is immobile and needs to be hospitalized for a long period of time, at what moment should VTE prevention be initiated?	circle the correct answer: 1- 1st day 2- 2 days 3- 3 days 4- 4 days	1	1
3	PRACTICES			
3.1	Do you practice VTE prevention (physical or medication)	1- yes 2 -no	1	1
3.2.	If yes, in front of a patient at risk, do you do it: a-always; b-often; c-scarcely?	1- yes 2 -no	1	1
3.3.	If you don't, give the reasons why.	1-Meaning of prevention not available 2-Means of prevention not known 3-Recommendations not known 4-Lack of training 5-Lack of financial means for patients 6-High risk of bleeding 7-predicted low incidence of VTE 8-Other (specify)		
3.4.	Do you have a VTE prevention protocol in your unit or department?	1- yes 2 -no	1	1
3.5.	On what basis do you provide VTE prevention in your unit or service for hospitalized patients (indication for prevention)?	Choose one: 1-clinical signs 2-routine prevention 3-Risk factors 4-Risk levels	4	1
3.6.	What prevention mean(s) do you usually use?	1-Passive or active mobilization 2-Early rising, 3- sports activities 4-intermittent pneumatic compression, 5-hygienic and dietary measures 6-elastic retention (socks) 7-Enoxaparin 8-Hypolipidemics 9-calciparin 10-antihypertensive drugs 11-aspirin, 12- acenocoumarol (sinntrom) 13-antibiotics 14-Other (specify)	One or a combination of the answers: 1; 2 ;4 :6 ; 7 ;9 ;11 ;12	1
3.7.	Specify the dose for the usual means used (if medicinal means)	1°) 2000UI of enoxaparin, 2°) 2500UI of calciparin; 3°) 4000UI of enoxaparin; 4°) 5000UI of calciparin; 5°) 100mg of aspirin; 6°) INR funcion 7°) other (specify):	Correct answer: one of the answers	1
3.8.	Specify the duration of prevention for the means used	Circle the correct answer(s) 1°) < to the duration of the immobilization 2°) During the entire immobilization 3°) During and after the entire immobilization	2	1

3.9.	List 4 situations where anticoagulants should not be used (Contra Indication)	1-Hypersensitivity 2-Clinically active bleeding 3-Heart failure 4-Ischemic stroke 5- Intracerebral hemorrhage less than 48 hours old 6-Severe renal insufficiency with creatinine clearance < 30ml/min 7-Severe hepatic insufficiency 8-Cancer 9-Pregnancy 10-coma	1 ;2 ;5 ;6 ;7	4