THE JOANNA BRIGGS INSTITUTE

Health Management & Assessment

Best Practice

Evidence-based information sheets for health professionals

Venous Thromboembolism Risk Assessment and Prophylaxis: Facilitators and Barriers to Compliance with Clinical Guidelines in Acute Care

Recommendations*

- A dedicated Venous Thromboembolism (VTE) nurse/clinician should be allocated within both hospitals and health services to coordinate VTE prevention and prophylaxis strategies and to provide an accessible champion that other clinicians can access when needed. **(Grade B)**
- Regular VTE education should be provided to all clinicians responsible for patient care to ensure they are aware of the clinical practice guidelines and risk assessment tools within their facility for VTE prevention, provide up to date information on local and national statistics, provide reminders to risk assess and provide prophylaxis and what the requirements are of this. **(Grade B)**
- Healthcare professionals should be aware of the factors surrounding VTE development and prevention strategies, and be able to educate patients and families to be proactive in their own care. **(Grade B)**
- Acute health organizations should ensure there are system supports in place to provide clinicians with guidelines and risk assessment tools to be able to identify individual patient risk and ensure that appropriate prophylaxis is initiated. **(Grade B)**

*For a definition of JBI's 'Grades of Recommendation' please see the last page of this sheet

Information Source

This Best Practice Information Sheet has been derived from a systematic review published in 2012 in the JBI Database of Systematic Reviews and Implementation Reports.[1] The systematic review report is available from the Joanna Briggs Institute (www.joannabriggs.org)

Background

Despite the availability of guidelines for venous thromboembolism (VTE) risk assessment and prophylaxis, patients with identifiable risk factors admitted to acute hospitals may not receive appropriate prophylaxis. The incidence of VTE in hospitalized patients is higher than that of people living in the community who have similar demographics. Knowledge of barriers to healthcare professional compliance with clinical practice guidelines and facilitators to improve compliance will aid appropriate use of venous thromboembolism clinical practice guidelines.

Objectives

The purpose of this Best Practice Information Sheet is to identify the barriers and facilitators to healthcare professional compliance with clinical practice guidelines for VTE assessment and prophylaxis.

Quality of the research

The review considered both quantitative and qualitative evidence. Twenty studies were included: 16 pre-test post-test studies, one cohort study, one case series, one ethnographic study and one study that used grounded theory methods. The overall methodological quality of the studies varied;16 studies were of moderate to high quality and the remaining four were of low quality.

Findings of the review

Compliance with VTE guidelines

Three evidence-based national guidelines were identified from the studies. All had similar recommendations and agreed on the importance of providing appropriate risk assessment and prophylaxis to reduce VTE morbidity and mortality. The American College of Chest Physicians (ACCP) guideline was utilized by ten studies, the Australian and New Zealand guideline by three studies and the United Kingdom expert working group guidelines by one study. The remaining studies either did not identify the guidelines used or reported using local hospital guidelines.

Levels of compliance

Estimates of overall compliance with VTE guidelines varied across the studies and ranged from 6.25%- to 70.4% at study baseline. Compliance ranged from 62.5% - to 78.1% post-test following an intervention of various types.

Barriers to compliance with VTE guidelines identified from quantitative studies.

Healthcare professional lack of attention was identified as being a barrier to compliance by five studies. Lack of staff attention to VTE risk assessment and prophylaxis initiation as well as not prioritizing VTE prevention and management in relation to patient care, were also noted. Healthcare professionals stated they were too busy to add this to their practice or they simply forgot to complete the requirements for VTE care. In studies where reminders and alerts were sent, staff reported excess workloads as a contributing factor.

Lack of awareness was identified as a barrier in eight studies.

Staff reported not knowing that there are standards and clinical practice guidelines for VTE or where to find organization protocols and risk assessment tools to use when admitting a patient. Medical practitioners reported that they were also unaware of when to prescribe VTE prophylaxis for a patient. Some healthcare professionals believed that there were no problems in their practice area even though the assessment of patients was not uniformly completed. In situations of contraindication, staff were unsure of what action to take therefore undertook no VTE management or prevention strategies.

Patient factors were reported as barriers in five studies and related to healthcare professional concerns about complications with bleeding. There was also a reluctance to use chemical prophylaxis due to the possibility of an adverse reaction or an interaction with other medication the patient may be taking. Healthcare professionals stated that the patient was too ill at times with the focus on addressing their immediate needs and this led to VTE prevention not being seen as a priority.

Computers and databases were identified as being a barrier by three studies and relate to the finding that some computer applications cannot be used in all hospitals due to software incompatibilities as well as a lack of capability of some systems. Two studies reported different computer systems used different languages therefore a program developed for one did not work on another. One study reported that computer applications were seen to be quite limiting and incapable of carrying out the task required.

Disputing evidence/guidelines was reported as being a barrier by three studies where healthcare professionals felt that the evidence in the guidelines was incorrect. This was seen as a reason for inconsistency in the use of VTE risk assessment between practitioners as well as between wards, specialties and hospitals.

Lack of documentation was reported as a barrier by two studies and was largely due to coding of patient conditions not being complete, in turn leading to risk assessment not being completed. It was also reported that some hospitals use varying terms to categorize their patients being at high risk instead of using standard terms based on evidence-based clinical practice guidelines.

Staff factors were reported as being a barrier by three studies. One study reported that nurses did not complete the risk assessment because they felt it was the doctor's responsibility, and another found that doctors disregarded the recommendations provided by a VTE nurse case manager. In one study, a dedicated VTE nurse was employed a part-time role, therefore any patients discharged during the time the position was not filled, were not assessed. Another reported barrier was lack of system support which was seen to occur where there were no developed guidelines for VTE within the health service and there were no risk assessment tools to use. There was also confusion with the risk assessment model developed. A third barrier was financial constraints where the costs associated with providing staff education was limiting, especially since a high amount of studies support continued and regular staff education.

Barriers to compliance with VTE guidelines identified from qualitative studies.

Two qualitative studies addressed barriers to compliance with VTE Clinical Practice Guidelines. Analysis of those papers resulted in the identification of twenty five findings that were drawn together under three categories of barrier.

Costs and Priority (based on six findings)

Healthcare professionals were more concerned with treating the admission condition than preventing future complications and often VTE assessment was overlooked. The studies reported that if VTE prophylaxis was not initiated at the initial stages of patient admission then it may be overlooked for the remainder of a patients stay. In addition, anti-embolic stockings and pneumatic compression were seen to provide cost restrictions, difficulties with fitting them, inconvenience and patient non-compliance.

Lack of role identification (based on nine findings)

There was a lack of consistency and clarity over responsibility for VTE assessment and prophylaxis. In situations where multiple practitioners were responsible for a patient's care, there was often confusion around who was responsible for completing a VTE risk assessment and initiating prophylaxis. This lead to it being overlooked.

Practice culture (based on ten findings)

Healthcare professionals developed their own preferences for prescribing VTE prophylaxis from past experience rather than follow clinical practice guidelines. Other healthcare professionals stated that clinical practice guidelines should be changed to address the individual patient rather than being use across different patients. Practice was tailored to what senior members of the team wanted, and junior staff followed this rather than using evidence-based clinical practice guidelines.

Facilitators to compliance with VTE guidelines identified from quantitative studies.

Education was identified as a facilitator by eight studies included in the review and varied from one-off, face to face sessions, to regularly sessions or education outreach visits that supported the clinicians in their work environment.

Computer applications were reported by seven studies to be facilitators. Interventions included electronic alerts/prompts to remind clinicians, as well as integrating a VTE risk assessment into the electronic patient record and admission system.

Regular audit and feedback cycles, with results reported back to clinicians were considered to be facilitators in five studies.

Reminders such as stickers applied to hard copy patient notes, electronic alerts or newsletters were identified by four studies as being facilitators.

Two studies found that having a dedicated person or healthcare professional group responsible for prevention and management of VTE improved compliance with clinical practice guidelines as well as patient outcomes.

System support, such as pre-printed documentation as well as development and standardization of care policy, procedures and tools, was a reported facilitator by three studies.

One study found that involvement of pharmacy staff, as well as provision of prompts for chemical prophylaxis with complication and implications easily available, increased compliance and was a facilitator

Three studies used multiple strategies to improve compliance. This ranged from education, audit and feedback, reminders and allocating a dedicated VTE clinician.

Facilitators to compliance with VTE guidelines identified from qualitative studies.

Nine findings were extracted from the included qualitative studies. These findings were grouped into three categories based on similarity of meaning. The categories were grouped together into a single synthesized finding.

Allocation of a person or healthcare professional group was seen as a facilitator by providing a clear identity for responsibility for completing VTE risk assessment and prophylaxis. This was seen to facilitate by not only making it clear who will undertake the role but also ensuring it was completed in a timely manner and empowering that person to provide reminders to responsible clinicians to ensure compliance and improved patient outcomes. (One finding)

Audit and feedback cycles, where both national and local statistics on morbidity and mortality of VTE were reported to practitioners to inform their practice, as well as the local utilization of thromboprophylaxis. (One finding)

System development where there is development of pre-printed order and screening tools that are integrated into a systems approach. Within this category it was also noted that patients and family can be utilized to provide reminders to clinicians, as well as organizations providing sufficient human resources to support increased mobilization. (Seven findings)

Implications for practice

Knowledge and awareness of VTE risk assessment and prophylaxis clinical practice guidelines are lacking in the acute care sector, however interventions do improve compliance. Evidence suggests that many types of intervention can improve compliance. Interventions can be developed for the specific audience and setting they are being used for, bearing in mind that not all interventions are appropriate for all areas, such as computer applications not being suitable where system capacity is lacking.

There was an emphasis on education of healthcare professionals as well as patients, with education being repeated and updated. Education material should include not only how and when to undertake a risk assessment, what prophylaxis to use and when but also the statistics of local and national morbidity and mortality from VTE. There was also an emphasis on computer applications to remind the healthcare professional to undertake the risk assessment, how to identify the risk level and understand what prophylaxis is appropriate for that client.

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Acknowledgments

This Best Practice Information Sheet was developed by the Joanna Briggs Institute. In addition this Best Practice Information Sheet has been reviewed by nominees of International Joanna Briggs Collaborating Centres.

References

1. Gaston, S, White, S & Misan, G, Gaston et al. Venous Thromboembolism (VTE) Risk Assessment and Prophylaxis: A Comprehensive Systematic Review of the Facilitators and Barriers to Healthcare Worker Compliance with Clinical Practice Guidelines in the Acute Care Setting, JBI Database of Systematic Reviews & Implementation Reports. 2012; 10(57):3812-3893

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JBI Grades of Recommendation*

Feasibility	Appropriateness	Meaningfulness	Effectiveness
A	Strong support that merits application		
B	Moderate support that warrants consideration of application		
C	Not supported		

This Best Practice Information Sheet presents the best available evidence on this topic. Implications for practice are made with an expectation that health professionals will utilize this evidence with consideration of their context, their client's preference and their clinical judgement.†

* The Joanna Briggs Institute. The JBI approach: Grades of Recommendation. 2013 [cited 2013 Dec 3]. Available from: http://joannabriggs.org/jbi-approach.html#tabbed-nav=Grades-of-Recommendation

† Pearson A, Wiechula R, Court A, Lockwood C. The JBI Model of evidence-based healthcare. Int J of Evid Based Healthc 2005; 3(8):207-215.

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