



Master in Evidence-Based Practice e Metodologia della Ricerca Clinico-assistenziale



Centro Studi EBN

Azienda Ospedaliero - Universitaria di Bologna

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Protocol Sistematic Review
The Effectiveness of Calibre Peripheral Venous
Catheter to Prevent Hemolysis in Blood Transfusion

AUTHOR INFORMATION:

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REVIEW QUESTION

The quantitative objective is to identify the effectiveness of large or small gauge venous catheters on preventive hemolysis in patient receiving blood transfusion

More specifically, the objectives are to identify:

1. The effectiveness of large or small gauge venous catheters.
2. on preventive hemolysis in patient receiving blood transfusion.

BACKGROUND

Blood transfusion is a process of transferring blood or blood-based products from one person into the circulatory system of another.

Blood transfusions can be life-saving in some situations, such as massive blood loss due to trauma, or can be used to replace blood lost during surgery.

Blood transfusions may also be used to treat severe anaemia or thrombocytopenia caused by a blood disease. People suffering from haemophilia or sickle-cell disease may require frequent blood transfusions.

Early, transfusions used whole blood, but modern medical practice is to use only components of the blood.

Blood transfusion can only be administered intravenously, therefore it requires the insertion of a peripheral venous Catheter of suitable calibre into a superficial vein.

One of the complications of blood transfusion is haemolysis which could be caused by the calibre of peripheral venous catheter.

The purpose of this review is to assess if different calibre venous catheter may be prevent hemolysis in the blood transfusion.

In this research we will exclude catheter of 21 gauge caliber, we considered all catheters larger than 21 gauge as small caliber and all catheters smaller than 21 gauge as large caliber.

This review will be designed to evaluate the efficacy of blood transfusion made by large or small calibre venous catheter.

TYPE OF PARTICIPANT

The quantitative component of this review will consider studies that include all patients who need blood transfusion.

TYPE OF INTERVENTION

The quantitative component of the review will consider studies that evaluate large and small gauge venous catheter.

TYPE OF OUTCOMES

This review will consider studies that include the following outcome measures: prevention of hemolysis in blood transfusion.

TYPES OF STUDIES

The quantitative component of the review will consider any randomised controlled trials; in the absence of RCTs other research designs, such as non-randomised controlled trials and before and after studies, will be considered for inclusion in a narrative summary to enable the identification of current best evidence regarding.

SEARCH STRATEGY

The search strategy aims to find both published. A three-step search strategy will be utilised in each component of this review. An initial limited search of MEDLINE and CINAHL will be undertaken followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe article. A second search using all identified keywords and index terms will then be undertaken across all included databases. Thirdly, the reference list of all identified reports and articles will be searched for additional studies.

The databases to be searched include:

- MEDLINE
- CINAHL
- EMBASE
- TRIP DATABASE

Initial keywords to be used will be:

- Blood transfusion
- Catheterization peripheral
- Hemolysis

ASSESSMENT OF METHODOLOGICAL QUALITY

Quantitative papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardised critical appraisal instruments from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MASARI) (Appendix V).

DATA COLLECTION

Quantitative papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardised critical appraisal instruments from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI)(Appendix V).*

DATA SYTHESIS

(JBI-MAStARI). All results will be subject to double data entry. Odds ratio (for categorical data) and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated for analysis. Heterogeneity will be assessed using the standard Chi-square. Where statistical pooling is not possible the findings will be presented in narrative form.

CONFLICTS OF INTEREST

None.