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Working

Defining critical care – a scoping review and thematic content analysis: protocol for a scoping review

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ABSTRACT

Introduction

Patients who are critically ill, those who are in need of critical care, can be found all over hospitals. Some, but not all, receive care in ICUs (intensive care units). Medical specialties usually define themselves by organ system, disease process or procedure, however, critical care has struggled to define its identity. (1)

Critical care medicine, when used synonymous to intensive care medicine, emerged as a result of multiple historical events. Knowledge regarding trauma, shock and infectious medicine grew as the World War II and the conflicts in Korea and Vietnam occurred. The poliomyelitis epidemic during the 1950s led to the development of invasive mechanical ventilation for patients with respiratory failure. Technological developments enabled critical care medicine to emerge and develop. (2) Today, critical care medicine is considered to be resource-intensive and the National Health Services in England spends approximately £1 billion annually. (3)

However, as initially alluded to, critical care can also be understood as something broader than critical care medicine or intensive care medicine. Critical care can be given to critically ill patients admitted to the ICU or wherever else there are patients who are critically ill, meanwhile critical care medicine or intensive care medicine is usually only received in the ICU.

A retrospective study by Halpern et al published in 2004 investigated the role, use and costs of critical care in the Unites States between 1985 and 2000. Critical care medicine (CCM) beds in the United States increased by 26.2% between 1985 and 2000, during the same period non-CCM beds decreased by 30.9%. (4)

There is an absence of a consistent definition of critical care. Some countries focus on the capability to support failing organ systems, or on the ratio between nurses and patients, where other countries focus on the need for close monitoring. There is a need for a universal consensus regarding the definition regarding of what constitutes critical care. A universal definition would greatly benefit the increasing need for critical care research and clinical discussion. (5)

Aim

The aim of this study is to operationally define critical care. The review will attempt to answer the question: What are the main elements of existing definitions of critical care and can these be homogenized to form a common definition?

Design

This scoping review will be conducted to examine how the literature defines critical care. The scoping review complemented by a thematic content analysis. A scoping review methodology is an approach to synthesizing available evidence and is particularly suited for questions not answerable by a systematic review because the scope is too broad, or when not much has been published on the topic. Both these conditions apply in this case. The review will be conducted using the Arksey and O'Malley framework and hence first relevant studies will be identified, second studies will be selected for inclusion, third data will be charted and finally, the data will be summarized. (6, 7) This protocol is structured following the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist (8).

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PROTOCOL STATUS

Working

We use this protocol in our group and it is working

Protocol and registration

1

This protocol will be made publicly available by registering it in protocols.io.

Eligibility criteria

2 All types of documents and articles identified by the search that discuss a definition of critical care, are written in English, and have been published since 2008, and involves only human subjects, will be included. Peer reviewed publications that do not have an abstract or no full text available online, are written in a foreign language or does not discuss critical care will be excluded from the review.

Information sources

3 A broad literature search is required when preforming a scoping review. Both published and difficult to locate or unpublished (gray) literature will be searched. The databases PubMed and Web of Science will be searched. Reference lists of included publications will be hand searched to identify additional sources. Relevant information sources from professional associations such as European Society of Intensive Care Medicine (ESICM), Society of Critical Care Medicine (SCCM), World Federation of Societies of Intensive and Critical Care Medicine, Svensk Förening för Anestesi och Intensivvård (SFAI), The Scandinavian Society of Anesthesiology and Intensive Care Medicine (SSAI) and Association of Anaesthetists of Great Britain and Ireland (AAGBI). Publications used in the review will be uploaded to Rayyan, a web application called which will enable data management and collaboration between reviewers.

Search strategy

4 The search strategy to identify relevant studies will be designed in consultation with the Karolinska Institutet University Library. The final search strategy will be described and presented in the study.

Selection of sources of evidence

5 Two reviewers will independently perform all stages of the selection process. All publications will be examined through title and abstract review and then full text review. Potential disagreements in the title and abstract screening stage will be solved by including the study in the next stage of screening. Disagreements in the full text screening stage will be solved by discussing with a third senior

reviewer.

Data charting process

6 Data from the publications examined will be charted in a data charting form in Microsoft Excel.

Data items

7 Definitions of critical care will be extracted from included sources.

Synthesis of results

8 The results will be synthesized using thematic content analysis where common themes or patterns within the definitions of critical care that were extracted will be examined. Once a preliminary set of condensed definitions have been devised, interviews with experts in the field will be conducted. These interviews will be used to achieve a broader understanding and interpretations concerning the condensed definitions of critical care. A purposive sample of at least five experts will be consulted. The criteria for being included as an expert are the following:
- Having at least 10 years of clinical or research experience related to critical care
- Representatives of different healthcare professionals shall be included
- Representatives of both potential supporters and critics shall be included