The Social Role of Knowledge Organization in Evidence Based Health

Abstract:
Evidence based health is a form of knowledge production that aims to provide the best information for decision-making. The knowledge produced in Evidence based health, such as systematic reviews and technical-scientific opinions should be structured in such a way that clarifies the steps taken in the search for information and its retrieval, thus allowing access to the studies, which can be done by adopting knowledge organization principles, instruments, and methods. Through planning and systematization of information search and retrieval processes, knowledge organization has fulfilled its social role inasmuch as it has helped develop better approaches to patient care by managing health resources. As a result, this study presents an information search and retrieval methodology to build best practices within health technology assessment in the context of Evidence Based Health care.

1.0 Introduction
The goal of this study was to highlight the social role of knowledge organization (KO) in Evidence Based Health (EBH). The meaning of the term “social” here refers to peoples’ well-being and cooperation for a good life in society. The use of mapping among knowledge organization systems (KOS) can contribute to peoples’ well-being by being part of the production of scientific knowledge, whose purpose is to offer the best health technologies, according to patients’ needs and available resources. The role of KOS in this scenario is to provide a larger sample of terms and synonyms derived from the vocabulary of various discursive communities to develop sensitive search strategies, allowing for retrieval with higher recall and relevance.

The main question that drives this analysis was: can the planned and systematized information search and retrieval process be considered part of the evidence in the context of EBH? This study presents a proposal for using KOS mapping when building sensitive search strategies for searching and retrieving health data. The goal was to systematize and rationalize the search process to support healthcare management and care, especially in decision-making processes in the context of health technology assessment (HTA). This assessment is based on the principles of quality and excellence of the connections among research, policy and management in all its phases (incorporation, diffusion, abandonment), in due time (Brazil 2013).

The health technology assessment process, which is part of EBH, provides healthcare managers with support to make coherent and rational decisions about the inclusion of health technologies (Brazil 2011). Health technology assessment contributes to the well-being of people by enabling the provision of health technologies that are appropriate to the needs of patients. Questions regarding the best medicine, surgical technique, or prosthesis for a group with particular characteristics such as age, sex, place of residence, and living conditions and habits are some of the decisions made routinely in hospitals, and these directly interfere with the quality of life of thousands of people.

Systematic reviews (SR) and technical-scientific opinions (TSO) support HTA. Systematic reviews and TSOs are examples of evidence that presents knowledge that can
enhance the decision-making process, making it adequate to resource management and the well-being of patients. SRs are a “method of scientific investigation that uses the planning and gathering of original studies, synthesizing the results of multiple primary investigations” (Universidade Federal de Santa Catarina 2010, 27). An essential part of planning an SR is carrying out a literature review (Brazil 2012). In contrast, TSOs do not require such an extensive and comprehensive literature review and are quicker to prepare, representing a systematic and comprehensive account of the knowledge that can be found (Brazil 2011).

The structure of SRs and TSOs lies in the presentation of the information search and retrieval process (Brazil 2011; 2014); thus, they can be considered part of the process of construction of evidence because one of its elements is its reproducibility. The evidence describes the research problem, the consulted sources and KOs, and the sensitive search strategies used in each source, with due justification. The methodology proposed by Andrade (2015) and Andrade and Lara (2019) highlights the role of information exchange between specialists in the field of health and KO in defining and understanding research problems and mapping terms and their synonyms while using the Library Medicine’s Metathesaurus. The search, retrieval, systematization, and presentation of search results to healthcare experts are also included in the referred methodology. The search strategy model makes it possible to retrace the steps of the search and identify changes in it.

The social role of KO in EBH is the use of the information search and retrieval methodology with mappings among knowledge organization systems when creating sensitive search strategies. These offer a greater number of synonymous terms, from different thesauri, terminologies, bibliographic classifications, billing lists for health services, which were built according to local needs and the languages of specialties from different discursive communities.

2.0 Methodology

This was an exploratory and bibliographic study. We adopted the theoretical-methodological approaches of the organization and retrieval of information and knowledge (Hjørland 2008; Lara 2013) and of evidence based healthcare (Atallah 2004; Universidade Federal de Santa Catarina 2010; Brazil 2011; 2012; 2014). Two experiments were conducted: a) a case study in orthopedics and traumatology and b) an evaluation of the National Library Medicine Metathesaurus that enables the simultaneous search of terms in several KO systems (Andrade 2015). The case study aimed to build generalizations about the identification of research problems, the search and retrieval of information from databases, focusing on mapping terms and concepts to develop search strategies. To assess the metathesaurus, the researchers tried to identify the ways how the metathesaurus functions, its use and results. For this analysis, researchers used the ISO 25964-1/2:2011, Information and documentation – Thesauri and interoperability with other vocabularies, which offers recommendations to identify and classify equivalences between terms (International Standard Organization 2011a; 2011b).
References


