A tool to design complex bibliographic queries in your own language

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Context

There are many difficulties to be surmounted when querying a bibliographic database such as PubMed. First, users have to learn a controlled vocabulary. The use of MeSH subheadings or other advanced feature is known to be counterintuitive and requires a specific training. They also have to learn the "syntax" of Boolean operators to combine their ideas. They may have to face the difficulties of natural language searching because, considering PubMed, a growing part of recent articles is not described with controlled vocabulary. Finally all non-native English speakers also have to adapt to a foreign language.

Objective

We designed a web tool which is a user-friendly interface to overcome these problems and we evaluated its usefulness for querying a bibliographic database in the users' own language.

Bibliographic Query Builder in Medicine
Design complex bibliographic queries by combining medical terms (MeSH)

http://crbm.chu-rouen.fr/

Features:

- Eight languages available

- Weighted autocomplete

- Full MeSH info

- Rich query to maximize recall

- Three compatible databases

Methods

The MeSH in English and several translations were used as the multilingual basis of the tool. The interface was designed based on previous experiences and first users' feedbacks. Existing interfaces were also considered. The value of querying in the users' own language was evaluated experimentally by comparing the results of two groups of French medical students confronted to information searches in their own language or in English.

Results

The tool, called Bibliographic Query Builder in Medicine, is publicly available at the URL **http://crbm.chu-rouen.fr/**. Several languages are already available, with partially translated interfaces: German, English, Spanish, French, Italian, Dutch, Portuguese, Finnish. Autocomplete in these languages help to find the relevant MeSH terms. A wide range of synonyms are also used automatically as natural language terms to complete the query.
Preliminary experimental results show that users using their own language achieve significantly better search queries through the Bibliographic Query Builder.

Discussion

It is certainly impossible to achieve a perfectly intuitive interface as some features are too difficult to use without training such as the use of subheadings or explosion.
The preliminary results showing that the interface is useful need to be confirmed, especially for languages other than French.

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