Letter to Editor

PubMed Data Mining using AI Based Qinsight™ Platform

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Sir,

Data search for literature review both in the field of research as well as in the practice of evidence medicine has moved from the traditional books to internet-based resources long time ago. With the advent of smart phones and the tabs internet based resources have become so popular among the researchers. In the meantime, there is a huge surge in the research from the corners of the Globe wherein these databases like PubMed, Web of Science are being flooded with evidences on topics across different disciplines from the rigorous scientific explorations being made by several scientists. These evidences lie in the above said databases and when a researcher finds his interest in a specific topic and for reasons of no duplication of the research as well as not to land up in an already existing evidence, a literature review in all aspects of the particular area wherein he has decided to begin his research is very essential.

A database with huge amount of data for every keyword that is used for detecting the published literature support is an extremely difficult task with every other keyword giving almost thousands of research articles. It becomes a herculean task for any researcher to, a) go through all the collected articles or even abstracts to identify the lacunae in the area of his interest, b) also to categorize the findings from the different published scientific literature without consuming time or energy. And the above two tasks differs with the background of the researcher who's searching for an answer. As we all know that there could be possible different category of researchers who would work on different aspects of the same disease, for example pharmacologists trying to understand the pharmacology related issues, clinicians working on the same disease but on the directions that will help them to manage the disease better with the available drugs in the market, or sometimes biotechnologists working on a better drug towards the disease and finally business marketers who would be promoting the new drug for the particular disease among both the health care takers as well as the druggists.

All of them might require seeing for the evidences available in large databases of the scientific literature that could help them to brush up with the latest updates on the disease or disease process or even the business prospects. The differences in the domain these people are working with might make them search the database in a different way.

Qinsight™ is an artificial intelligence based search engine from www.quetzal-search.info is restricted to PubMed database which helps in searching the PubMed for existing literature on a particular keyword applied. This search engine pumps out all the available literature from PubMed and categorizes into different categories which is grouped by name concept trends and concept cloud. This advantage of the software itself identifying all the articles that are relevant to the keyword given and categorizing the available literature on the sections such as Anatomy, Practice area, Industry, Disease severity and News topic enables the researcher to understand how many articles are grouped under each category and also if these major categories are clicked into, further categorizations also can be found. Therefore, any researcher who's in dire need to know about the categorized list of research articles on any keyword can interestingly come to know not only the available categories but also the number of literature available exclusively under these categories. This in turn will help the researcher to think of choosing the novel way out of the crowd or to join the population of the research that is more in number so as to get enough background literature to identify the lacunae in order to begin his/her research.

The second interesting feature this software provides is that the concept trends or clouds. All those articles that are categorized under a single keyword is further grouped into clouds of research information available in the PubMed.[1] The size of the cloud or the size of the letters in the concept trend will give enough information on the number of articles that are grouped under each cloud. The bigger the size of the cloud greater is the number of the articles and a complete division of general concept articles and the drug action or drug trial articles are also neatly grouped. All of the above will help a researcher to know where to begin with his new research or even help him the area into which he/she can venture into within a fraction of time after the keyword is fed into this software.

The best part of it in our opinion is the software could even group the negative reports that are available across the PubMed in that search which will definitely aid a researcher a) not to venture into a new research

that could land up in a negative results and b) to find out the reasons behind the failure in those research that landed with negative results. On both way it gives options for the new researcher an idea in a better way as the direction of his/her research can be finalised well in the beginning well before any waste in time, space, energy and money happens. Though there are literature that has compared the Quertle against PubMed to report the advantage and disadvantages at the same time, we opine that we found it to be interesting and useful.[2] Instead of Medical subject headings in PubMed, Quertle uses Power terms. Boolean operators such as "AND", "OR" and "NOT" is not applicable in this search engine, however it is not required as it automatically adds synonyms to the search query, including truncations, verbs and also different languages.[3] The availability of the filter options as seen in other search engines with email reminders on the search made by the researcher is an additional feature.[4]

Finally, Qinsight™ though it is available for a free trial for individuals for a short period, if subscribed by research institutions every researcher can benefit from it, as it saves a lot of time and energy. Moreover very precisely defined research lacunae will definitely help the scientific community to explore the unexplored region in research rather than digging out in the same arena where there are already a lot of evidences and thereby wasting money and time will be prevented. The cautionary note that we wanted to add on is that this platform is only meant for PubMed and hence the search for literary evidence need not be concluded to be a complete one, but the search in PubMed could be completed in lesser time than it would without the artificial intelligence doing everything for us through this software.

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Cite this article: Mohesh G. PubMed Data Mining using AI Based Qinsight™ Platform. Int J Clin Exp Physiol. 2019;6(1):33-4.