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Letter to the Editor

Search Engines in Biomedical Research

Dear Editor,

As the world advances, humans explore with identification, innovations and implementation. The need for every individual to match with time is essential. Learning from past discoveries and building new information has been common in mankind and it will continue forever. With the advent of internet, today any type of information at any given point of time can be accessed and haystack of data can be displayed. The technology for online retrieving information needs various tools, search engines is one of them. Search engines can be coined as the foundation of the internet; they are remotely accessible programs that lead keyword searches on internet. These allows user to ask for information stored at remote locations by entering a keywords which are programmed and updated regularly.

Most of the search engines are designed and updated using algorithms and databases. Medical sciences have seen many advances in course of their age and continue to do so. The field is improved with the inputs from researchers, practitioners and scientists who collate information from all over the world to enhance the efficiency of medical practice and to contribute for new discoveries and inventions. Learning is always from own experiences and others. The available journals, books and other sources should be changed into modern contemporary resources like e-journal, internet databases, websites, repositories, articles, tutorials, books and publications. In order to do so, we need to acquaint ourselves with the internet and strive for maximum usage of tools available on it. Internet is now popular among the medical professionals and patients with huge information related to the diseases and drugs are present.

Searching for medical information on the Web is a challenging task for ordinary Internet users. Medical search engines can be quickest way for the users to find the information related to diseases, causes, symptoms and drugs with data deposited on the

internet. The MeSH [Medical SubHeadings] terminology can be used to access relevant articles and information. It can be defined as a comprehensively controlled vocabulary used for indexing books and journal articles in the field of science. Although, there's a debate on using general search engines for medical sciences, users are not hesitant to use for retrieving relevant information. Sometimes users are not sure about the exact medical situations or unfamiliar with medical terminology and hence this make difficult to search with the right keywords. Medical search engines are designed specifically to overcome this challenge. They use several techniques for the quality search and give the desire results. Medical search engines help users to search using symptoms or with some common information related to diseases.

Google is an open source general and organized search engine can also be used in the field of medicine. It is not just a tool for understanding new illnesses and diagnosis, but it is also useful for clinicians if they no longer remember the diagnostic criteria for particular disease. Google also presents Google scholar a source for clinicians to read the previous literatures published related to medicine, Searches specifically for scholarly literature, including peer-reviewed papers, preprints, abstracts thesis, books, and technical reports from all broad areas of research.

Google Scholar is helpful in finding articles from a wide variety of academic publishers, professional societies, preprint repositories and universities, as well as scholarly articles available across the web. Google is commonly used search engine but it is not only one available, there are many search engines available having own advantages with different approaches. For example MSN [Microsoft Networks] makes complex queries easier. Yahoo's creative

Quick access Code



content feature recognizes the input keyword and tries giving desired results. With the advancement of technology, modified and more organized search engines are in to existence which takes only medical related queries and more organized output related to it.

Pubmed is an open source search engine it access Medline database for references and literatures related to medical and life sciences. MedlinePlus provides health information to health professionals and consumers from the world's largest medical library- The National Library of Medicine [NLM]. It has extensive information from the National Institutes of Health and other trusted sources on over 700 diseases and conditions, and links to thousands of clinical trials. Pubmed is managed by United States National Library of Medicine and National Institute of Health [NIH] and the database is part of entrez system of information retrieval. Pubmed comprises of more than 23 million citations for literature from MEDLINE, life science journal and books. Simple searches on PubMed can be carried out by entering key aspects of a subject into PubMed's search window. Like Pubmed there are many other search engines providing access to many peer reviewed journals like BioMedCentral and CrossRef.

The information about the human genes required for clinicians to diagnose and treat the genetic diseases can be accessed using OMIM (Online Mendelian Inheritance in Man). OMIM is an organized database of human genes and genetic disorders. It can also be accessed through MedMaster's Atlas of Human Diseases. The other search engine dealing with genetics is Genetics Home Reference, the National Library of Medicine's web site for consumer information about genetic conditions and the genes or chromosomes responsible for those conditions.

Medical search engines help in study of disease conditions, prevention and control. Centers for Disease Control and Prevention are open source engine on Public health literature on the prevention and control of infectious and chronic diseases, injuries, workplace hazards, disabilities, and environmental health threats. ClinicalTrials.gov offers up-to-date information for locating federally and privately supported clinical trials for a wide range of diseases and conditions. HealthCentral is the other organized search engine containing a doctor-approved health encyclopedia of diseases and conditions, the ability to find symptoms and treatments with drug information with side effects and interactions. Cochrane engines are considered the most evolved for evidence-based medicine. Essential Evidence Plus involves the latest and most updated summaries of

organized reviews from the Cochrane Library, which are the most advanced and reliable applications of medical therapies available. Clinicians will find summarized works of the world's best literature on the results of therapy for more than 3,500 clinical problems.

In addition to above list, yet few more search engines are NIH.gov of National Institute of Health provides information on funding, training, clinical trials, diseases etc. Medterms.com represents glossary of medical terms, Mayoclinic.com assist in giving patient care, diseases education information. MedicineNet.com gives medicine information, medical term glossary procedural guides and quizzes. Drugs.com provides prescription drug information to users. CDC.gov is centers for Disease control and prevention reliable information on major health related topics. Medscape.com free online resource for physicians. MedHelp.org connects peoples with leading experts with other peoples with similar experiences. eMedicineHealth.com gives consumers health help.

Despite the quality of online information relating to medicine, it is evident that medical search-engines are better than general search-engines in sourcing consumer information relevant to disease diagnosis, prevention, control and treatment. Reader necessarily search suitable search engine as per their perspective.

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