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Investigating the Health Information Literacy Knowledge of Health Care Students as an Essential Next Step in Medical and Health Professional Training

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Abstract

Health information literacy, the ability for individuals to access, evaluate and understand health information successfully and use it to make decisions regarding their health, is a growing subject of research. Widespread access to information particularly via the World Wide Web, has provided information seekers with unprecedented access to resources, however, there is also the potential for access to invalid material. This can especially be problematic for people who find and utilize harmful medical materials. In the medical field, there has been a marked shift toward evidence-based practice (EBP), meaning using valid evidence and reviewing the existing research to ensure that best practices are being incorporated and followed. Health information literacy has been described as a cornerstone and prerequisite to EBP. Healthcare practitioners with these skill sets should be better prepared to make clinical decisions and also guide patients to the best resources they need to understand their health condition. As such, health information literacy should be valuated and included in prospective health care professionals' training.

Keywords: *Information Literacy, Health Information Literacy, Health Care Training, Nursing Training, Medical Training, Electronic Health records, Evidence-Based Practice.*

Introduction

Health information literacy is described by the Medical Library Association as: "the set of abilities needed to: recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; analyze, understand and use the information to make good health decisions"[1]. Described differently, health information literacy can be regarded as the ability of information consumers to comprehend medical information and use it to make their health care decisions[1]. The availability of non-peer reviewed and non-authoritative material has produced problems with reliability, as there has been a deluge of information published from sources for which trustworthiness remains in question. According to an IBM study, 90% of the information on the internet has been produced since 2016; in a different study it was predicted that medical knowledge in particular will double every 73 days by 2020[2,1].

Methodology

This article summarizes and references the results from a brief review of the literature related to "health information literacy" which is still a relatively new term, and was very scarcely referenced in the literature. The author used Google Scholar and the University of Wisconsin-Milwaukee (UWM) Library database because of access. This literature review started with a general search of "health information literacy" which returned 2,250 records via Google Scholar and 625 results using the UWM library catalog. This was a very large number of results, and since the search mechanisms scanned within the content, there were a large number of materials returned that contained the subject words "somewhere" within the text, but whose subject matter was not principally related to the information need. The search string was further limited to "health information literacy" NOT "health literacy" using Boolean operator "NOT" to further exclude"health literacy" articles since they are slightly different concepts. The new string

returned 1,040 records via Google Scholar and 319 results using the UWM library catalog. Ultimately, many of the articles still discussed "health literacy"; articles matching this phrase were excluded. Ultimately n=14 records were primarily consulted, and n=9 directly cited.

Discussion

Healthcare professionals are charged with having awareness of research that is multiplying very quickly[3]. It is necessary to address this growing body of work, since healthcare professionals, as well as, general health information seekers, need to understand how to navigate it[4]. Previously, limited access to healthcare information was a barrier to health information seekers finding and utilizing dependable material[5].At present, there is what can be considered much more accessibility; however, there is simultaneously, increased access to questionable resources[5]. Research has shown that clinical evidence versus non-reviewed information available on the internet, varies significantly, with the later showing significant association with false and even harmful material based on that study's findings[5]. As a result, it has been concluded that information seekers are at much more risk to find information lacking authority when using a search engine like Google in comparison to a library database[5]. The availability of peer-reviewed literature versus articles published on the Internet is differentiated by the former being expectantly reviewed by subject matter experts, while the later, can widely be published without examination, and even be published by unknown authors[5]. Investigators suggest it is important for information seekers to understand the limitations of completing a general search through a search engine[6]. Researchers have also found that health information seekers tend to place emphasis on finding information quickly, rather than evaluating the material they find[5]. It was also concluded that the volume of health information available does not always result in the ability of the information seeker to make an informed decision regarding their health[5]. While it may be true that not all peer-reviewed materials present correct conclusions, as it is common knowledge that there are revisions, health information seekers are arguably at greater risk of accessing detrimental information when relying on general Internet searches rather than using regulated materials[5].

Navigating the information landscape is vital to helping patients and to clinical practice as well[4]. Information deluge has been noted by practicing health care professionals in such areas as the electronic health record (EHR), and when seeking supplements for diagnosis and treatment[7]. In addition, healthcare professionals are largely expected to understand and implement evidence-based practice (EBP) whose steps are considered to include: understanding the question, locating information that will help solve it, reviewing the evidence, applying it, and reviewing the result(s)[4]. It is ever more critical for healthcare professional students to develop information literacy skills and the ability to integrate research into their practice, a goal that should ideally be attempted before they start practice[8]. Evidence has shown that students who partake in information literacy curricula perform better on health information literacy assessments, achieving higher scores, than those who do not[8]. The literature has shown that students lack knowledge associated with information literacy skills, and that students' self-reported knowledge of health information competencies does not necessarily match their performance[5,8,9]. The extant literature has also shown that health information literacy is a growing area of interest in the health field as indicated by the still growing body of research being published[9]. Investigators suggest that integrating information literacy into the nursing curricula will help students with understanding when information is needed, and with finding, reviewing, and using information resources[6]. Due to these evidences, this paper suggests that the health information literacy knowledge of students along the spectrum of the healthcare profession be evaluated by survey or questionnaire, in order to provide a benchmark to stakeholders who might be interested in addressing any knowledge gaps in the curriculum[6]. While there are many tests for evaluating regular information literacy, very few have been customized to evaluate health information literacy more specifically; this paper argues for the adaptation of existing information literacy instruments, or the creation of novel mechanisms for measuring these skills.

Conclusion

Health information literacy skills are very much needed by health information seekers in the present-day information landscape, which includes massive volumes of material and data. It is vital that gatekeepers of health information, such as health care professionals, use and assist patients with health-related evidences. Health care professionals might, for example, caution patients to wait to validate material located through general searches by seeking material that has been authenticated. Patients

could also be encouraged to interact with healthcare professionals to discuss their unresolved questions, and work with healthcare librarians, or other specialists, as a vital part of their research. Health care professionals should also be able to locate, evaluate and use healthcare materials clinically while meeting standards of practice that are evidence based; they should also have knowledge of how to successfully use medical databases. There are significant arguments that health information literacy curriculum be made formally and intentionally part of the competencies that future healthcare professionals are required to learn. Evaluation of health information literacy scores can begin to help stakeholders understand the extant skills or limitations of students' whom represent the future of the health field.

Ethical Clearance: Hereby, I, Kimberly N. Howard consciously verify that for this manuscript "Investigating the Health Information Literacy Knowledge of Health Care Students as an Essential Next Step in Medical and Health Professional Training" the following is fulfilled: 1) This material is the authors' own original work; it has not been previously published elsewhere. 2) The paper is not currently being considered for publication elsewhere. 3) The paper reflects the authors' own research and analysis in a truthful and complete manner. 4) The paper properly credits the meaningful contributions of co-authors and co-researchers. 5) The results are appropriately placed in the context of prior and existing research. 6) All sources used are properly disclosed (correct citation). Literally copying of text must be indicated as such by using quotation marks and giving proper reference. 7) All authors have been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.

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