Editorial

Knowledge and Health Literacy

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Even though the first use of the phrase 'health literacy' in the peer-reviewed academic literature occurred in 1974 by Scott K. Simonds (Professor of Health Education, Department of Health Behavior and Health Education, University of Michigan, School of Public Health at Ann Arbor), health literacy is a distinctive concept of health education as a policy issue and indicated school health education in relation to health literacy development. Schools have been seen to be responsible for delivering fundamental health information on different health topics, such as safety, nutrition, physical activity, hygiene, etc. This early use of the concept of health literacy demonstrates an interconnection between health education and health literacy[1].

During the 1970s, several theories of behavior change were developed to guide educational programs. Many health education programs were found to be effective only among the most educated and economically advantaged in the community. It was assumed that these groups had higher levels of education and literacy, personal skills and the economic means to receive and respond to health messages communicated through traditional media. Theories have helped to identify and explain the complex relationships between knowledge, belief and perceived social norms, and provide practical guidance on the content of educational programs to promote behavioral change in a given set of circumstances. Social marketing later evolved as a technique for influencing social norms and behavior in populations[2]. Creative approaches to the analysis of issues and the development of social marketing in health education programs, especially in relation to the communication of information, have been created. As a consequence, health education programs have evolved in their sophistication, reach and relevance to a wider range of groups in populations.

Despite this progress, communication and education interventions have mostly failed to achieve substantial and sustainable results in terms of behavior change, and have made little impact in terms of closing the gap in health status between different social and economic groups in society.

In the 1990's, 'new public health' encapsulated the key action areas of the Ottawa Charter: building healthy public policy, creating supportive environments, strengthening community action, developing personal skills, and reorientating health services. The term 'health promotion' describes the health education interventions and related organizational, political, and economic interventions that are designed to facilitate behavioral and environmental changes to improve health. As a result of the failings of educational programs in the past, the role of health education as a tool in the 'new public health' promoted by the Ottawa Charter has been somewhat downplayed.

The Institute of Medicine[3] (US) Committee on Health Literacy, in 2000, documented that tens of millions of U.S. adults were unable to read complex texts, including many health-related materials. Doctors and nurses also used jargon when communicating with patients, which made patients and family members reluctant to ask questions for fear of being perceived as ignorant. Problems are worse in this digital era and the multicultural and globalized society. Clear communication is critical to successful health care. Therefore, health literacy means enabling patients to understand and to act in their own interest. Moreover, access to education and information is essential to achieving effective participation and the empowerment of people and communities. People at the center of health promotion action and decision-making processes are essential to sustain efforts. This process refers to 'Health Literacy'.

In 2000, Nutbeam[4] challenged the approach of health education which has often been considered in a rather limited way as contributing only to improvements in individual knowledge and beliefs about risk factors for disease, and as having only a limited role in promoting behavior change in relation to those risk factors, social determinants of health, and the evidence in promoting health by using an appropriate measure of health outcome. Health literacy has been believed to be a stronger predictor of health outcomes than social and economic status, education, gender, and age[5]. Research publications began appearing in the academic peer-reviewed literature in earnest in the early 1990's and have experienced nearly exponential growth since that beginning[6].

The concept of health literacy has emerged as naturally complementary to this original commitment[7] and was first referred to in the 2005 WHO Bangkok Charter and formed a core strategy of the most recent 2016 Shanghai Declaration on promoting health in the 2030 Agenda for Sustainable Development. This declaration recognizes "health literacy as a critical determinant of health"; that health literacy "empowers individual citizens and enables their engagement in collective health promotion action"; and states that "health literacy is founded on inclusive and equitable access to quality education and life-long learning. It must be an integral part of the skills and competencies developed over a lifetime". The Declaration commits the WHO to "develop, implement and monitor intersectoral, national and local strategies to strengthen health literacy in all populations and in all educational settings". Public health literacy has also emerged to address a broad array of factors such as poverty, a globalized way of life and climate change. In conclusion, health literacy refers to an individual competency, while public health literacy refers to complex, ecological and systemic forces affecting health and well-being[8].

Health literacy models have been proposed by many groups of experts and can be summarized in the timeline below:

Timeline of Health Literacy Development and Approach

Year, Model	Description
1974, Social policy model	Health literacy should be a case for school health education with the intention that pupils would not only be educated in the customary curriculum subjects, but might become as `literate' in health as they were, for example, in history and science[9].
1995, Literacy model (reading and writing abilities)	Derivative of literacy model (reading and writing abilities) is based upon skills in reading and numeracy[10-12].
1985, Literacy model applied to a clinic/hospital setting (reading and writing abilities)	Clinical health literacy: A narrow understanding of health literacy that emerged from clinical observations related to the gap between patient reading abilities and health education materials[13].
2002, Behavior sciences model - not sufficient for enhancing health literacy	Health behavior approach posits health knowledge is necessary but not sufficient for behavior change. Concepts such as self-efficacy, motivation, intention and empowerment have been developed through theory in an attempt to predict and facilitate behavior change. Health literacy shares many similarities with these concepts, but must be defined distinctively[14].
2002, Health literacy should bring about "positive health" model	Literacy is healthy and illiteracy is unhealthy. Being literate is one component of general fulfilment and therefore part of `positive health', but more usually a lack of literacy has been associated with the prevalence of disease and failure to take measures to prevent it[15]. Additional theoretical development and application is needed to further advance the evolving concept of health literacy, particularly how it relates to other concepts of health behavior change.
2004, Health literacy as a health outcome model	In a health care setting, patients with low health literacy generally have lower levels of screening and medication adherence rates as well as poorer health outcomes[16, 17].
2004, Health literacy as culture, language and health service model	Definition of health literacy has expanded to take on a health promotion perspective. This perspective defines health literacy as the capacity to obtain, process and understand basic health information and services required to make informed decisions that will allow health-enhancing actions at the individual, social, and environmental levels[3].

Timeline of Health Literacy Development and Approach (cont.)

Year, Model	Description
2008, Health literacy as a cognitive and social skill model	Health literacy is the cognitive and social skills needed to communicate and articulate health needs and preferences[18].
2010, Health literacy as an asset model	Health literacy is viewed as an asset and a capacity that can be used to navigate through a complex health care system as well as in the broader health environment outside of the clinical context[19-21].
2005-2012, Health literacy expanded model	Framework that recognizes the dynamic nature of sciences, literacy, culture literacy and civic literacy[22,23].
2013, Health literacy solid facts model	Solid facts health literacy model viewed a wider and relational whole-of-society approach to health literacy which considers both an individual's level of health literacy and the complexities of the contexts within which people act[24].

Based on the timeline of health literacy development, Pleasant[25] reflected that the clinical approach has aggressively pursued development of diagnostic tools of health literacy for clinical settings, and the public health approach has made more progress in the development of conceptual frameworks and theories of health literacy. The clinical and public health approaches to health literacy offer differing conceptualizations of the relationship between knowledge and health literacy. This difference reflects the core activities in clinical and public health contexts. Much of the clinical encounter is focused on obtaining information about disease and from the patient, whereas public health work focuses on delivering information such as knowledge of safe sex practices, abstinence to prevent HIV/AIDS, or the use of oral rehydration solution to prevent dehydration from diarrhea. The public health approach to health literacy sees acquisition of health knowledge as an integral part of health literacy rather than a separate outcome[4,22,26,27]. Alternatively, Baker[28] argued from a clinical perspective that knowledge is a resource in individuals that "facilitates health literacy but does not in itself constitute health literacy".

In addition, Nutbeam[4] theorized health literacy as an outcome of health promotion and explicitly placed knowledge into a model of health literacy by defining functional health literacy as a basic understanding of factual health information. Nutbeam[4] defines two further levels to health literacy: interactive health literacy and critical health literacy, which respectively reflect cognitive, literacy and social skills helping individuals to interact and become able to critically analyze and apply health information to gain control. Recent research publications in Thailand and Vietnam have also introduced 'Distributed Health Literacy' which refers to caregiver's health literacy which facilitates the health literacy of other people[29]. Finally, Zarcadoolas

et al.[22] provide a comprehensive approach to health literacy that includes a public health perspective by identifying fundamental, scientific, civic and cultural domains of health literacy and defining the acquisition, understanding, evaluation and use of knowledge or information as an integral component of health literacy.

The role of knowledge in health literacy is still unclear. Abel[30] conceptualized knowledge as the core of health literacy by describing health literacy as a "knowledge-based competency for health promoting behaviors". However, if we consider the Ottawa Charter, there is no knowledge component but there is a personal skill component, therefore it is possible to translate 'knowledge' into 'information' in the Health Literacy Approach. This argument needs more research support. What is most acceptable and agreed upon among professionals who conduct health literacy and public health literacy is the multicomponent or contextual component and the health outcome component. Therefore, in measuring the success of the program or policy, we need to measure the number of health literate people on the positive change of their health status rather than the level of knowledge change.

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