Global Scientific JOURNALS

GSJ: Volume 12, Issue 12, December 2024, Online: ISSN 2320-9186
www.globalscientificjournal.com

A SYSTEMATIC REVIEW OF FOUNDATIONAL DEFINITIONS OF HEALTH LITERACY

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Abstract

The aim of this review was to synthesise operational definitions and concepts of health literacy for students and researchers. A comprehensive review incorporating qualitative syntheses was conducted. Included in the analysis were studies that focused on health literacy in various situations. The studies conducted prior to Aug 10, 2024 were retrieved from PubMed, Medline, Embase, Web of Science, Scopus, PsycARTICLES, and the Cochrane Library. The collection provided definitions of health literacy and in addition, a comprehensive description of health literacy. A total of 29 original research matched the criteria for inclusion. Health literacy was widely understood as a collection of knowledge, a set of abilities, or a hierarchy of functions (functional-interactive-critical). From the review, health literacy encompasses three main themes: (1) expertise in health, healthcare, and health systems; (2) proficiency in processing and utilising information in different formats associated to health and healthcare; and (3) the capability to maintain personal health through collaboration with healthcare practitioners and self-management. Health literacy therefore refers to an individual's capacity to acquire and comprehend information and knowledge, enabling them to effectively maintain and enhance their health in a manner that is suitable for both the individual and the surrounding system. This definition emphasises the variety of requirements among individuals and the significance of interactions among individual customers, healthcare professionals, and healthcare systems.

Keywords: Health literacy, developed and developing countries, health systems, self-management

Introduction

Health literacy has been defined severally. In summary, it they encompass the ability of a person to obtain health and related information, process the information and in addition, navigate the complex requirements for developing and sustaining good health effectively in contemporary culture (Rowlands et al., 2017). It is a concept that has progressively become prominent due to the benefits to all levels of health; global, population, public, community and personal. In view of the current alarming prevalence of Non Communicable Diseases (NCDs), the re-emergence of some communicable (CDs) and associated health costs, it is imperative to empower individuals to take greater responsibility for their health and to make effective use of healthcare resources, as the surest option to avert negative health outcomes (Luna & Luyckx, 2020). Several developed nations, including the USA, Canada, Australia, the European Union, and China, have advanced in health literacy and this achievement has manifested in overt policies and practices (Levin-Zamir et al., 2017). Health literacy is advocated by the WHO as a means to accomplish the important objectives outlined in the Sustainable Development Goals.

Although the significance of health literacy for human health has been recognised and extensively studied in recent decades, there is still a lack of agreement on the precise definition of this notion (Liu et al., 2020). It appears, this research question has frequently been disregarded but there are multiples of published studies that underscore the importance of health literacy as an important construct in the context of delivering and achieving positive health and outcomes. The idea of health literacy appears to be highly adaptable, enabling individuals to define health literacy in various and diverse ways. The challenge with this kind of approach presents challenges to students and researchers. There are more than 250 distinct definitions found in the scholarly literature. The lack of consistency and clarity in understanding health literacy is likely to delay the development of reliable and valid assessments, the proper evaluation and comparison of health literacy programs, and the synthesis of data to support strategies to improve health literacy (Sun et al., 2019). Moreover, the lack of clarity surrounding the idea is likely to result in fragmented and perhaps conflicting results, which could undermine the creation and execution of reliable and impactful interventions and policies connected to health literacy.

This study sought to collate and synthesise definitions of health literacy by conducting a comprehensive review and qualitative analysis of previous studies conducted in various settings, in order to facilitate its understanding and usage by students and researchers.

Methodology

Search strategy and selection criteria

The search approach was modified by incorporating insights from a prior comprehensive analysis, employing a blend of specific terms like 'health literacy', 'definition', 'concept', and others. This systematic review conducted a comprehensive search in several databases such as “PubMed, Medline, Embase, Web of Science, Scopus, PsycARTICLES, and the Cochrane Library”. The search was limited to publications published between 1 January 2017 and 10 Aug 2024. This timeframe was chosen because the previous systematic review only evaluated literature published before to 2017.

The author has separately reviewed the title, abstract, and complete texts of the obtained records, comparing them to the inclusion and exclusion criteria. The literature provided either had a clear intention for defining the notion of health literacy or indirectly contributed to people's comprehension of health literacy. This includes studies that examined the components of health literacy. Studies that lacked a theoretical exposition of the idea of health literacy, did not contribute to the conceptualisation of health literacy, or were not written in English were removed from the analysis. Further investigations were discovered at this phase by carefully examining the references of the literature that was included.

Data Analysis

A data collection chart was created to facilitate the extraction of bibliographic information and the outcomes of the concept of health literacy in the studies that were included. The bibliographic material encompassed the study's aims and methodologies, such as the rationale and location of the study, the participants involved, and the procedures for data collection and analysis. The outcomes of the concept of health literacy centred on the fundamental constructs and significance of health literacy. The two sets of charts were compared and combined through group discussions. A semigrammatical coding approach was used to conduct a data-driven theme analysis (Jovanović & Bagheri, 2017). Braun and Clarke (2022) outline a four-step process, which includes data familiarisation, initial coding, looking for themes, and reviewing and labelling those themes.

The clustering process primarily relied on the codes designated as 'cores', while also taking into account additional codes included in each sentence. The reviewer has separately performed steps 1 and 2, and their findings were verified and resolved through talks. Steps 3 and 4 were executed collectively.

Results

Characteristics

A grand total of 18000 records were obtained from the databases, and subsequently, 2368 duplicate entries were eliminated. Following the evaluation of titles and abstracts, a total of

589 articles were selected for a comprehensive assessment of the entire text. Out of the total number of reviews, 321 studies were excluded from our analysis for the following reasons: 194 studies lacked a clear understanding of the concept, 139 studies relied on existing conceptual frameworks for interpretation, 3 studies did not provide any interpretations of the concept, and 33 studies were excluded because they were published in languages other than English. Subsequently, we incorporated the 28 papers that were encompassed in the two preceding systematic reviews. An additional study was discovered through the process of evaluating references. As a result, this systematic review had a final sample size of 29 (figure 1).

Out of 29 articles, 18 articles examined the idea of health literacy in the general population (Garcia-Codina et al., 2019; Pelikan & Ganahl, 2017; Schaeffer, Berens & Vogt, 2017; Pelikan, Straßmayr & Ganahl, 2020; Aygun & Cerim, 2021; Svendsen et al., 2020; LA Fauci et al., 2022; Berens, Pelikan & Schaeffer, 2022; Ishikawa, Kato & Kiuchi, 2021; Schaeffer et al., 2021; Pelikan, Ganahl & Roethlin, 2018; Lastrucci et al., 2019; Protheroe et al., 2017; Van Der Vaart & Drossaert, 2017; Rademakers & Heijmans, 2018; Panagioti et al., 2018; Krohne et al., 2022; Li et al., 2022), while the remaining studies specifically targeted children and adolescents (Attygalle, Perera & Jayamanne, 2017; Peralta et al., 2017; Bröder et al., 2020), elderly individuals (Van Hoa et al., 2020; Deniz, Özer & Sonğur, 2018), patients with chronic illnesses (Jacobs et al., 2017; Jansen et al., 2018; Shrestha et al., 2018), cancer carers (Simmons et al., 2017; Kemp et al., 2021), and individuals with limited proficiency in the English language (Foiles Sifuentes et al., 2020). The majority of studies embraced a comprehensive and inclusive definition of health literacy, without confining it to a particular health subject. However, eight research examined the concept of health literacy within specific contexts, including public health, sexual health, complementary medicine, linguistic communication of information, functional health, and critical thinking (Attygalle, Perera & Jayamanne, 2017; Peralta et al., 2017; Bröder et al., 2020; Pelikan, Ganahl & Roethlin, 2018; Lastrucci et al., 2019; Protheroe et al., 2017).

All the articles were original in nature. The former conducted various analytical methods, such as idea analyses, concept mapping, theme analyses, grounded theory analyses, semigrammatical analyses, or framework analyses, on qualitative data obtained from documents, interviews, or focus groups. The latter were predominantly opinions expressed by specialists, with minimal insight into the process of conceptualisation. The theoretical research was mostly published prior to 2023, during the initial phase of debates surrounding the concept of health literacy. Subsequently, empirical research has been the prevailing focus in the literature.

Determinants of Health Literacy

The thematic analysis identified three important themes that accurately describe the different models used in the research. These included: (1) expertise in health, healthcare, and health systems; (2) proficiency in processing and utilising information in different formats associated to health and healthcare; and (3) the capability to maintain personal health through collaboration with healthcare practitioners and self-management.

(1) expertise in health, healthcare, and health systems;

This particular theme pertains to the comprehension of factual data regarding health and can also be categorised into four facets, specifically medicine knowledge, health knowledge, health systems knowledge, and science knowledge (Garcia-Codina et al., 2019; Pelikan & Ganahl, 2017; Schaeffer, Berens & Vogt, 2017). Medical knowledge pertains to the comprehension of information within the medical domain, encompassing medications, treatments, and various health conditions. Knowledge of health is directed towards the understanding of information relating to general health in typical life situations, including healthy behaviours, life processes, health terms, and public health (Pelikan, Straßmayr & Ganahl, 2020; Aygun & Cerim, 2021; Svendsen et al., 2020; LA Fauci et al., 2022; Berens, Pelikan & Schaeffer, 2022). Knowledge of healthcare systems encompasses knowledge of the basic structure of a health system and services available within it that would enable a person to function inside the health system of their country efficiently and productively (Ishikawa, Kato & Kiuchi, 2021; Schaeffer et al., 2021; Pelikan, Ganahl & Roethlin, 2018; Lastrucci et al., 2019). Finally, knowledge of science refers to shared understandings of key scientific ideas and the ability to critique scientific issues.

(2) proficiency in processing and utilising information in different formats associated to health and healthcare

This theme emphasises the ability of people to access, understand, and use information on health and health care, processing the information to make appropriate health decisions. The concept can be sub themed as: the ability of analysis and use of information in forming health-related decisions, confidence and competence in analysing and using health information, active dissemination of consistent health information in a consumer-friendly language, and availability of resources and support for the analysis of information (Protheroe et al., 2017; Van Der Vaart & Drossaert, 2017; Rademakers & Heijmans, 2018; Panagioti et al., 2018; Krohne et al., 2022; Li et al., 2022).

This subtheme refers to the array of complex skills required for managing and using information in health-related activities. Literature available generally accepts it as one of the key components of health literacy. It also includes some more specialised skills in searching,

understanding, interpreting, communicating, combining, and applying health-related information (Berens, Pelikan & Schaeffer, 2022; Ishikawa, Kato & Kiuchi, 2021; Schaeffer et al., 2021; Pelikan, Ganahl & Roethlin, 2018; Lastrucci et al., 2019). It enables a health-literate consumer to find and obtain written material; identify appropriate sources for help, understand the importance of the information obtained, and critically assess its reliability, scientific basis, and relevance to life circumstances. The competency also facilitates communication to others of the information acquired by the consumer and the representation of his/her own wishes clearly (Attygalle, Perera & Jayamanne, 2017; Peralta et al., 2017; Bröder et al., 2020; Van Hoa et al., 2020; Deniz, Özer & Sonğur, 2018). For operation at the individual and societal levels, one requires the ability to analyse, differentiate, evaluate, and integrate relevant information in order to be able to utilise such knowledge effectively in making decisions.

Self-confidence is defined as a belief that one can express an opinion in an assertive way, question health professionals, and ask questions to clarify fully in order to understand health information. Accountability represents one's attitude and readiness to take responsibility for one's health and to be involved in managing it actively (Jacobs et al., 2017; Jansen et al., 2018; Shrestha et al., 2018). Self-efficacy refers to the degree by which people believe that they have the capacity to exercise control over their health and to use health information effectively in personal health actions.

(3) the capability to maintain personal health through collaboration with healthcare practitioners and self-management.

This domain concerns a person's ability to mobilise and use appropriately their information management knowledge and skills for the effective management of situations of health and illness. It often necessitates the integration of self-management with that provided by, or in liaison with, health professionals and depends on skills in the areas of self-regulation, goal attainment, and interpersonal communication (Simmons et al., 2017; Kemp et al., 2021). Underpinning self-regulation are the cognitions of self-perception, self-reflection, and self-control. Self-awareness involves being conversant with one's position and likes and dislikes. Self-reflection involves taking a critical look at the self. On the other hand, self-management means that one can exert some controls over one's own thoughts, feelings, and behaviours. Through self-regulation, one gets to obtain personalised information and apply it appropriately (Attygalle, Perera & Jayamanne, 2017; Peralta et al., 2017; Bröder et al., 2020). Goal setting ability is the various abilities that allow an individual to formulate important health goals, adopt methods, and ultimately achieve the goals. Interpersonal skills are the ability to understand,

appreciate, actively listen to, and clearly communicate and maintain a smooth relationship with people.

Discussion

This study involved the synthesis of findings from 29 articles. It was discovered that health literacy is often perceived as a collection of knowledge, a collection of skills, or a hierarchy of functions (functional-interactive-critical). Health literacy originated as a notion linked to an individual's capacity to acquire information and knowledge to facilitate health-related behaviours. The cognitive capacity of an individual to analyse and utilise information in order to inform health-related behaviours has been a significant focus of research.

The understanding of health literacy has been developing during the past decade. The inquiry began with a scepticism regarding the practicality of 'information and knowledge', as it is possible for an individual with extensive knowledge to be unable to actualise the advantages of the information or knowledge they possess. Consequently, certain academics suggested incorporating self-efficacy into health literacy. Self-efficacy refers to an individual's belief in their ability and readiness to utilise information and knowledge to take activities related to their health. Several academics have suggested an extended scope for the concept of health literacy, surpassing its current limitation to individual capabilities. Health information is typically generated by healthcare experts, with consumers being perceived as passive beneficiaries of this knowledge. The terminology and phrasing employed by healthcare providers can frequently be challenging, if not unattainable, for consumers to comprehend. This has led to significant irritation in the interaction between healthcare providers and customers, which has prompted demands for more involvement of consumers in the compilation and distribution of knowledge information.

Various studies have investigated the significance of health literacy from the viewpoints of many communities. Contrary to the theoretical analyses conducted in the early stages, these investigations provide empirical data to support the recommendation for a revision in the understanding of health literacy. The primary objective of developing health literacy is to enable individuals to effectively preserve their well-being via the use of learnt information and knowledge. This necessitates individuals to comprehend their own capabilities and circumstances and collaborate with others in order to attain optimal results. It is in this regard for instance that the UK evidence indicates that the majority of patients, carers, and health staff view health literacy as a comprehensive product of the entire system, rather than a characteristic of people, becomes relevant. Edwards and others also contended that individuals can get knowledge from others without needing to engage in the complete information processing procedure. When an individual receives care and support from their family, employer, health

facility, and community, the significance of group health literacy becomes even more crucial compared to individual health literacy.

Conclusion

Health literacy is often defined as a collection of knowledge, skills, or a hierarchy of functions (functional-interactive-critical). Health literacy is conceptualised as an individual's capacity to obtain and understand knowledge and information in order to improve and sustain their health, considering their own conditions and the wider healthcare system. This study has various limitations. Initially, the literature considered was restricted to publications written in the English language. Furthermore, the papers did not undergo quality assessment due to a general absence of comprehensive method descriptions, despite the inclusion of highly referenced and prominent publications. Some of the studies included in the analysis made an effort to ensure quality by implementing clear recruitment strategies, detailed data collection processes, justifying their chosen method/design, and critically examining the researcher's role in the studies. With the publication of increasingly extensive studies on 'health literacy' and the inclusion of quality assessment in the synthesis of qualitative studies, we will soon be able to get a more comprehensive understanding of the topic. Furthermore, the current study suggests that the proposed examination of the definition of health literacy, in this review still requires further enquiry. However, it provides health literacy definition perspectives that students and researchers can utilize in understanding health literacy literature and data.

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Appendices

Appendix 1: Themes

Key themes	Sub-themes	Contents	Quotes (Examples)
Knowledge of health, health care and health systems	/	1. Knowledge of medicine 2. Knowledge of health 3. Knowledge of healthcare system 4. Knowledge of science	• The construct (health literacy) includes cultural and conceptual knowledge that could include an understanding of health and illness and a conceptualization of risks and benefits; • (Information appraising involved) knowledge about health relevant behaviours and healthy lifestyle and basic knowledge about physical and mental health and illness; • (Health care system knowledge and acting included) knowledge of rights and chances within the health care system; knowledge of who authorizes medical drugs and under which conditions these are authorized; proficiency on basic structures of the health care system; • Science literacy refers to levels of competence with science and technology, including some awareness of the process of science.
To what extent people can process and use information in various formats in relation to health and health care	**Ability to process and use information to guide health actions**	1. Basic skills 2. Information obtaining 3. Information understanding 4. Information appraising 5. Information communicating 6. Information synthesising 7. Information applying	• Health literacy, as defined in this report, includes a variety of components beyond reading and writing, including numeracy, listening, speaking, and relies on cultural and conceptual knowledge; • A critical ability was knowing when to seek health information to determine if a health issue required immediate attention or could be self-managed; • Communicative/interactive literacy—more advanced cognitive and literacy skills which, together with social skills, can be used to extract information and derive meaning from different forms of communication. • Functional health literacy abilities included: 1) understanding basic health concepts; 2) comprehending the relationship between health behaviors and health outcomes; • (Information appraising contains) ability to consider context information when considering opinions given by experts, ability to reflect chances and limitations of medical science and health science; ability to assess the content of a study, ability to evaluate the importance of health promotion activities;
	Self-efficacy in processing and using health information	1. Self-confidence 2. Accountability	• Linked to effective communication was the need for assertiveness to facilitate understanding of information. This was a stronger theme to emerge from participants with a chronic disease. Participants described the importance of actively clarifying information so they are able to fully comprehend the nature of the health issue and make informed choices; • (Preventive care contained) attitude/perception of need to visit doctor during periods of wellness; • (Attitude towards disease contained) learn to accept and live with your disease and acceptance of condition; (Attitude towards patient approach contained) willingness to take personal responsibility and interest in own health;
	Provision of information (active engagement in dissemination of consistent information in a language that is appropriate to consumers)	1. simplicity, consistency and accuracy of the presentation and dissemination of health information	• Health-related print and oral literacy depend upon an individual's health-related reading fluency, health-related vocabulary, familiarity with health concepts presented in materials or discussed, and the complexity and difficulty of the printed and spoken messages that a person encounters in the healthcare environment. • The uncertainties and inconsistencies of scientific evidence make it difficult for providers to communicate sexual health information, and leads to gay men getting different advice for the same topic…. Agencies are focused on and good at delivering "bad news" or disease, but focus less on "good news" or health (and are less experienced in doing so); • (The definition of information presented in quality is that) information presented in simple, clear language and in a variety of formats to enable greater access to, and understanding of, health information;

	Access to resources and support for processing and using information	1. Access to health information and information infrastructure 2. Information support from healthcare providers 3. Information support from social networks 4. External resources	• (Context of access to information included) access to information; physical access to information services; adaptive equipment to access computer/library; access to medical dictionary; (Finances contained) access to a healthcare plan; (Context of health system covered) access to public health/free healthcare; • This level of effective interaction is not only dependent on the skills of the individual but also on the skills of the professional who must be able to explain things clearly and provide information that is appropriate for patients. This was a theme that was only touched upon within the academic literature but which was central to the colloquial sample who stressed that critical health literacy would only exist if there was a commitment from health practitioners to provide accessible information and to engage in shared decision making. • (The definition of social support is) family, friends and/or broader community groups who provide informal emotional, social, and/or informational support; • (Definition of finances and legal support is that) availability of financial and legal support for caregivers from the government and/or community to assist in their caregiving role.
Ability to maintain health through self-management and working in partnerships with health providers	/	1. Self-regulation ability 2. Goal achieving 3. Interpersonal skills	• The ability (self-reflection) covers being able to become conscious of one's own feelings, needs, motives, values, attitudes, and experiences, plus their relation to one's own ways of behaving in a health-enhancing way. • (Self-regulation involved) the ability to self-regulate oneself and the adequate strategies at one's command; ability to deal with stressful and frustrating experiences; ability to protect oneself; discipline and self-control; ability to control needs and impulses; and capacity for delayed gratification; • Metacognitive knowledge (self-awareness of health literacy) enables people to set meaningful and manageable goals, to create and initiate purposeful strategies for attaining the goals, to evaluate and monitor their progress, to reconstruct their physical and social surroundings to meet the needs of the goals, to manage the time needed, to attribute causation, and to adopt future strategies.

Appendix 2: Search Strategy

Datasets	Search strategy	Restrictions	Records retrieved
Cochrance Library	("health literacy") AND (Definition OR concept OR framework OR conceptual framework OR theory OR dimension OR model)	Publication in Cochrane Reviews (Reviews and Protocols), Other Reviews, Trials, Methods Studies and Economic Evaluations	176
Pubmed	("health literacy") AND (Definition OR concept OR framework OR conceptual framework OR theory OR dimension OR model)	Limited to 2017 to current	972
Medline	("health literacy".mp. or exp *Health Literacy/) AND (Definition or concept or framework or conceptual framework or theory or dimension or model).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	Limited to 2017 to current	1021
Embase	("health literacy".mp. or exp *Health Literacy/) AND (Definition or concept or framework or conceptual framework or theory or dimension or model).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading]	Limited to 2017 to current	1796
PsycARTICLES	("health literacy" AND pd(20100101-20171231)) AND (Definition OR concept OR framework OR conceptual framework OR theory OR dimension OR model)	Limited to 2017 to current	212
Web of Science	Theme: (Definition OR concept OR framework OR conceptual framework OR theory OR dimension OR model) Index=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI, CCR-EXPANDED, IC time=2010-2017 AND Theme: ("health literacy")	Limited to 2017 to current	1308