Conceptualizing Media Health Literacy in Thailand: Bridging between Media and Health Concepts

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Abstract
A concept of health literacy has been addressed for a period of time and is continuously reviewed, redefined, and used as a variable in health behavior researches. Many studies indicated health literacy as a determining factor of health behavior, namely that health literacy is associated with a variety of adverse health outcomes. The widely used definition of health literacy is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions". From the definition, media is inevitably a necessary element of health literacy. Besides, media scholars introduce a related concept called media literacy referring to the ability to access, analyze, evaluate, and create media, and health media is also entailed. However, the relation between these two terms are less articulated, especially in Thailand, to understand the role of media as a source for providing health information and an influential factor for promoting health literacy. This article explores and clarifies the relevance between health literacy and media literacy definitions and also proposes a conceptual idea for redefining the term 'media health literacy' and its dimensions in the Thai context. The measurement of media health literacy is also criticized in the article.

Keywords: health literacy, media literacy, media health literacy

Introduction

The Statute on the National Health System B.E. 2552 of Thailand defines "health" as the state of human being which is perfect in physical, mental, spiritual, and social aspects, all of which are holistic in balance. Dr Prawase Wasi explained each of the four aspects as follows: 1) physical wellness is to have a healthy body, to live safely with four basic necessities of life, and to be free from poison; 2) mental wellness is to have virtue, gracefulness, peace of mind, and intelligence; 3) social wellness is to live together peacefully within a strong and fair community; 4) spiritual wellness is to have knowledge, literacy, harmony, and freedom. Given those definitions, health is composed of physical, mental, and social well-being. To have good health is one way to achieve happiness and success in life and health literacy is the key and foundation to that goal.

Health literacy is related to health outcomes, which include holistic health status, diabetes control and HIV infection control, and health services, which include flu vaccination, sexual transmitted disease screening, access to hospital treatment, and health expenditures (Health Education Division, 2011). A number of studies indicated relation between health literacy and health behavior. Health literacy can also solve and reduce health inequality problems because the people will have comprehension about changing physical and mental diseases and be able to avoid health risk to spare themselves the burden from getting access to healthcare such as spending on medical services and medicines. At the same time, it can lessen the workload of hospitals and health service centers and lower the state's healthcare treatment expenditures, which will allow the country to use the budget for promoting health and preventing diseases instead. Manganello (2008) divided health literacy into four levels: functional health literacy, interactive health literacy, critical health literacy, and media health literacy. Taking into account the influence of media on individuals nowadays, media literacy is included as part of health literacy development for the media plays an important role in communicating health information.

Media scholars have introduced a media literacy concept, which generally refers to the ability of citizen to access, analyze, and produce a variety of information. Media literacy study is related to many fields of knowledge such as pragmatics, history, science, and technology, so to study media literacy in the context of health also includes the study of the influence of media content presentation on an individual's health such as regarding dietetics, gender, alcohol consumption, and smoking behavior.

However, health literacy and media literacy studies by medical and public health scholars and media scholars these days have not much addressed the integration of health and communication science in developing measurement of media health literacy and finding indicators of relations among public health knowledge, media use skill, and the media's role in providing health information to create good health behavior. Moreover, the relations between health literacy and media literacy are less articulated, especially in Thailand. This article aimed to review the concepts of literacy, health literacy, and media literacy to find their relations, study health literacy researches in Thailand to suggest a concept of media health literacy, and provide a guideline of media literacy measurement for using in the study of media's role as a source of health information.

The relevance of health literacy and media literacy definitions

To understand the concept of health literacy and media literacy should start from historical review of the evolution of the definition of literacy. Literacy has traditionally been thought of as reading and writing. Although these are essential components of literacy, the understanding of literacy today is changed. Berkman et al. (2010) reviewed the definitions of literacy in the United States and concluded the evolution of literacy definitions, that the meaning of literacy was changed from being able to sign a document and read and write in own language to functional literacy which required school training with at least a high school diploma. Post-secondary education is necessary at present. An individual's ability to read, write, and speak in English and compute and solve problems at a level of proficiency is necessary for functioning on job and in society, achieving one's goal, and developing one's knowledge and potential. In addition, data in the past 20 years showed relations between low literacy levels and poor health status and health outcomes. This led to growing studies in those issues and subsequently the emergence of a new field of study called health literacy (Berkman et al., 2004).

The concept of health literacy was first introduced in a document from an academic seminar on health education in 1974 (Mancuso, 2009). Yet, there is no consensus about the definition of health literacy. The World Health Organization or WHO (1998) defined health literacy as "the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health". The Ad Hoc Committee on Health Literacy for the Council on Scientific Affairs of the American Medical Association or AMA (1999: 553) referred to health literacy as "a constellation of skills, including the ability to perform basic reading and numerical tasks required to function in the health care environment". In Thailand, health literacy is defined as the ability and skill of an individual to access information, knowledge, and understanding for analysis, assessment, and management of oneself and the ability to give health advice to a person, family, and community for good health (Health Education Division, 2011). Accordingly, a general definition of health literacy is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions".

Nutbeam's prototypical model (2008) divided health literacy into three levels: 1) functional health literacy – basic skills of reading and writing that are necessary for functionally effectively in everyday situations; 2) interactive health literacy – more advanced cognitive and literacy skills which, together with social skills, can be used to actively participate in everyday situations, extract information and derive meaning from different forms of communication, and apply this to changing circumstance; 3) critical health literacy - more advanced cognitive skills which, together with social skills, can be applied to critically analyze information and use this to exert greater control over life events and situations.

Manganello (2008), seeing the importance of the media, both offline and online such as websites, social networking sites (SNS), and mobile applications, as a source of health information, subsequently added a dimension of media health literacy as an ultimate level of health literacy. Media literacy is referred to as the ability of an individual to analyze, evaluate, and interpret media content. Therefore, media literacy

is related to health literacy and changes of health outcomes can result from health education and health communication activities.

According to Hobb (2003), media literacy consisted of 1) the ability access messages, which includes skills of decoding symbols and understanding vocabulary and skills of understanding hyperlinking and digital space and using effective search and find tools, 2) the ability to analyze messages, which includes skills of comprehensive understanding, classifying concepts, giving rational opinions, understanding strategies of a message, and identifying a purpose and point of view of a message, 3) the ability to evaluate messages, which includes skills of assessing a relation and value of a message to the readers, interpreting a message, and predicting an outcome or reaching a logical conclusion from a message, and 4) the ability to communicate messages, which includes skills of understanding the other side of the communication, using symbols to convey meanings effectively, and creating messages via an appropriate form of media.

Interestingly, media literacy is not only limited to school training but lifelong learning from childhood to old age. For this reason, media literacy promotion starts from a family; parents should act as good examples of how to use media for their children. When it comes to an education system, teachers should add knowledge about media literacy in their lessons, teaching students to ask questions, analyze, and evaluate media content. At the same time, media producers should adhere to the code of ethics in working and media regulators should have policies to encourage good media and counter the media that promotes negative value and behavior.

Although the definitions of health literacy and media literacy are closely intertwined, in practice public health personnel who have insights into health information and media personnel who are expert in communication and understand the influence of media still work separately to develop good health for people in the community. Therefore, relevant personnel from the public health and media sectors should have mutual understanding about health and media literacy to encourage and develop media literacy in the society.

Influence of media on health

Media can have an influence on a person's health in many aspects. Mentally, media presentation can affect a person's satisfaction or dissatisfaction with consumption. Physically, media content can lead to desirable or undesirable changes in a person's health behavior. And intellectually, media can create demands for goods and promote materialism in the society.

Overseas studies about the influence of media on health showed adverse impact of media such as aggressive and violent behavior, sexual behavior, self-image perception, malnutrition, obesity, drug use, alcohol consumption, and smoking behavior (Bergsma & Carney, 2008). Media content can have effects on the development of health-related attitude, habit, and behavior of adolescents, which can continue in adulthood. There were empirical evidences that media had positive or negative influence on a person's self-image perception, eating behavior, and self-respect (Smolak & Stein, 2006; Tiggemann & Miller, 2010, Utter, Neumark- Sztainer, Wall, & Story, 2003, Frisén & Holmqvist, 2010). A study showed that adolescents with low health literacy were prone

to risky health behavior and diabetes and had little good health behavior (Conwell et al. 2003, Sharif & Blank, 2010, Chang, 2011). In addition, while those providing health knowledge and state agencies providing healthcare services were trying to use the media to promote good health behavior, advertisers only focused on increasing consumption to boost profit (Wilmot, Begoray, & Banister, 2013).

As negative effects of the media are inevitable, it is necessary to create immunity and at the same time increase positive outcomes from media use. Therefore, media literacy is an important and vital skill that should be developed in people. To be media literate, an individual will be able to access health-related content, protect oneself from being motivated by content, critically analyze and interpret the content one has watched, listened, or interacted with, apply the content, and creatively create and disseminate media. Accordingly, the practical and most effective approach is to promote media health literacy, which is an integration of health literacy and media literacy.

Studies and measurement of health literacy

During 1999-2009, the number of research articles and studies on heath literacy in Thailand had increased. Most of the studies targeted adults, followed by the elderly, children, and the adolescent, respectively (Kwanmuang Kaeo-dum-koeng, cited by Health Education Division, 2011). In fact, however, health literacy is important to people of every age group, especially media health literacy, for the media is a big source of health information, which is provided directly in a form of health content and indirectly via other content such as TV series, movies, advertisements, and news.

The evaluation of health literacy had been undertaken in many target groups by many health agencies and scholars. Yet, the indicators of people with poor health literacy in some studies are informal. For example, patients reported that they failed to complete registration form, were unable to name medications or explain their purpose of dosing, identified pills by looking at them but not reading the labels, and repeatedly used statements like “I’m too tried to read” when asked to discuss written materials. In contrast, formal evaluation is usually based on measurements like Rapid Estimate of Adult Literacy in Medicine and Dentistry (REALM-D) which assesses a patient’s ability to understand medical terminology and Test of Functional Health Literacy in Adults (TOFHLA) which assesses reading comprehension and numeracy in common medical scenario and materials. Nevertheless, health literacy measurement does not only assess reading, writing, and understanding skill of a patient but also the ability to comprehend, analyze, interpret, and evaluate the received content. Still, measurement of health literacy in relation to media literacy is limited.

Therefore, Levin-Zamir (2011) had developed a model and indicators of media health literacy, arguing that existing models of health literacy were not systemically adapted to create sufficient understanding about media as a source of health information. Levin-Zamir suggested four levels of media health literacy: 1) content identification – the ability to perceive health information to which one has access and disseminate it to others; 2) perceived influence on behavior – the ability to realize how health information presented by the media affect behavior of message receivers; 3) critical analysis – the ability to critically analyze media content for its purpose and hidden

value, attitude, or intention; 4) intended action/reaction – the ability to consider what should and should not be done based on heath information presented by the media and show action/reaction.

Higgins & Begoray (2012) established a similar concept called critical media health literacy, which is a combination of health literacy, critical health literacy, media literacy, critical media literacy, and critical appreciation, to encourage good health status. Therefore, media health literacy measurements should be developed to reflect factors that have impact on media health literacy, the role of media on health belief, attitude, and behavior of the audience, an individual's response to the media, and media health literacy of the people, especially the youth, to cover every dimension of health literacy to be used for promoting quality of life of the people.

This study aimed to explore primary health literacy researches in Thailand in both broad and deep approaches to see an overview of health literacy studies, explore health literacy researches that had adopted a concept of media literacy in the study to provide suggestion for a development of media health literacy concept as an interdisciplinary field, and measure the level of media health literacy among the people to collect useful information for the reduction of health risk and an improvement of quality of life of the people.

Methodology

The population of this study was health literacy research papers in Thailand. The samples were sorted via the Thai Library Integrated System (ThaiLIS), an online research database which provides access to full researches and dissertations from nationwide universities, targeting research papers in the past ten years (2008-2017). The keyword used was health literacy.

From the 29 samples (21 dissertations and eight researches) sorted, 2010 was the only year that showed no searching result on that keyword (Figure 1). Content analysis included research objectives, research subjects, theories used, methodologies used, samples, health literacy measurements, and health literacy levels.

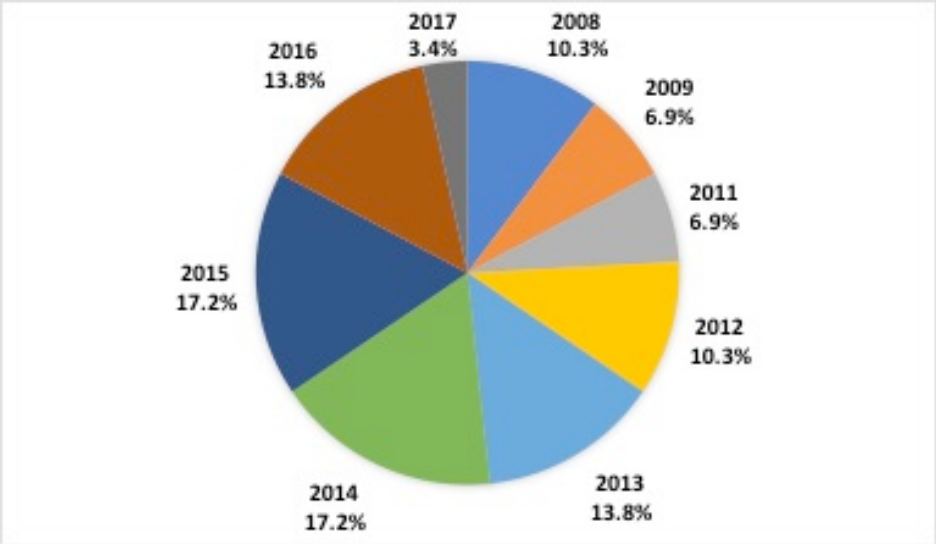

Figure 1: Numbers of researches by year

Results

From the 29 samples, all researches aimed to describe the variables of the study (n=29, 100%). Twelve of which (41%) also aimed to find relations between variables such as demographic data and health behavior, health literacy and health behavior, and knowledge about diseases and treatment and continuity of medicine taking.

Speaking of research subjects, most of the studies (16 articles) concerned general health, followed by high blood pressure (three articles), obesity (two articles), and the rest as follows (Table 1).

Subject of Study	Numbers of Articles (%)
General health	16 (55.2%)
High blood pressure	3 (10.3%)
Obesity	2 (6.9%)
Heart failure	1 (3.4%)
Type 2 diabetes	1 (3.4%)
Eye surgery patients	1 (3.4%)
Sexual transmitted diseases	1 (3.4%)
Cervical cancer	1 (3.4%)
AIDS	1 (3.4%)
Dengue hemorrhagic fever	1 (3.4%)
Drug abuse	1 (3.4%)
Total	**29 (100%)**

Table 1: Research subjects

In terms of theoretical framework, 23 studies (29.3%) reviewed health literacy concept in literature review, three studies (10.3%) reviewed media literacy concept, and only two studies (6.8%) reviewed both health literacy and media literacy. Other theories used (n=14) concerned specific diseases or health context such as healthcare system, self-care, uses and gratification of health media, and addictive substance.

Most of the researches (n=24, 82.7%) used a survey method, followed by interview (n=5, 17.2%), document analysis (n=3, 10.3%), experiment (n=3, 10.3%), and group discussion (n=1, 3.4%) (Table 2). Interesting, as much as 65.5% (n=19) used only a survey method as a research tool, while 17% (n=5) used mixed methodologies.

Methods of Study	Numbers of Articles
Survey	24 (86.2%)
Interview	5 (17.2%)
Document analysis	3 (10.3%)
Experiment	3 (10.3%)
Group discussion	1 (3.4%)

Table 2: Research methods

In the study of health literacy, the most studied samples were patients (n=8, 27.6%), followed by universities students, the elderly, other specific groups which were female sex workers, public health volunteers, and monks (n=4 for each), and others (n=2, 6.9%).

Regarding measurement of health literacy levels, 11 studies measured health literacy in general and used the measurement tools developed by former researches or standardized tests of functional literacy like the Rapid Estimate of Adult Literacy in Medicine (REALM) and the Test of Functional Health Literacy in Adult (TOFHLA), while the rest used own-developed measuring tools. One study also aimed to develop indicators of health literacy.

Of the 22 articles measuring health literacy levels, the measurement can be divided into two groups. The first group measured health literacy levels based on the degree of literacy; most of the samples showed moderate health literacy (n=7, 24.1%), followed by high health literacy (n=5, 17.2%). The second group measured health literacy levels based on the adequacy of literacy; three articles showed adequate literacy (n=3, 10.3%), while seven articles did not directly measure health literacy but measured the use of media for health information instead.

Variables that affected health literacy included education levels, access to the information, as well as some other demographic variables. In addition, health literacy correlated with health-promoting behavior and disease protection behavior. However, some of the researches studied the use of media for health purposes such as for finding health information and the opinion about media benefit, but did not clearly indicate the interaction between media and health content and health behavior of the audience.

Level	Numbers of Articles (%)
Degree of Health Literacy	
High	5 (17.2%)
Moderate	7 (24.1%)
Low	5 (17.2%)
Adequacy of Health Literacy	
Adequate	3 (10.3%)
Inadequate	2 (6.8%)
Not available/not measured	7 (24.1%)
Total	**29 (100%)**

Table 3: Levels of health literacy

Conclusions

Health literacy is a term first introduced in the 1970s and has become increasingly important in the fields of public health and healthcare. Health literacy is related to the capacities of people to meet the complex demands of health in a society. Findings from this study showed that health literacy has positive relations to health-promoting behavior. In addition, increasing health literacy is essential to promoting and maintaining good health of individuals and communities and lowering medical care expenditure, and is linked with the economic growth and socio-cultural and political changes.

Media health literacy is not just an interesting concept for public health or medical personnel whose responsibility is to provide health knowledge to the public, but also among media scholars who are finding effective strategies for providing people the

information about ways to enhance health or avoid specific health risks. And due to the growing interest in health literacy both in the medical and communication context, the conceptualization of health literacy should be redefined to reflect the concept validly.

The study showed that most health literacy researches in Thailand unusually used existing measurements, which included standard tools like the REALM and the TOFHLA and applied tools for particular cases such as obesity and eye surgery. The tools assessed a patient's ability to read and understand health information (Berkman et al., 2004) and numeracy in common medical scenario and materials. These assessments, however, are not considered comprehensive measures of the skills needed by individuals in the health care environment.

In addition, the results from the synthesis of this study suggested that, even though media literacy and other media variables were included in some health literacy research, it was still less articulated how an individual interacts with health information received from the media such as linking of content to oneself, content evaluation, and acceptance and application of the content. Accordingly, a group of scholars induced a concept of media literacy which integrated health literacy with communications, adding media literacy as another dimension of health literacy skill (Nutbeam, 2008). There were also attempts to develop a concept that intertwined health literacy with media literacy such as 'media health literacy' concept introduced by Levin-Zamir (2011), which consists of content identification, perceived influence of media on behavior, critical analysis, and intended action/reaction (personal health behavior).

In conclusion, development of media health literacy measurements in Thailand is important for the improvement of an individual's abilities and skills in a modern health context. Basic skills of reading and writing (functional health literacy) are necessary, but evaluation and critical skills are even more important for detecting adverse effects from health information. At an individual level, ineffective communication caused by poor health literacy will result in poor quality and risk to one's safety of healthcare services, health prevention, and health promotion. At a population level, health literate people will be able to engage in ongoing public and private activities about health, medicine, and health cultural beliefs. High media health literacy will increase personal empowerment and will be seen as a part of an individual's development towards a better quality of life. In the population level, it may also lead to more equity and sustainability of changes in public health. Consequently, improving media health literacy should be addressed as a social agenda.

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