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**Zdrowotne kompetencje informacyjne
jako ważna składowa
kompetencji zdrowotnych****Health information literacy
as an increasingly important
component of health literacy****Streszczenie**

Artykuł przedstawia ewolucję i znaczenie terminu „kompetencje zdrowotne” oraz wskazuje na miejsce i rosnącą wśród nich rolę kompetencji informacyjnych. Wzrost znaczenia tych ostatnich dla poziomu alfabetyzmu zdrowotnego społeczeństwa jest konsekwencją rewolucji informatycznej. Wiąże się to z rosnącą samodzielnością ludzi w zdobywaniu informacji o zdrowiu i chorobach, w coraz większym stopniu poza kontrolą profesjonalistów medycznych i w agresywnym informacyjnie świecie. Wysokie kompetencje informacyjne mogą chronić przed zagrożeniami zdrowia, wynikającymi z korzystania z niewłaściwej lub błędnej informacji, dlatego też alfabetyzacja informacyjna powinna stać się nieodłącznym elementem edukacji zdrowotnej.

Abstract

The paper presents briefly the evolution and meaning of the term “health literacy” and the growing role of information literacy among health competencies. The growing importance of the latter for the level of citizens’ health literacy is a consequence of the information revolution, and is associated with increasing self-reliance of people in gaining information about health and disease, increasingly beyond the control of medical professionals and in aggressive informational environment. A high level of information literacy, according to the author, may protect against health hazards arising from use of inappropriate or incorrect information, and therefore building health information skills should become an integral part of any health education.

Słowa kluczowe: kompetencje informacyjne, wiedza zdrowotna, alfabetyzm zdrowotny.

Keywords: information literacy, health knowledge, health literacy.

INTRODUCTION

Civilization changes make the client of 21st century healthcare services increasingly more in need of knowledge and skills related to participating in care of his own health, and the expectation of new public health is that the patient takes part of the responsibility for his well-being. However, this patient/client is in a completely different situation than were his parents or grandparents. At the pharmacy, he is no longer faced with one or two different types of medicines but with dozens of pharmaceuticals for any condition to choose from. Today's consumer not only stands before a large amount of OTC drugs but is faced with aggressively competitive advertising, numerous sources of health information, above all – with endless sources of health information which can be found on the Internet. Therefore, he needs specific knowledge and skills in order to cooperate reasonably with doctors, in order to self-treat simple conditions; to successfully navigate in the health care system. Thanks to these health and information skills, he can partially relieve the health care system, and is not an easy target for medical products advertisers. Studies into such skills of citizens still are not very frequent, but especially Americans investigate this area more and more systematically [1-6]. In Poland, such studies are practically lacking [7].

As a result of information technology changes, information behaviour of large parts of society in last decades has changed drastically. A study by Megapanel PBI/Gemius (September 2011) found that the Internet has become a very important source of information about medical conditions and medications. Estimates of the number of websites dedicated to health and medicine show that there are over 600 of such Polish services. According to the Polish Internet Research report of March 2011, 8.2 million Poles searched the Internet for information about health and disease in December 2010 (PBI. Report on health. <http://www.pbi.org.pl/index.php/ida/42/> 15.04.2013). Web became the most popular source for such information for 88% of respondents, while doctors come in second place (73%). Ninety three percent of the Internet users searched for health information on the Internet at least once, of which two thirds did so at least once a month. For years, studies on the health information related behavior of the Internet users have been showing its increasing usage [8-10]. The contemporary young person, in search for information, which can help understand distressing symptoms and possibly take action to restore well-being or health, turns to Google. Moreover, in the Internet era, society gradually becomes independent in the search for information from the majority of functioning so far, intermediaries such as doctors, nurses, pharmacists, etc.,. Increasingly, patients and healthy people look for, evaluate and process information on their own. They also increasingly make use of interactive and social networking tools, blogs, wiki-sources, RSS feeds, etc., for this purpose. Meanwhile, Polish websites and web services dedicated for patients, as E. Dobrogowska-Schlebusch argued in 2006 [11], did not meet at that time the most basic criteria for quality of the information. Is this still the case?

There are several other questions to be asked. Is the contemporary, independent in the search for information, patient/client able to distinguish between information about

products which are beneficial to health and information that is just commercial advertising. Does this patient/client read and understand the medication leaflets or the food labels? An appropriate level of health literacy would be helpful here. Health literacy is made up of many elements, and this article is intended to show the importance and relevance of information literacy in the context of health literacy.

Health literacy – how the definition evolved

Health literacy (known in Polish subject literature as “wiedza zdrowotna”, “alfabetyzm zdrowotny”) is the effect of education in various areas of knowledge relating to health and illness, including certain skills that allow a person to take care of his own health and that of his immediate environment. In Poland this type of education was first (until the mid 20th century) called ‘hygiene education’ (pol. wychowanie higieniczne). Later in the 1950s – ‘sanitary education.’ (pol. oświata sanitarna). In the 60’s it was referred to as “institutional health education” (pol. oświata zdrowotna) or “health education” (pol. wychowanie zdrowotne). While in the beginnings, the knowledge about personal hygiene, health and illness referred to a single person, the understanding of the role of health education in the 60’s took into account also the social aspects. In 1968, M. Demel [12] recognized health education as a result of institutional health education and put emphasis on the complex task of shaping personality through: forming habits, developing specific skills, shaping the will and attitudes that would stimulate a positive interest in health issues. Understanding of the purpose of health education in Poland in the 60’s was already very modern and not limited to a simple transfer of knowledge about health. Instead, it took into account the importance of shaping motivation, problem-solving skills, and pointed to the social tasks of those with a health education background. Newer definitions of health education indicate the development of a range of competences, arguing that health education is “all activities aimed at shaping the health behavior of people so that they can lead a healthy lifestyle and contribute to the enhancement of health and develop skills which effectively influence their own health and health of the communities in which they live” [13], or in other words, it is “making efforts to increase the competence of individuals and groups in the area of independent action for health at different levels of society” [14]. The monograph “Health Education” edited by B. Woynarowska proposes the following definition: “Health education is the lifelong process of learning how to live in order to: maintain and improve their own and others health, and in the event of illness or disability to actively participate in the treatment, cope and reduce its negative effects” [15]. Health education, according to this definition, concerns both health and illness, it is a lifelong process and involves the transfer of knowledge, forming habits, attitudes, and developing skills. People with a low level of health literacy cannot be expected to take responsibility for maintaining their own health. They also cannot be allowed to conduct any kind of self-treatment.

In a recent 10-year period, the idea of raising the level of health literacy has become a very important part of the European and global health policy. There is ongoing work on a more precise description of the effects of health education, and efforts are being made to develop tools to measure these

effects. There is also a continuing discussion what health-related knowledge and skills are needed by consumers in contemporary health care systems. Several questions frequently being asked are: what, in fact, does it mean that someone is sufficiently educated in health, where is the boundary below which a person is a health illiterate. Along with the research regarding these questions and considerations, a definition of health literacy has been continuously evolving also in other countries.

In 1990 the Joint Committee on Health Education Terminology (USA) defined “health literacy” as the ability of an individual to obtain, interpret and understand basic health information and services, and the ability to use such information and services in a way that improves health” [16]. This definition was used in The National Health Education Standards published in the 1995, which stressed that the student should not only be able to understand the doctor’s advice, but that he could also “demonstrate the ability to access valid health information and health-promoting products and services” [17].

The WHO definition of 1998 puts emphasis on the empowerment and increasing capacity of the healthcare system clients, their motivation and activity, mainly in their efforts to keep away from disease. In this definition, health literacy is “cognitive and social skills which determine the motivation and ability of man to acquire, understand and use information in a way that promotes and helps maintain good health [18]. So we can say that health literacy according to this definition is the final result of health promotion activities. This, in fact, is how they are increasingly seen [19]. The level of health literacy is now one of the measures of the effectiveness of health promotion. Literacy and numeracy skills are here obvious and necessary elements, but less obvious cognitive skills, including: critical thinking, problem solving, social communication, are also very important.

In the document by the U.S. government Healthy People 2010 [20], health literacy is construed broadly as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions “. This definition emphasizes the importance of information retrieval as well as the ability to understand and process health information.

There are several tests gauging the level of health literacy. An overview of these is given by K. Sorensen [21]. The most famous is the TOFHLA (Test of Functional Health Literacy) and test REALM (Rapid Estimation of Adult Literacy in Medicine). Most of these tests, however, first of all check the patient’s ability to communicate with his doctor and understand his commands. This is insufficient. In 2004, for the purpose of testing the degree of literacy of adults in the United States (National Assessment of Adult Literacy) a special part of the NAAL test was developed, examining health literacy in greater detail [22]. The test questions also show how the understanding of the concept of health literacy in this century has evolved. The test measures the level: 1. understanding medical information (e.g., forms, guidelines, instructions, medication labels; 2. understanding of information in the field of disease prevention (e.g. medical examinations and screening); 3. understanding of information regarding the use of the health care system (e.g. where to direct com-

plaints or requests for fulfillment of insurance documents). The test therefore focuses on the understanding of various types of health and medical care related information. The EU Health Literacy Survey conducted in 2011 in 8 European countries used a tool following these principles [23].

The authors of the much earlier report “Health Literacy: A Prescription to End Confusion” of the U.S. Institutes of Medicine argued that health literacy is when those who seek health information meet the expectations of those who provide the information. According to them health literacy is therefore a two-sided responsibility: on the part of those who take their health into their own hands and the providers of information and services [24].

In 2007, the second edition of American standards of health education for school children increased the range of necessary skills. A person that can be said to be health literate, in accordance with this standard, is someone who understands concepts related to health promotion and disease prevention; is able to identify factors influencing health behaviors in the family and the community, the media, as well as those related to culture and technology; is able to gain valuable information about products and services for enhancing health; has communication skills for improving health and avoiding risk factors; has the ability to make health related decisions; can set health goals; is able to practice/maintain a healthy lifestyle and avoid health risks; finally he/she can also protect and promote his/her own health, his/her family’s health and that of the community [25].

As can be seen from the above definitions, health literacy is not only the knowledge of health and illness, but it is made up of a number of different competencies.

The components of health literacy

Competence is the combination of knowledge, skills, but also a certain attitude/approach. In view of the previously discussed definition, it can be said that health literacy consists of:

- Basic competences: (literacy and numeracy skills, basic health knowledge, basic knowledge of medical terminology, basic knowledge of the health care system;
- Cognitive skills (the ability to understand the text (names, terms, concepts), selecting and decision-making, critical thinking, predicting consequences, problem solving)
- Communication skills (the ability of health care clients to communicate with health care providers);
- Competencies related to the use of the health care system (knowledge about the system, the knowledge of rights, the ability to effectively navigate in the health care system, the ability to use health care services);
- Information literacy (knowledge of sources of information, the ability to find, prioritize and process information, the ability to critically analyze information, ability to evaluate its quality, ability to adapt information to a real, individual situation.

This long list raises the concern that most people, except perhaps for the chronically ill and therefore very well “medically educated“, the majority of society probably has a low level of health literacy, which is in fact attested by research which has been conducted on this issue, including the latest

research carried out in 2011, "The European Health Literacy Survey" [25].

This article aims to take a closer look at the last group of health competencies – information literacy. A widely used definition says that information literacy is a set of abilities enabling individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" [26]. The term "information literacy" is often used interchangeably with the term "information skills". However, the first term is broader, since according to the previously used definition, "literacy" means not only skills, but also knowledge about the sources of such information, principles of information processing, evaluation, dissemination, and also willingness to put this knowledge to good use (attitude). Information literacy applies primarily to the substance of the information and it is closely linked to the ability to analyze, critically evaluate information and communicate effectively. Information literacy must be distinguished from computer skills, to which it is linked very closely, but the latter relate mainly to the use of technology, computer hardware and software. People either could or could not find and use information, and so were "information literate" or "information illiterate" also in "the Age Before the Internet".

Specialists in the field of health promotion, health education, public health, tend to focus on research that studies society's knowledge of health behaviors and diseases, to find out what the educational needs are and how to deliver appropriate knowledge. It seems at times that in this research an important fact has been overlooked: the members of that society have been "emancipated" and no longer wait for health educators to inform them. Instead, people acquire the knowledge and information themselves, without intermediaries. There is also a growing concern that traditional education will not compensate for the major impact of advertising, blogs, chat rooms and social networking sites. But it is very rarely taken into consideration whether the citizen has the skills he needs to safely use the knowledge and information available through the Internet and various other media. And these knowledge skills (the term often used is: health information literacy) are absolutely essential in the era of the information society.

Health information literacy

Health information literacy refers to information literacy related in any way to health and disease, and aids in the decision-making process within the realm of health. "Health Information Literacy is the set of abilities needed to: recognize the 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" (<http://www.mlanet.org/resources/healthlit/define.html> (15.04.2013)). These are, after all, the same skills that are mentioned in connection to contemporary definitions of health literacy. A literate person in health information can also carry out an analysis and synthesis of health information, relate and adapt it to his/her individual needs.

At the turn and the first decade of the twenty-first century, with the development of information technology, the definition of health information literacy has been somewhat transformed. The concept of e-health emerged, and the term e-health literacy soon appeared. Today, information literacy is largely made up of e-information skills. E-health literacy is the ability to search, find, understand and evaluate information derived from electronic sources, especially the Internet sources, the ability to use information technology, criticism in regard to media and scientific research; the ability to navigate in the maze of resources, services and applications, in order to obtain the necessary information pertaining to health or treatment, and the ability to apply the acquired knowledge in response to a health problem.

According to Norman and Skinner [27] e-health literacy is the combined effect of six other types of traditional competencies: literacy and numeracy skills, health literacy, computer literacy, science literacy, media literacy and information literacy (Figure 1). An attempt to create a tool for measuring e-health competence is the scale of e-Health Literacy [28].

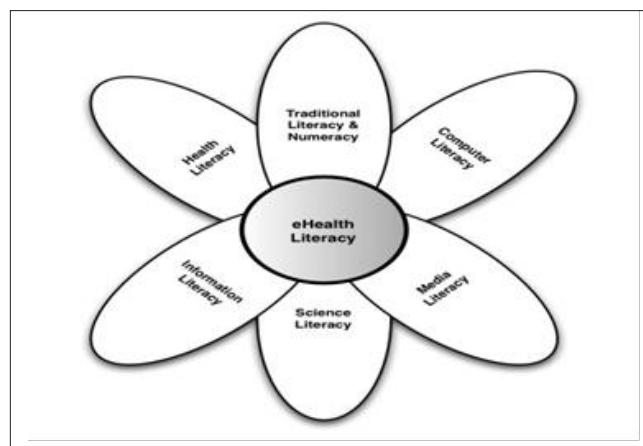


FIGURE 1. Norman CD, Skinner HA. eHealth Literacy lily model. eHealth Literacy: Essential Skills for Consumer Health in a Networked World. *J Med Internet Res*. 2006;8(2):e9. Available from: <http://www.jmir.org/2006/2/e9/>

In the "e-Health Literacy lily model" e-health literacy consists of the same competencies as those that make up the traditional information skills, with the exception that they are applied to electronic sources of knowledge and information. The concept of e-health is though much broader and includes not only the use of the health information, but also, among others, the treatment or diagnosis with use of electronic devices and on-line. Therefore, it seems that in order to avoid confusion it would be good to add the word "information" to "e-health literacy" (e-health information literacy) if electronic information use, rather traditional/printed information is in focus, and to distinguish from other aspects of e-health.

It has to be stressed that raising the level of health literacy (pol. kompetencje zdrowotne) in a society is not just a matter of equipping people with health information skills and knowledge. There is, as it has already been said, much more to it. However, since society quickly gains independence from the majority of existing intermediaries in their search for health information, such as doctors, nurses, pharmacists, in their search for information, it becomes more

and more important to raise their information skills in this area. We have to ask ourselves again, do citizens know how to evaluate information they find? Do they know how to tell reliable sources from unreliable? Are reliable sources of information widely known and easy to find? Do we have obviously reliable e-sources of health information in Poland? The two last questions become increasingly important, since currently, Polish websites and services for patients often do not meet the basic quality criteria [1].

Raising health information literacy

An appropriate level of information literacy (both traditional and e-), can become a kind of safety filter through which health information may be screened, critically evaluated and reasonably adapted before it becomes part of the health knowledge (Figure 2).

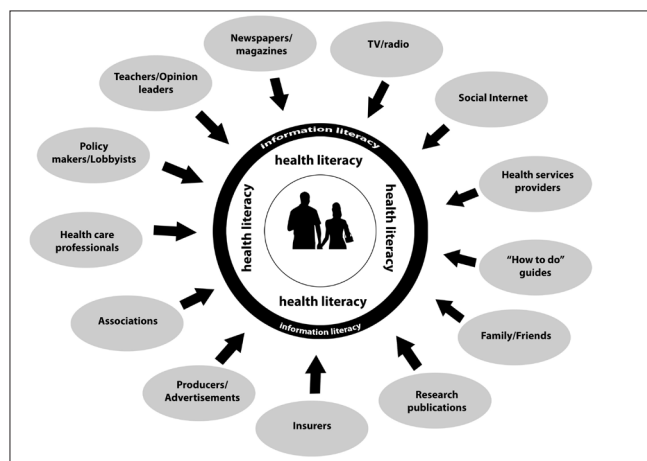


FIGURE 2. Information literacy as a filter of knowledge and information about health and disease. Adaptation of the Figure 1. Kickbusch “Health literacy and the market. Information deluge”. In: *Improving health literacy in the European Union: towards a Europe of informed and active citizens*. European Health Forum, Gastein, 8 October 2004, p. 9

Figure 2 is an adaptation of the model proposed by Kickbusch [29], and shows how health literacy serves to filter health related information. Knowledge of health is a screen against “just any” information, which can be erroneous and misleading. According to the author of this article, an important layer of the filter, is the first layer which is health information literacy. A person who is health information literate can at the very beginning eliminate information from unreliable sources of information, knows which sources are safe, knows where to look for specific types of information, can assess its quality and relevance, can check through comparison with others, etc., etc. That is why health information literacy education should be an explicit part of any health education conducted in schools, health centers or public libraries. The major role of the latter was addressed already by M. Kisilowska [30]. Raising health information literacy has become an important public health challenge.

Who should teach health information skills? Teaching how to safely navigate in virtual world of information requires special precautions and specialized and increasingly vast knowledge. Specialists in the field of information, information science, librarians seem to be most pre-qualified. Even if they have been not adequately prepared yet to cover

health field, it is high time for this specialization in library schools, and high time for more involvement of information science professionals in raising health information literacy of patients and health care consumers.

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