Viewpoint
The Necessity of Designing Assessment Tool of Multimedia in Health Interventions: A Viewpoint

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Citation Rahaei Z, Rastjoo S. The Necessity of Designing Assessment Tool of Multimedia in Health Interventions: A Viewpoint. Journal of Research & Health. 2024; 14(1)3-6. http://dx.doi.org/10.32598/JRH.14.1.2238.1

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Introduction

Any health strategy aims to improve people's health level and quality of life with special emphasis on the development of health education. Health system workers must have sufficient knowledge and skills in designing, implementing, and assessing health education programs. One of the critical points in educational planning is the selection of the most suitable educational methods and media to convey the content of the education to the audience to lead to the desired learning of the learners [1].

How to communicate between health professionals and the audience is crucial in health interventions. Health education is effective in empowering people by providing awareness and information and showing health skills and experiences to people in different forms of message transmission in traditional (written) and modern (multimedia) ways [2]. Multimedia is of the interactive media that combines words with static and dynamic images and various forms of visual and audio content. Due to the double encoding of information (visual and audio) and further stimulation of the audience's senses, multimedia leads to better retention, maintenance, and recall of the content compared to the presentation of words alone [3].

Multimedia interventions in health education provide standard information, and emphasis on key points and easy access to information at the right time and place. Also, the possibility of renewable education after initial consultation with a health specialist leads to patient satisfaction and improved disease control. The results of a systematic review of the use of multimedia in teaching patients compared to other media focused on cost reduction, efficient time, convenient access, and user-friendliness of these media [4]. These dynamic electronic tools can create a sense of enthusiasm and interest in the audience due to the display of movement, images, and sounds. Rusman explains some of the advantages of multimedia in health education, including that they provide messages and feedback that are well understood by the individual to explain and describe a process. It is also realistic in terms of application and can be repeated or stopped if needed [5].

Various research have shown the effectiveness of using multimedia in the intervention in health education and health promotion programs [6]. Some researchers compared multimedia with written media in their interventions. The results showed that multimedia interventions are more effective in increasing people's awareness and attitudes compared to written media [7]. Also, one of the advantages of using multimedia in health education interventions compared to written media is to improve

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people's health literacy level. Low health literacy poses a major barrier to education and self-management. Health literacy directly impacts health outcomes, such as hospitalization risk, particularly in those with chronic diseases [8]. For example, the results of some research conducted on cancer patients showed that multimedia educational programs, due to the combination of text, sound, graphics, and video, lead to facilitating the learning of disease-related materials and making informed decisions about treatment methods [9]. This issue is essential because people with insufficient health literacy will have 1.2 to 4 times more negative health behaviors and insufficient health literacy is associated with low levels of preventive behaviors and negative health outcomes. Therefore, the use of educational multimedia with simple information leads to a better understanding of educational information by people and ultimately improves the level of health literacy [10]. Today, due to the advancement of technology and communication and the access of most people to smartphones, the results of some research in Iran showed that the use of the m-health standard tool can improve people's health literacy level [11].

Considering the necessity of using multimedia interventions, only the pure use of these media is not enough to change behavior in the long term. The quality of the content provided by the media and the standard visual and audio features of these media are crucial in health education and health promotion programs. Educational media used in health education should be looked at with an analytical and critical view. Assessment of the media quality helps the audience's media literacy to understand media content correctly and to make informed decisions [12].

In health promotion programs, educational images are used in different ways, and most of the images used in health education are based on the customer's desire or the experience and talent of the illustrator. Due to the lack of knowledge or insufficient guidelines based on evidence in producing images and ignoring the impact of visual cues on the audience, produce inappropriate and low-quality images. The use of standard images that overlap with educational content is vital in conveying and correctly understanding the message by the audience [13]. Therefore, considering the importance of using media in health education and health promotion, it is necessary to prepare, produce, and distribute standard media with more effectiveness with detailed planning and to have a standard criterion for media assessment to provide effective education. It enables the repeatability and modeling of media-based interventions [14]. By providing standardized tools to enhance the quality of multimedia, health education will be effective. The appropriate multimedia determines the success in increasing knowledge and is the basis for changing the health behavior of the audience [15].

For written media, assessment tools exist, such as suitability assessment media (SAM), Close's educational level index and various other methods. Some researchers have used these indicators to evaluate their written media. These writing instruments, including the SAM, are not sufficient to measure multimedia because they assess one aspect of multimedia, the text. SAM is a tool to evaluate the suitability of written materials and focuses on only 6 factors, content, required literacy level, graphics, design, motivation to learn, and cultural fit [16].

Therefore, these tools are not perfect for multimedia assessment. This issue shows the necessity of assessment multimedia, due to its wider use compared to written media while little evidence exists regarding the quality assessment of educational multimedia. Some researchers have only evaluated dimensions of educational multimedia and have ignored the visual and audio technical features of the media [17]. Assessment of the quality of educational materials provided by educational media from different content, visual, and audio dimensions leads to the correct reception and understanding of health messages, and improving health literacy, and finally changing attitude and behavior to adopt health behavior. It also leads to the involvement and participation of more people in healthcare programs [18].

The available research evidence shows the information gap in the assessment of educational multimedia and the determination of standard indicators for the assessment of these media. Research conducted on the use of multimedia in health interventions has only pointed to the usefulness of these media in adopting healthy behavior, but limited research evidence is available about the quality and standard indicators of these media. Some research has been conducted only to evaluate one aspect of the content of educational multimedia, such as writing features. The difficulty level, comprehension level, and understanding of the content, organization, design, and arrangement have been discussed. Also, some other studies have only evaluated educational videos in health education programs [19, 20]. Therefore, designing a tool that covers all multimedia dimensions (text, sound, image, animation, and video) is necessary to improve its quality in health interventions.

Conclusion

Currently, there is no evidence in the design of standardized tool for educational multimedia in order to increase the effectiveness of health interventions. Therefore, designing a tool that covers all multimedia dimensions (text, sound, image, animation and video) is necessary to improve its quality in health interventions.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

Authors' contributions

Conceptualization, supervision and writing original draft: All authors; Data extraction: Saeide Rastjoo; Review and editing: Zohre Rahaei.

Conflict of interest

The authors declared no conflict of interest.

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