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REVIEW





Information Packaging and Repackaging as enablers of Health Information Literacy among Rural Dwellers

El empaquetado y el reempaquetado de la información como facilitadores de la alfabetización en información sanitaria entre la población rural

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ABSTRACT

Introduction: the need for Health Information Literacy among rural dwellers is heightened by the current information explosion and pervasiveness of misinformation occasioned by advances in digital technologies. Given the prevalent individual characteristics of individuals in the rural areas, there is need for targeted information packaging and repackaging to bridge existing gap in health information hereby ensuring sustainable health and wellbeing. Consequently, this paper explored how information packaging and repackaging can enable health information literacy among rural dwellers.

Method: the paper adopted the rapid review of literature to synthesize existing literature around the subject matter. Literatures were retrieved from Google Scholar, EBSCO Host and ProQuest. The search terms were generated from the themes of the study's specific objectives. The results were filtered based on relevance, currency (2014 to 2024) and language (English).

Results: some of strategies for effective packaging of health information to rural dwellers include transforming printed information into oral form, use of focal group discussions, and translation of existing information materials into local language spoken by the local community and leveraging on technology for delivering of health information. Information repackaging helps improve rural dwellers` health information access and use skills. It also enhances the usage of culturally sensitive content that resonate with rural community dwellers

Conclusion: information packaging and repackaging are vital in achieving health information literacy, as it facilitates access to personalized health information and capacity building.

Keywords: Health Information Literacy; Information Access; Information Re(Packaging); Library Services; Rural Dwellers.

RESUMEN

Introducción: la necesidad de alfabetización en información sanitaria entre los habitantes de las zonas rurales se ve acentuada por la actual explosión de información y la omnipresencia de la desinformación ocasionada por los avances en las tecnologías digitales. Dadas las características individuales prevalentes de los individuos en las zonas rurales, existe la necesidad de un empaquetado y reempaquetado específico de la información para salvar la brecha existente en la información sanitaria, garantizando así una salud y un bienestar sostenibles. En consecuencia, este artículo explora cómo el empaquetado y el reempaquetado de la información pueden facilitar la alfabetización en información sanitaria entre los habitantes de las zonas rurales.

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Método: el documento adoptó la revisión rápida de la literatura para sintetizar la literatura existente en torno al tema. La bibliografía se recuperó de Google Scholar, EBSCO Host y ProQuest. Los términos de búsqueda se generaron a partir de los temas de los objetivos específicos del estudio. Los resultados se filtraron en función de la relevancia, la actualidad (2014 a 2024) y el idioma (inglés).

Resultados: algunas de las estrategias para la presentación eficaz de la información sanitaria a los habitantes rurales incluyen la transformación de la información impresa en forma oral, el uso de grupos focales de discusión, y la traducción de los materiales de información existentes en el idioma local hablado por la comunidad local y el aprovechamiento de la tecnología para la entrega de información sanitaria. El reempaquetado de la información ayuda a mejorar el acceso de los habitantes rurales a la información sanitaria y sus habilidades de uso. También mejora el uso de contenidos culturalmente sensibles que resuenan entre los habitantes de las comunidades rurales.

Conclusiones: el empaquetado y el reempaquetado de la información son vitales para lograr la alfabetización en información sanitaria, ya que facilitan el acceso a información sanitaria personalizada y el desarrollo de capacidades.

Palabras clave: Alfabetización Informacional Sanitaria; Acceso a la Información; Re(Empaquetado) de la Información; Servicios Bibliotecarios; Habitantes de Zonas Rurales.

INTRODUCTION

In this era of information explosion and widespread of misinformation occasioned by advances in digital technologies, access to accurate, reliable and verifiable health information is of utmost importance, even among rural dwellers. In order to make informed daily decisions that will improve one's overall well-being, access to reliable health information is not negotiable. This is even more true for rural dwellers who are often faced with limited access to accurate and reliable health information as a result of socioeconomic differences, infrastructural challenge and sometimes, geographical isolation. This, in turn, leads to differences in the health outcomes of rural dwellers when compared to urban dwellers. However, with the right level of health information literacy skills, rural dwellers are able to navigate their way within the information space⁽¹⁾ and access quality and accurate health information.⁽²⁾ In fact, Zimmerman⁽³⁾ noted that health literacy skill, as with information literacy skill, is a fundamental skill that enhances individuals' effectiveness in the area of access, retrieval, evaluation and use of health information for healthy living among residents of rural communities.

In promoting health information literacy among rural dwellers, Bhagat, et al.⁽⁴⁾ observed that several activities could stimulate citizens' health information literacy. Ugwuogu⁽⁵⁾ noted that the packaging and repackaging of health information are key drivers to health information literacy among rural dwellers. By packaging and repackaging of health information for rural residents, information experts are able to close the gap in information accessibility between rural and urban communities. Thus, ensuring rural residents are able to access to relevant and accurate health information. Furthermore, information repackaging help to empower the community members in ways that will help improve their quality of life.

Health Information Literacy

The concept of health information literacy is one that has gained prominence within the health and information science ecosystems, especially in the last two decades. It is a related term to health literacy, although, it combines the concepts of health literacy and information literacy. According to Niemelä et al. cited in Wang, et.al.⁽⁶⁾, health information literacy refers to the ability of individuals to recognize their health information need, understand where and how to find the health information, as well as use the information to make informed health choices. Furthermore, Kaur and Kaur⁽⁷⁾ explained that health information literacy is a critical skill required to maintain healthy living especially in this era of proliferation of information, misinformation and fake news. They observed that health information literacy skills equip individuals with the capability to identify health information needs, access and retrieve relevant reliable health information sources while using them to make sound decisions.

In addition, the concept emphasizes and encourages individuals to play the subject role in health information seeking and usage, rather than being the object. Health information literacy combines several keywords such as identify, access, understand and use of health information to make good health decisions. (8)

Understanding the Concept of Information Packaging and Repackaging

Library activities and services have continued to evolve in line with the changing landscape of information technologies. Several library concepts and services have been born while others have been redefined as a result of the dynamic information environment. Information packaging and repackaging, being one of the

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services rendered by information professionals, is among the library services that have evolved over the years in line with the changing landscape of information technology. Although the concept is not new, the processes associated with it in this current dispensation have continued to evolve along with advances in information technologies. Radhakrishnan and Francis⁽⁹⁾ explained that information repackaging connotes the consolidation, analysis and reformatting of information or ideas in an understandable form to a specific audience. The idea behind information repackaging mirrors the concept of selective dissemination of information, where information services are provided to a targeted audience. Furthermore, Agbaji and Odumu⁽¹⁰⁾ noted that information repackaging involves organizing and dissemination of information in a form comprehensible to the target user community. More often than not, the repackaging of information involves the translation and conversion of information materials into a form that can be understood and appreciated by the user. Thus, library and information professionals are able to connect better with their user communities whenever the goal is to repackage information.

Nevertheless, Agbaji and Odumu⁽¹⁰⁾ observed that the repackaging of information for a given user community could take the form of reformatting and synthesizing of raw information, providing direct training assistance on the use of an information product amongst others. Meanwhile, Emasealu and Umeozor⁽¹¹⁾ explained that oral transmission, drama, songs, poetry and audiovisual resources/technologies are some of the ways of repackaging information that will meet the needs of users in rural communities. Beyond this, Fitzpatrick⁽¹²⁾ observed that information experts can leverage on this service to help improve the health information literacy skills of rural dwellers who often have limited access to first hand health information due to a combination of limited infrastructure and socio-economic status.

Objectives

The study aimed to theoretically examine information packaging and repackaging as enablers of health information literacy among rural dwellers. To achieve this, the study explored:

- 1. The strategies for effective packaging and repackaging of health information
- 2. Role of information packaging and repackaging in enhancing health information literacy among rural dwellers
- 3. Case studies of Successful information (re)packaging initiatives for health information literacy among rural dwellers
 - 4. Implications for Policy and Practice

METHOD

The rapid review method of the qualitative research approach was used to analyze and synthesize related literature on information (re)packaging as enablers of health information literacy among rural dwellers. This approach was adopted as it allows for timely and credible review of high quality and relevant literature, with the view of identifying gaps and providing actionable insights that will be useful to policy and decision makers. This approach has gained wide range acceptance within the scholarly community and aligns with Echedom and Okuonghae. The literature search was carried out on three global databases to increase the chances of including high quality, relevant and current literature in the study. The databases included Google Scholar, EBSCO Host and ProQuest. The search terms used in retrieving the literature for this study were generated from the themes of the study's specific objectives. The keywords used included "information repackaging and health information literacy", "health information literacy and rural dwellers", "information repackaging and strategies" amongst others. The results were filtered based on relevance, currency (between 2014 to 2024) and language. Only literature published in English Language were included in this study. The researcher reviewed and selected the relevant literature within a two weeks period. The synthesis and analysis of the selected literature were completed within a two months period while adhering to the highest ethical standards.

Strategies for effective packaging of health information for rural dwellers

Studies (14,15) have uncovered inequalities in the accessibility and use of health information among rural and urban dwellers. Substantive evidence shows that residents in rural communities have lower access to health information when compared to urban dwellers. This could be attributed to several factors such as low literacy levels, language diversity, limited infrastructure and cultural beliefs system. (16) To address this, information experts have identified health information packaging as a way of addressing the inequality in access to health information. Agbaji and Odumu (10) observed that several strategies could be adopted when repackaging health information for a given community. The strategy and format to be adopted in presenting information to the community is dependent on the user community. More often than not, information providers adopt approaches and formats that residents of the community can easily relate with. In a 2020 study, Zhang and Zhang (17) identified the development of "smart villages" in rural China as a way of extending development to the rural communities and ensuring residents have access to the right amount of health information. The "smart villages"

concept allows communities and governments to leverage technology for delivery of health information to rural communities in China. This could be in the form of using mobile health application, periodic text messaging of health information amongst others. This strategy ultimately helps rural dwellers in China to access accurate health information and improve their health information literacy skills.

Furthermore, in this era of technological interconnectedness, provision of internet and internet services has proven to be a major source of health information, even among residents in rural communities. A study conducted by Bujnowska-Fedak et.al. (18) revealed that the emergence of e-health and M-health have increased the dependence on internet as source of health information among rural residents in Poland. Although, the study revealed a higher usage level in urban areas than rural areas, it still points to the fact that residents in rural communities appreciate health content from the internet. This explain that the internet technology is can be used to train indigenes of country-side to access and retrieve health information, thus improving their health information literacy skills. Furthermore, the findings from their study indicated that a high number of respondents (76,9 % from a total 1000 respondents) depend on the internet for health information. This therefore shows that the packaging of health information in the form of e-health could be useful for certain rural communities.

Furthermore, Ezema⁽¹⁹⁾ explained that some of the common strategies for repackaging health information in many African rural communities include transforming printed information into oral form, use of focal group discussions, and translation of existing information materials into local language spoken by the local community members amongst others. Agbaji and Odumu⁽¹⁰⁾ added that some rural communities use traditional channels of information dissemination such as television and radio. They also use community networks like women groups, community leaders and community-based organizations to repackage health information for residents in rural communities. This approach increases the acceptability and reliability of the health information being passed across. In addition, these community stakeholders act as intermediaries, effectively communicating health information in ways that resonate with rural dwellers.

It is the opinion of Monnard et.al. (20) that a common strategy for health information repackaging in rural settings involves the tailoring of health information content to suit the specific needs and preferences of rural dwellers. This often include giving attention to culturally sensitive contents, using visuals to convey information in a manner comprehensible to the target audience, as well as presenting information in diverse formats such as image, print, audio and audio-visual formats to accommodate varying literacy levels and learning styles. It is therefore imperative to note that the (re)packaging of health information for rural dwellers require a multifaceted approach that recognizes the diversity and limitations of rural residents in the dissemination of health information. Consequently, through partnerships and innovations, community libraries and other stakeholders can provide tailored or personalised health information (resources) to meet the needs of rural audience, thereby helping to improve their overall well-being.

Role of information packaging and repackaging in enhancing health information literacy among rural dwellers

Information packaging and repackaging play important role in enhancing health information literacy among rural dwellers. It is no secret that through information (re)packaging, rural dwellers are able to identify their health information needs, access culturally relevant and tailored health information, as well as ethically use the information to promote positive health outcome. Emasealu and Umeozor⁽¹¹⁾ noted that health information repackaging service by community libraries help local users to understand complex health information which are useful to them. This is because repackaged health information are usually presented using formats and language that the targeted audience can easily relate with, thus, ensuring that the right information is supplied to the right audience. As such, information repackaging helps improve rural dwellers' health information access and use skills.

A study by Boloka and Ngoepe⁽²¹⁾ posited that in order to improve access to health information in rural South Africa, internet Wi-Fi were provided in rural communities by Churches, gathering places and royal houses. Consequently, rural residents were trained to retrieve relevant health information from the Internet. This helped improve their ability to identify their health information need, locate and retrieve relevant health information as well as use the information for their overall well-being. The actions ultimate improved the overall health information literacy of the rural dwellers as they are able to access online health information without hurdle. As a sub-construct to health information literacy, adequate access to repackaged health information puts rural residents at an advantage, especially since the repackaged health information is tailored to the specific needs and challenges of rural audience. This, in fact, help to address local health concerns, while improving the knowledge and skills of local residents. (18) Consequently, the usage of sound health information is enhanced in rural settings. Moreover, Van Iseghem et al. (22) observed that repackaging of health information enhances the usage of culturally sensitive content that resonate with rural community dwellers and also promote cultural beliefs, values and practices. In addition to accessibility, conversion and translation of health information into

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local languages increases understanding among diverse populace, thus, promoting inclusivity and equitable access to healthcare delivery. (23)

Furthermore, Aldoory et al.⁽²⁴⁾ noted that the delivery of personalised information service to uneducated rural dwellers help stimulate independent information seeking behaviour which ultimately contribute to the overall well-being of the residents. This shows that packaging and repackaging of health information help rural dwellers to identify their need and also know how to meet those health information needs, including the sources to consult. Yap et al.⁽²⁵⁾ supported this view while maintaining that the first step to improving the health information literacy of rural dwellers is to teach them the right place to seek relevant and accurate health information that will help meet their needs. These channels could include community libraries or information centres, community health care providers, local community-based organizations as well as community leaders. Information packaged and accessed from these channels have higher chances of being accurate and reliable.⁽¹⁹⁾

Case studies of successful information (re)packaging initiatives for health information literacy among rural dwellers

The repackaging of health information to boast health information literacy among rural dwellers has been ongoing for some time now in different rural settings. Different information packaging initiatives have been explored in order to amplify the health information literacy of rural dwellers. In Nigeria, the National Youth Service Corp reported the development of health initiatives for rural dwellers (HIRD) as an intervention strategy to improve the health literacy of residents in rural communities ²⁶. Among the activities carried out through this health initiative is capacity building and awareness creation for rural residents on the causes and treatments for common and reoccurring health conditions such as malaria, high blood pressure, high sugar level and typhoid. The overall goal of the initiative is to empower rural residents to make informed daily decisions that will help improve their overall health outcomes.

Similarly, Gautham et al. (27) observed that several mobile health clinics have been established in rural India with the view of improving health outcomes among residents in rural settings in India. The initiative involves the use of tablets and smartphones to provide health information to the residents so as to ease access to health information and reduce the level of misinformation, disinformation and fake news in the area. Gautham et al. (27) noted that the health information disseminated through these technologies is tailored to the specific needs of the individual. In the same vein, Ramachandran et al. (28) noted that some communities in rural India explore the use of mobile technologies like smartphones and tablets to provide maternal health information to pregnant women in rural communities in India. The initiative allows health workers in remote settings in India to train pregnant women and new mothers to utilize health systems from the comfort of their homes, using available mobile technologies; thus, empowering women to leverage technology in meeting their health information needs. Nevertheless, it is worthy of note that these initiatives have faced some level of resistance in different rural communities in India due to a number of factors such as technophobia, illiteracy, limited training and education amongst others.

Furthermore, Van Iseghem et al. (21) identified community health worker (CHW) program in localities in Europe as health information packaging intervention aimed at improving healthy living among rural residents in Europe. To improve the dissemination of health information and treatment of common ailment in rural communities in Europe, community health care workers are trained within the countryside to advocate preventive care practices and support rural residents to navigate healthcare systems. These trained personnel often act as intermediaries between the rural populace and healthcare providers. Lohr et al. (22) noted that the community health worker program has been found to be very successful in different regions, including in the United States of America, Canada and Australia. They averred that the initiative has positively affected the delivery of both clinical care and community resources to rural dwellers in the United States.

Another case study of information packaging initiatives for health information literacy among rural dwellers is the deployment of text message-based health education programs for targeted individuals in rural China. Tam et al. (29) reported the use of text messaging education program for community-dwelling patients with hypertension in Macau and Shenzhen communities in Southern China. The program disseminated health information to persons with hypertension using text message. The health education provided using this innovation is not limited to hypertension management and nutrition. Aldoory et al. (23) added that experts use text messaging health education to provide patients and community residents with reminders, physical activities, health education, oral health, self-management assistance, health insurance amongst others. More so, this approach is commonly used in communities to increase vaccination, reduce tobacco, drug and alcohol use, improve chronic disease management, stimulate healthy behaviours, as well as improve weight and health outcomes. (29) One major merit of use of this approach is that it works even in regions with limited internet facilities.

Nevertheless, communities in Mali, a country located in West Africa, leverage radio program called "Yé Lassaa" community radio program to educate the indigenes on formal health care practice for healthy living. Bon et al. (30) explained that the program was born due to the challenge of wrong traditional belief system and limited

access the accurate health information. The program explored different techniques such as drama, music, and interviews with health practitioners to combat health information illiteracy and ensure that the indigene have all the information needed to make informed decisions. Bon et al. (30) noted that the program has stimulated discussion on key health issues such as teenage pregnancy, family planning, adolescent reproductive health amongst others. The effectiveness of the program is hinged on the fact that the information is communicated in local languages comprehensible to the old and young.

Implications for policy and practice

Information packaging for health information literacy among rural dwellers could have some real practical implications for policy making and healthcare practice. Fitzpatrick⁽¹²⁾ noted that the packaging of health information for residents in rural communities demand high level of engagements between the healthcare practitioners and the rural communities being served. These engagements create room for understanding the unique characteristics of the group being served such as their health needs, education levels and their preferences. Consequently, healthcare organizations and information centres must bridge the gap between themselves and the rural information seekers to achieve their goal. Furthermore, given the low literacy levels among residents in rural communities, there is need for regular training and capacity building initiatives to help residents improve on the utilization of health information resource and their overall health literacy skills.

Given the need for accuracy and reliability in the repackaged health information, it is necessary for local regulatory bodies to establish mechanism for standardization of repackaged health communication materials. This could include setting up clear review processes and evaluation of information materials by enlightened native speakers. Furthermore, governments and relevant stakeholders could improve internet and other technological infrastructure in rural communities so the residents could leverage these innovations for personalised health information services. There is also need for collaboration between community-based organizations, government and other stakeholders in the delivery of effective health services for rural communities.

CONCLUSION

Improving health information literacy of rural dwellers is a giant step towards addressing the inequalities in healthcare services between rural and urban settings. Information (re)packaging plays vital roles in achieving the goal of health information literacy, as it facilitates access to personalized health information and capacity building. Adopting information formats that rural residents can easily relate with would enhance their ability to access health information and utilize the information for their overall well-being. To achieve health information literacy through information re(packaging), several strategies like leveraging on emerging technologies and information translation into oral forms and indigenous languages become essential. This review thus contributes to bridging the gap in health information literacy of rural dwellers and demonstrates its implications for policy and practices

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The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

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Formal analysis: Omorodion Okuonghae and Magnus O. Igbinovia.

Research: Magnus O. Igbinovia and Omorodion Okuonghae.

Methodology: Omorodion Okuonghae.

Drafting - original draft: Magnus O. Igbinovia and Omorodion Okuonghae.

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