A Systematic Literature Review on Health Information Sharing Among Older Adults

Iqra Tariq
Institute of Information Management
University of the Punjab, Lahore
Email: iqrarana.1000@gmail.com

Dr. Khalid Mahmood
University of the Punjab, Lahore
Email: khalidmahmood@yahoo.com

Dr. Nosheen Fatima Warraich
Institute of Information Management,
University of the Punjab, Lahore
Email: nosheen.im@pu.edu.pk

Abstract

The purpose of this research is to synthesize the findings of existing studies on the sharing of health information among older adults. This SLR follows the PRISMA model to provide an extensive analysis of the practices of health information sharing among older adults. This review synthesizes the results of the searches in Google Scholar, Web of Science (WoS), and Scopus databases that investigated the purpose to share health related information, technologies used, and challenges faced by older adults in sharing their health information. Most of the studies emphasize that the elderly use computers, mobile phones, and social media apps to discuss their health issues with doctors and families. However, there are challenges like technology constraints, people's resistance to technology, and lack of funds that hinder information sharing. Moreover, the study shows the variety of technologies used by older people, indicating the necessity for more individualized approaches to the development of interventions. Subsequent studies should focus on tackling these barriers with the help of specific interventions and creating effective technology designs that would enhance the accessibility of healthcare services for elderly people. By bridging the digital divide and enhancing access to technology, stakeholders can foster a more equitable healthcare system that empowers older adults to actively engage in health information sharing, ultimately improving their health outcomes and overall well-being.

Keywords: Information sharing; Barriers faced by older adults; health technologies; Healthcare communication; Health information sharing

Introduction

The world is witnessing a notable trend of population aging, with nearly every country experiencing a rise in the number and proportion of older adults (United Nations, 2019). Generally, older individuals tend to encounter more health issues than younger populations. As a result, they form a significant and increasing segment of both online health information seekers and potential contributors (Sheng & Simpson, 2013). Utilizing technology for health information sharing offers numerous advantages in today's digital age. Firstly, it enables rapid dissemination of crucial health-related updates, allowing individuals to stay informed about emerging trends, preventive measures, and treatment options (Bashshur & Shannon, 2011; Rafi et al., 2021). Leveraging technology for health information sharing holds immense potential in enhancing healthcare accessibility, promoting knowledge dissemination, and empowering individuals to lead healthier lives (Anderson & Perrin, 2017).

Technology plays a vital role in enhancing the lives of older adults, particularly in critical situations (Beratarrechea et al., 2014; Bjering, Curry & Maeder). With advancements in telehealth services, seniors can access medical care remotely, mitigating the challenges of mobility or emergencies. Wearable devices and health apps empower them to monitor their well-being and manage chronic conditions effectively. They provide the convenience of receiving help in falls or medical emergencies within the shortest time possible (Busch & McCarthy, 2021). Furthermore, it promotes social interaction through the use of devices, important for establishing contact with family and friends during such periods as it boosts the mental health of the elderly. Technologies that are assistive focus on distinct purposes to enable people to make decisions on their own while avoiding dangers (Ahmad et al., 2020). Education material and electronic health records increase the chances of making correct decisions and improve the coordination of healthcare. They also get support from their peers and other members of the community through online platforms, which enhances their experiences and makes them feel accepted and valued, hence promoting their well-being. Consequently, the use of technology enhances the abilities of older adults by enabling them to handle important situations in a befitting manner and therefore improving their welfare and quality of life (Kim et al., 2021; Park & Kang, 2020; Rafique et al., 2020; Rafique, Subhpoto & Idrees, 2023).

Despite the benefits, the older people are not without some challenges when it comes to using technology as shown below. Some of the constraints include lack of knowledge when it comes to devices and software applications front which they lack proper understanding on

its interface (Hussain et al., 2018). It may also arise from physical complications like impairment or old age in which case some activities like using small screens or typing require fine motor skills which are difficult to achieve. Furthermore, the privacy and security issues that are inherent in technology that is used by older adults may limit their willingness to engage in the use of technology (Nahas et al., 2018). Lack of resources and financial difficulties, as well as poor connectivity to fast internet or lack of devices themselves, only amplify inequalities regarding technology adoption by the elderly people. Further, the lack of training and support services that would be specific to the needs of the older population may limit their self- efficacy and skillfulness in using technologies (Pan & Dong, 2022). To overcome these difficulties, it is necessary to address the accessibility of design, increase the levels of digital literacy, and provide tailored support to older people for them to unlock the potential of technologies and improve their quality of life.

The need to conduct SLR on health information sharing with and among older adults can be seen from several crucial factors. Firstly, there are fundamental reasons for investigating a role of older individuals in using various types of health-related information as more people around the globe fall into the older adults' category. As new technologies and healthcare systems have been adopted, the focus in health and medicine has shifted to digital health approaches and individualized care paradigms. Nonetheless, patterns of ageing and the older adults' roles within these systems, as well as challenges they encounter in receiving and transmitting health information are yet to receive adequate research attention. Through an SLR, authors can examine articles to determine theoretical insights about these dynamics, offering a literature review to reveal the state of knowledge as well as research needs. Furthermore, literature was identified with SLR on health information seeking (Bachofner et al., 2024; Zhao, Zhao& Song, 2022; Zakria et al., 20024). Moreover, no SLR has been conducted with respect to health information sharing among older-. Therefore, this situation incidentally provided us with the impetus to carry out this SLR study on the sharing of health information among older.

Research Objectives

The main aim of this SLR is to synthesize the literature on health information sharing among older adults. To achieve stated aim of this SLR, following three research objectives were framed.

- To investigate the purpose of health information sharing among older adults
- To explore the technologies used by older adults to share health information

- To discover the challenges faced by older adults to share health information

Research Methodology and Design

The systematic review complied with the PRISMA Checklist that was formulated to help the researchers undertake the right analysis of literature. The list of items is meant to be a core minimum set of items for reporting in systematic reviews and meta-analyses based on the PRISMA statement. Accordingly, PRISMA attempts to assist the authors in the more appropriately and adequately reporting, making it easier for the readers to assess the soundness of the conclusions made by the authors. PRISMA encompasses four key stages in a study: identification, screening, relevancy, and inclusion of record or studies. Since the current study aims to systematically review the scientific literature in the LIS field, previous studies also used PRISMA standards should serve as the model in conducting the same (Asim & Arif, 2023; Bashir & Warraich, 2023).

Search strategy

The researchers also established a search strategy as a way of identifying all the available publications that came up with literature on the same topic. Firstly, eight premier databases such as Web of Science, SCOPUS, Library, Information Science, and Technology Abstract (LISTA), Google Scholar, Emerald Insight, Science Direct, Taylor & Francis, and Sage were consulted using a diverse search terms pertaining to health information exchange. However, the first theoretical searches returned a relatively small amount of literature solely dedicated to the topic of health information sharing between older adults. Consequently, based on these preliminary findings, the researchers opted to focus their search on three databases including Google Scholar, Web of Science and SCOPUS. The following search query was employed across all three databases to gather data pertaining to health information sharing among older adults.

("health information sharing" OR "mHealth information sharing" OR mhealth OR "health information exchange" OR "health information sharing patterns" OR "challenges of health information exchange") AND ("older" OR "elder people" OR "aged person")*

The database searches with the specified search string were conducted in January, 2024. All relevant data retrieved from the five databases was compiled into an Excel spreadsheet. One team member conducted searches in Scopus and Web of Science (WoS), while another member performed searches in Google Scholar to locate relevant literature. This process was

duplicated to ensure data accuracy. The assessment procedure, including screening, eligibility assessment, and selection of included studies, was completed within three weeks by third team member and then reviewed by the first and second member for consistency. They all extracted sources and used a double-source-checking system in order to minimize data entry errors. During these steps, which included data collection and extraction, the participation of all researchers was observed, and the procedures for all the steps were repeated to check the accuracy and reliability of the collected data.

Inclusion and Exclusion Criteria

Since studies have shown that randomized controlled trials are often not representative of real life practice, the inclusion and exclusion criteria of an SLR are used as guidelines that can help researchers to select articles relevant to their topic. Potential studies are eligible to review for inclusion if the meet the inclusion criteria that are defined prior to the screening process. On the other hand, the following conditions will lead to the exclusion of a study: if none of the established exclusion criteria is met. These cut off criteria assist in filtering multiple documents for accord with the research goals and objectives and also helps to ensure that the documents selected meet the required quality and are relevant to the subject matter.

The inclusion criteria for selecting papers are as follows: All papers must be published in peer-reviewed research journals, in the English language, and must exclusively focus on the subject of information sharing of health data and the issues the older adults face while sharing such information. Furthermore, the collection of papers must be in full text since only papers in full text will be included in the systematic literature review. The exclusion criteria for paper selection are as follows: papers not written in English, papers classified as grey literature such as technical reports or dissertations, and duplicate studies identified through searches across the five selected databases, namely WoS, Scopus, SCOPUS, and Google Scholar.

Filtering

A final set of articles was identified for review through a four-stage screening procedure, as illustrated in Figure 1. Initially, 4,118 research papers were retrieved based on the search query. Irrelevant or duplicated papers were removed, and the screening process utilized the titles and abstracts of the papers. To mitigate bias, publications were evaluated against predefined inclusion and exclusion criteria. Additionally, backward and forward searches were conducted to ensure comprehensive coverage of the literature. A total of 15 studies were deemed relevant, but after quality assessment, 02 full-text studies were excluded.

Finally, 13 studies were identified that provided concrete evidence to address the research questions of this study. All authors contributed equally to the literature review process and the selection of final studies for the SLR. By involving all authors in these critical stages, the SLR is likely to benefit from diverse perspectives and thorough examination of relevant literature, leading to a robust and comprehensive review outcome.

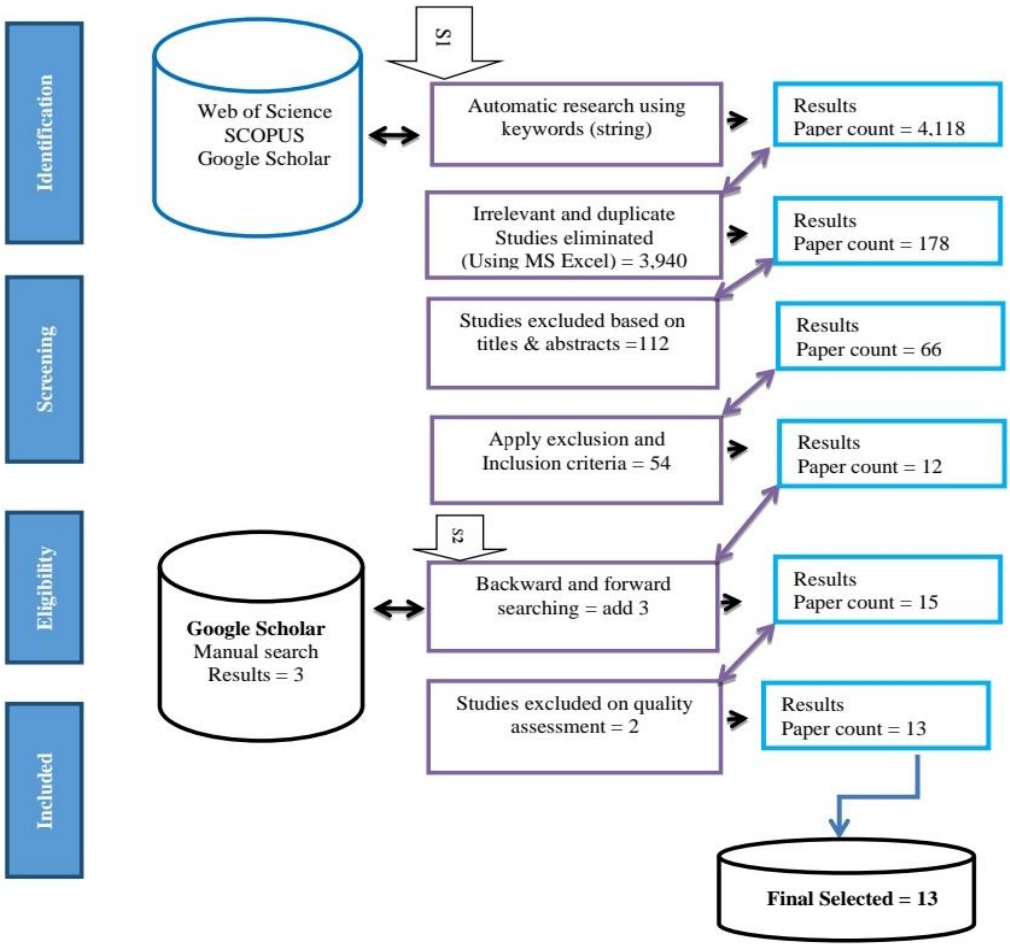

Figure 1. PRISMA Model

Results and Interpretation

Methodologies employed in the selected studies

Table 1 illustrates the methodologies utilized in the 13 selected studies of this SLR. The analysis revealed that five studies employed a quantitative research approach, utilizing questionnaires. Five studies utilized a qualitative research approach, conducting interviews with diverse research participants. Additionally, two studies employed a mixed-methods approach, while only one study was based on a literature review. The sample sizes presented in Table 1 ranged from a minimum of 10 to a maximum of 1149 participants.

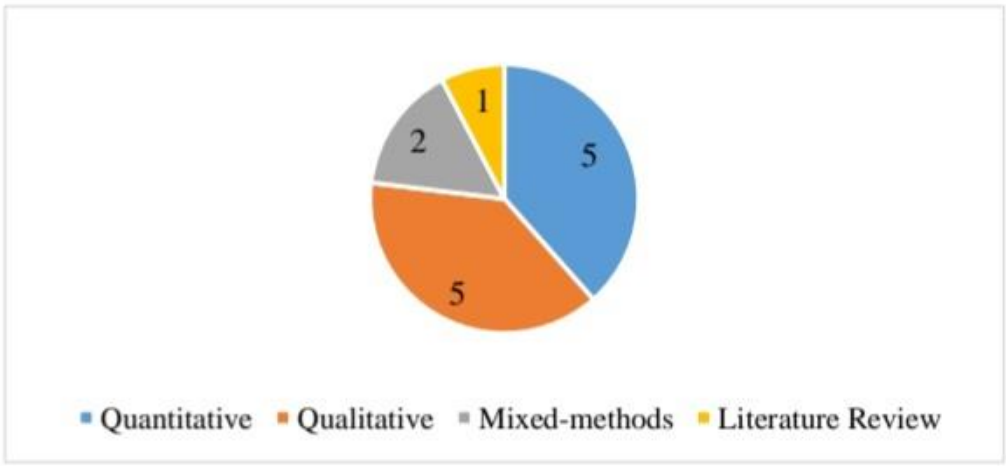

Figure 2. Research methodologies used

Distribution of Studies Year-Wise

In figure 3, it appears that there is a concentration of studies published in recent years, particularly in 2021. This suggests that there has been a notable increase in research interest or focus on the topic of health information sharing among older adults in recent times. The presence of multiple studies from 2019, 2018, and 2015 also indicates ongoing interest and investigation into this area over the past decade. However, it's worth noting that there are fewer studies from earlier years, such as 2014, 2013, and 2008. Overall, the distribution of studies across different years indicates a growing trend of research attention towards understanding health information sharing behaviors among older adults, particularly in more recent years. This may reflect an increasing recognition of the importance of effective communication and information sharing in healthcare, especially within the context of an aging population.

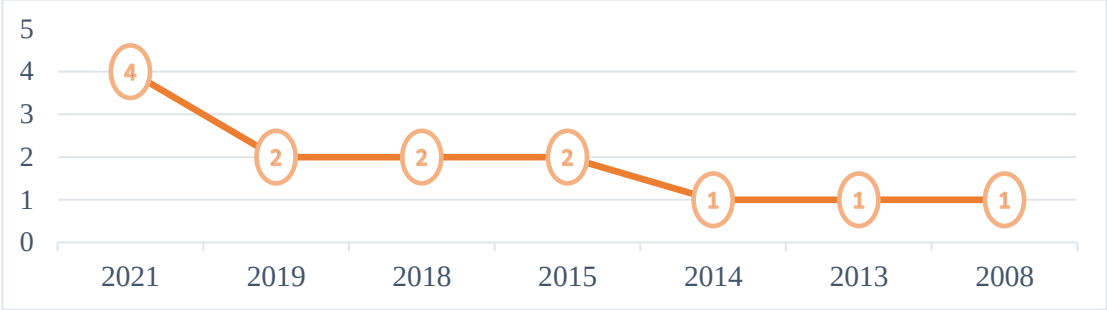

Figure 3. Distribution of studies year-wise

Table 1

Methodological characteristics of the chosen studies

Sr No	Author	Year	Research approach/methodology	Instrument	Sample size
1	Seifert & Vandelanotte	2021	Mixed-methods	Interview +Questionnaire	1149
2	Shang, Zhou & Zuo	2021	Quantitative	Questionnaire	290
3	Zhang, Xu & Cheng,	2021	Mixed-methods	Interview +questionnaire	20 +690= 710
4	Low et al.	2021	Qualitative	Interview	20
5	Kim & Choi	2019	Quantitative	Questionnaire	177
6	Theis et al.	2019	Quantitative	Questionnaire	551
7	Liu, Yang & Sun	2018	Quantitative	Questionnaire	387
8	Cajita et al.	2018	Qualitative	Interview	10
9	Crotty et al.	2015	Qualitative	Interview	23
10	Ashida & Schafer	2015	Qualitative	Interview	110
11	Fischer et al.	2014	Literature review	X	X
12	Young et al.	2013	Qualitative	Interview	35
13	Eriksson-Backa et al.	2008	Quantitative	Questionnaire	46

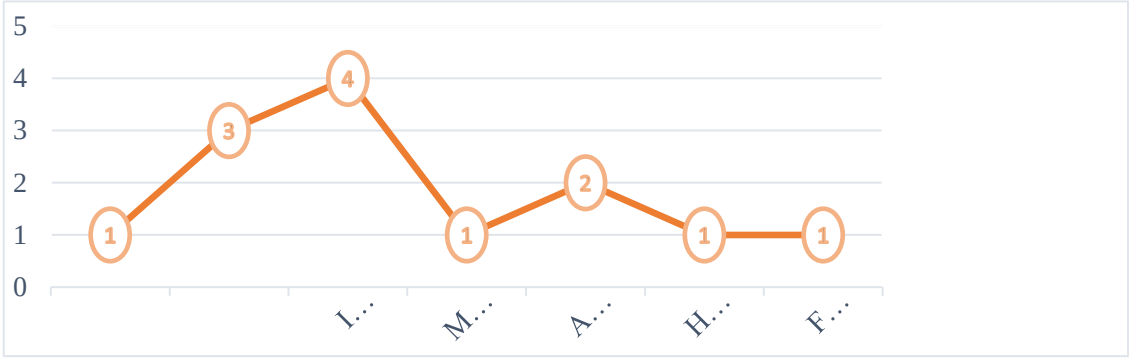

Figure 4. Distribution of Studies Area-wise

Purpose to share health information among older adults

Table 2 presents the findings of various studies examining the purpose of health information sharing among older adults. Across the majority of these studies, a consistent trend emerges: older adults primarily share their health information with doctors, family members, or friends with the intention of either preventing diseases or facilitating the diagnosis and treatment of existing conditions. Moreover, several studies emphasize the importance of social support in the context of health information sharing among older adults, indicating that they often share their health status with loved ones to receive emotional and practical assistance during the course of their treatments. Interestingly, one particular study underscores the preference among older adults for sharing health information directly with healthcare professionals through the use of health technologies. This preference is driven by a desire to alleviate the burden on younger family members who may already be occupied with earning income and attending to the family's basic needs. Taken together, these findings shed light on the multifaceted motivations behind health information sharing among older adults, highlighting both the importance of interpersonal relationships and the growing role of technology in healthcare communication.

Table 2

Purpose to Share Health Information Among Older Adults

To share health information with doctors	Improve diagnostics, treatment, and quality of life
To share health information with family members	To gain social support from family and friends on health

Sharing personal health information and involving family and friends in decision-making when necessary	Prevention of complex diseases, reaching maximum number of family friends to share health information sharing, to decrease the burden on younger generation

Use of technology for health information sharing

Several studies have extensively explored the array of technologies embraced by older adults for the purpose of sharing their health information with others. More specifically, these tools and applications can broadly be categorized into two main types, namely, hardware tools and software applications. As illustrated in Figure 5, it is shown that prevailing trend across numerous studies indicates that older adults usually use traditional hardware devices such as general computer or laptop and mobile phone to disseminate their health information concerning personal health issue to family members or healthcare professionals. Besides that, findings also note the utilization of general Internet browsing which is easily accessible almost for every healthy person and messaging platform like WeChat and different social media application to communicate their health-related matters with their loved ones. Furthermore, several studies have emphasized the use of particular health-oriented apps by older persons, which serve as dedicated venues for exchanging relevant health information. Through these founded results from all accessible details and discussing detail toward it has proven how diversity the technologies being used by older adult concerning view perspective.

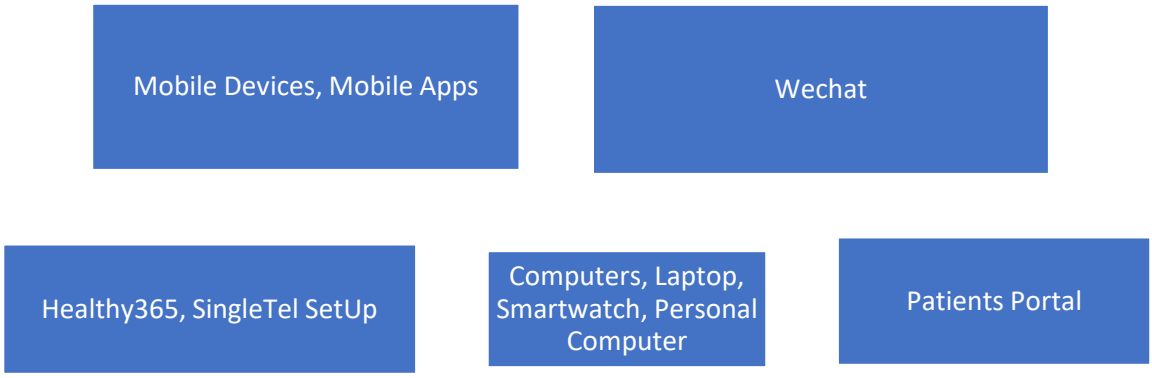

Figure 5. Use of Technology for Health Information Sharing

Barriers faced by older adults to share health information

For this scoping review, we performed an extensive analysis of the various barriers faced by older adults in sharing health information and these barriers were represented as a whole in Figure 6. The current review brings into focus the pervasiveness of multiple obstacles impeding older adults from effectively communicating their health information to others. Most commonly reported, among others, are lack of acquaintance with and competency in the usage of such health technologies coupled with a general unease in using technology within this age group. Inconvenience owing to unavailability or limited use of smartphones poses another obstacle while high costs related to acquisition as well as maintaining many technological devices do not make things any easier for them. Ill-designed interfaces and complicatedness of technological systems contribute further to making it particularly difficult for older individuals to navigate through such health information sharing platforms designed on modern technology parameters. Moreover, The sense of not feeling good enough mixed with the heavy load of dealing with technology explains a bit why older people don't really get into sharing about their health. On top of that the issues they run into like getting mixed messages and not having enough time stand in their way quite a bit. Together these results shine a light on the various challenges that older individuals face when they're sharing health information. This highlights how crucial it is to have solutions tailored just for them and technology that's easy to use so we can overcome these hurdles effectively.

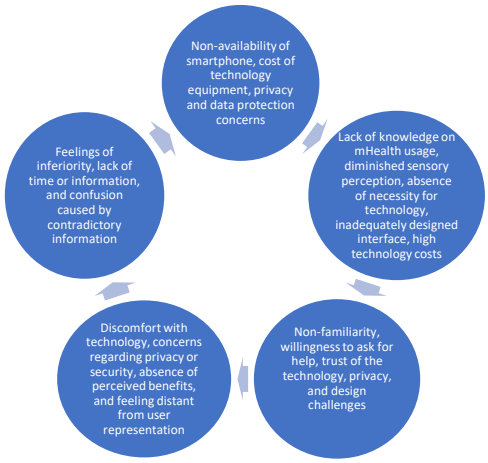

Figure 6. Barriers Faced by Older Adults to Share Health Information

Discussion on findings

The findings from the SLR shed light on older people's motivations and preferences for sharing health information. Many studies reveal that when it comes to talking about their health issues older people mainly turn to their doctors and the people they are close to like friends and family members (Crotty et al., 2015; Seifert & Vandelanotte, 2021; Shang, Zhou, & Zuo, 2021; Zhang, Xu, & Cheng, 2021). The way older individuals manage their health is heavily influenced by what they see on social media and the advice they get from healthcare professionals. Delving into studies reveals the significant role that disseminating health-related information plays in both preventing illnesses from occurring and simplifying the process of treatment. Elderly individuals often talk to their doctors and nurses about their health to stay healthy or to figure out and fix any health problems they already have (Kim & Choi, 2019)." The study brings to the forefront the critical role of doctors and nurses in guiding and supporting elderly individuals through their health journeys. Studies have found that older adults find it really helpful to share their health details with others for support. When facing health issues many older people choose to confide in their family seeking comfort and assistance during their medical treatments. It shines a light on how crucial family and friendships are to the health and happiness of older people showing that getting emotional backing can make a real difference in how well they recover and feel. The research points out that the older population places great importance on the help and advice they get from doctors' nurses and the people close to them as they look after their health. It also shows that older people are leaning towards using tech solutions for their health needs which signals that the medical field should evolve and bring in more tech-based options to align with what these individuals prefer.

The study sheds light on a wide range of tech tools that seniors use to share their health details with others. A closer look at these tools shows they split into two groups: gadgets and apps each playing a unique role in helping seniors pass on health information. Figure 5 highlights how older adults often use devices like computers laptops and mobile phones to share health info as noted by Liu Yang & Sun in 2018. Older adults find these gadgets useful for staying in touch with their families or those who look after their health. Mobile phones have become very popular and they show us how being able to move around easily and convenience matter a lot when older people need to share information about their health no matter where they are (Seifert & Vandelanotte 2021; Rafi et al. 2020). The research also points out how

important software apps are in helping older people share information about their health with others. Older adults often use the internet social media like WeChat and different messaging apps to talk about their health issues with family and friends as noted by Zhang Xu and Cheng in 2021. These services are easy and handy for older people to talk about health stuff giving them a feeling of being connected and supported. The SLR also points out an increase in older adults turning to apps designed for health to share their health details. Older people find these apps useful for many things like keeping an eye on their vital signs and making sure they take their medicine on time giving them a way to be more involved in taking care of their health.

This study brings useful insights into the challenges experienced by older persons when sharing their health information with others. In exploring the difficulties that older adults have when they try to share their health details with someone the research sheds light on some important issues. It becomes clear from the details shown in Figure 6 that older folks are up against a lot of challenges that include not just issues with using technology but also mental and day-to-day hurdles. In the studies examined a significant obstacle emerged: older adults often face challenges because they're not familiar or at ease with health technologies as noted by Cajita and colleagues in 2018. Many older adults find it hard to use online platforms and apps mainly because they're not that familiar with technology or they haven't picked up the digital know-how. This barrier highlights the importance of providing older people with the training and support they need. It makes them feel more confident when they share info using health tech. Moreover, the lack of access to smartphones and the steep prices tied to tech pose major hurdles for the elderly (Low et al., 2021).

To effectively share health details older adults, require devices that are affordable and simple to operate. "Addressing the digital divide and ensuring equitable access to technology resources are critical steps in overcoming these barriers and promoting inclusivity in healthcare (Young et al., 2013)." Moreover, when the design of technology systems is overly complicated or if the interfaces don't consider the needs of older adults this can cause them to become frustrated and eventually give up on using these digital instruments. Ensuring that technology is user-friendly and feels intuitive is crucial in increasing its accessibility and usefulness for older adults. Simplifying the design of tech interfaces while incorporating features such as larger text and voice command capabilities can significantly reduce the barriers associated with their design.

Implications of the study

The SLR highlights the need for tailored program designs and collaborative efforts to tackle the challenges the elderly face in health information sharing. Training healthcare professionals extensively is vital for effective communication with the elderly especially in bridging the gap between their comfort and skills with current technology. Those who develop technology ought to remember to design it in a way that's simple to operate and packed with features that assist the elderly. Groups in the community and those who give health care need to join forces to help teach older adults about technology in a way that's just right for them which helps them feel more at ease using it and makes sure there's help available when they need it. It is crucial for those who make policies to put in place healthcare rules that make sure everyone can get their hands-on budget-friendly tech and the help they need. At the same time health systems need to weave tech into their everyday workings to make sharing health info easier. Giving older people the tools and help they need to learn is key. This way they can take charge of their own health care. It's crucial to always look at and better the actions and rules we follow to make sure they work well and stay up to date. Putting these plans into action helps make sure everyone is included especially older folks giving them a chance to share health info which in turn boosts their health and happiness overall.

Limitation and Future Research Directions

This study offers important findings yet it isn't without its shortcomings. The review only looked at three databases and picked studies that were written in English meaning it might have missed important research in other languages or found in other databases. Despite the attempt to carry out a thorough search through well-known academic databases the chance of missing important articles still exists. It would be wise for upcoming researchers to broaden their search scope by looking into more databases aiming for a more complete exploration. The SLR took into account a limited selection of studies only 13 to be exact. This hints at the vast room for additional research in this domain. Exploring different facets of how older adults share health information could be the focus of upcoming research. This might cover areas like how mobile apps are used and what skills are essential for sharing health info effectively. Even with these limits in mind the study lays the groundwork for deeper knowledge about how older adults share health information and points out paths for more research down the line.

Conclusion

This SLR focuses the significance of sharing health information with older individuals and the different elements that influence this practice. The findings highlight the relevance of older persons using a variety of technology, such as computers, mobile phones, and social media apps, to exchange health information with healthcare practitioners and loved ones. However, considerable constraints such as a lack of technological understanding, discomfort with technology, and costly gadget prices impede efficient information exchange. Addressing these hurdles with targeted interventions, digital literacy programs, and user-friendly technology designs is critical to encouraging inclusive healthcare practices for older individuals. Future research should look into novel techniques for overcoming these obstacles and increasing health information sharing among older persons, thereby enhancing their health outcomes and general well-being.

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