SOCIAL MEDIA HEALTH MISINFORMATION; CONSEQUENCES AND SOLUTIONS

Omokaro Osariemen Collins., Chiejine Ijeoma Jessica and Imonna Kinksley Edekin
Department of Health Safety and Environmental Education,
University of Benin, Benin City

Abstract
Social media and online resources have affected most aspects of our lives, and many are now using it to guide their healthcare decisions. The proliferation of health misinformation on social media poses significant threats to public health and several factors contribute to this phenomenon. The unrestricted nature of social media in sharing of information and knowledge, including medical and healthcare information that can be quickly discovered by patients has worsen this problem, and since no clear robust and standardized modalities on how health information is shared, this issue is increasingly worrisome and implies that no one is safe from the outright health corruption messages on social media platforms. Public health enlightenment, deliberate efforts by healthcare professionals and healthcare organizations (local and international) are to engaged to monitor and regulate this menace. this paper examined health misinformation: the contributory factors, consequences and possible solutions.

Keywords: Health misinformation, social media

Introduction

The internet is a convenient source for obtaining educational materials and information. Social media refers to web-based applications that allow people to create and exchange information such as blogs and microblogs (for example, Twitter), content communities (like YouTube), and social networking (for example, Facebook and LinkedIn). As global digitization continues to take centre stage in our daily lives, various web portals and websites buzz with information, and have become encyclopedias for healthcare-related information for many users, and over the years, these platforms have emerged as new channels for people to seek and exchange health information (Zhao & Zhang, 2017). These social platforms have gained wider participation among health information consumers from all social groups regardless of age. The internet represents a diverse array of modalities for conducting searches for health information. Barua, Barua, Aktar, Kabir, and Li (2020), reported than more than 4 billion users joined the realm of the internet and the numbers are increasing day by day. They observed that more than 70% of adults utilized various web sources to search healthcare-related information. Among various internet services, social media platforms are used as the main source of information by people whereby they interact with each other to create, share, and exchange information among their virtual communities (Niknam, Samadbeik, Fatehi, Shirdel, Rezazadeh, & Bastani, 2020), with Facebook, Twitter, and Instagram, the social media giants. This implies that social media propels the spread of misinformation by allowing content to be shared among users easily.

Health misinformation refers to a health-related claim of fact that is not supported by scientific evidence and expert opinions (Vraga & Bode 2017; Chou, Oh, & Klein 2018). Health misinformation on social media is the spread of false, inaccurate or misleading information through social media platforms. It is the piece of content that fulfills the deceiving intention by spreading misleading health information. Some health professionals and organizations use social media to disseminate health-related knowledge on healthy habits and medical information for disease prevention, as it represents an unprecedented opportunity to increase health literacy, self-efficacy, and treatment adherence among populations (Iyanda and Akintaro, 2016;Dredze, Broniatowski, Smith & Hilyard, 2016). However, these public tools have also opened the door to unprecedented social and health risks. Studies have suggested that false or misleading health information may spread more easily than scientific knowledge through social media (Vosoughi, Roy & Aral, 2018). It creates potential risks to both the patients and healthcare professionals. The distribution of poor-quality information can cause harm to patients and damage the professional image (Hao & Gao, 2017).

Many Facebook users look for health information on Facebook, and the unrestrained usage and access of social media platforms made them a discussion portal and healthcare is an emerging topic among several other issues (Ghenai&Mejova, 2018). Tan (2017) reported that, users receive medical consultations through social media, while others use it to find information related to their conditions (Tan, 2017). While the firsthand experience shared by patients may be helpful for prevention and treatment, this kind of information is not accredited by medical authorities, resulting in a cacophony of true and false health information circulating on social media (Brady, Kelly & Stein, 2017).

Social media as a wide-open gateway to public exposure have been growing across the globe with variety of textual information in the form of blogs, microblogs and short texts (Koohanget al, 2018; Mądra-Sawicka et al, 2020; Wong et al, 2020). The understanding of such information is critical especially when the information is related to healthcare because it can have enormous impact on public health (Troshani & Wickramasinghe, 2018). Before consulting a physician, 44% of people often search about the cure of an illness on the internet and change their decision about the treatment (Ghenai, 2017). Moreover, the influence of propagated healthcare misinformation on people often leads them to harmful health decisions (Ghenai, 2017). Therefore, usage of social media and people's reliance on available content originates a problem of health misinformation dissemination. Hence, healthcare professionals are often facing the problem to eliminate non-credible information from all official and non-official sources (Datta, Yadav, Singh, Datta & Bansal, 2020). This is a big problem in the public healthcare space that requires urgent attention.

Methodology

This study adopted a narrative literature review design using secondary sources of data to examine the causes, consequences, and solutions to health misinformation on social media. Relevant materials were obtained from peer-reviewed journal articles, textbooks, conference papers, reports from health organizations, and credible online publications.

Only English-language materials directly related to health misinformation and social media were included, while unrelated studies, duplicate publications, outdated materials, and non-credible online sources were excluded. The retrieved literature was reviewed and analyzed thematically according to the objectives of the study.

Factors Contributing to Health Misinformation on Social Media

i. *Social Media Algorithms:* Social media emphasizes on engagement metrics and this activity creates an environment where misleading information spreads rapidly. Social media algorithms prioritize sensational and provocative content, amplifying misinformation (Brennen, Simon & Howard, 2020)..
ii. *Influencer Culture*: Social media influencers, often without expertise, perpetuate health misinformation (Kata, 2010). Celebrity endorsements and influential online personalities legitimize false information, all in the name to acquire more views, likes and fame.
iii. *Lack of Health Literacy:* Limited health literacy among social media users makes them vulnerable to misinformation and inadequate critical thinking skills hinder users' ability to evaluate information before rebroadcasting or practising the ill health information.
iv. *Misleading or Fake News Sources:* Fake news sources and satirical articles presented as factual contribute to health misinformation (Kim, Tabibian, & Oh, 2018). Social media platforms' failure to regulate these sources exacerbates the issue.
v. *Confirmation Bias:* Users' tendency to seek information confirming preexisting beliefs perpetuates health misinformation and social media's personalized feeds reinforce these biases.
vi. *Emotional Contagion:* Emotional appeals and sensationalized content contribute to the spread of misinformation. Fear-mongering and conspiracy theories may exploit users' emotions.
vii. *Lack of Expertise:* Non-experts spreading health information without credible sources contributes to misinformation (Vickers, 2004). Social media platforms' open nature enables anyone to share health advice without licence or regulations.
viii. *Economic Interests:* Financial motivations drive some individuals and organizations to spread health misinformation (Ernst, 2011). Advertising revenue and product sales incentivize misinformation.
ix. *Regulatory Environment:* Social media platforms' lack of accountability for spreading misinformation perpetuates the problem and inadequate regulations fail to address health misinformation.

Consequences of Health Misinformation

The consequences of health misinformation can be severe. Health misinformation could make disease outbreak worse (Kelland, 2020), stretching the resolve of health workers and authorities to stop spread and eventually find a lasting cure. Furthermore, misinformation about cancer treatment has resulted in patients forgoing evidence-based treatments in favour of unproven alternatives (Vickers, 2004).

i. *Physical Harm and Mortality:* Misinformation about vaccine safety, for instance, has led to decreased vaccination rates and increased outbreaks of preventable diseases, resulting in significant morbidity and mortality (Dubé, Vivion, & MacDonald, 2013). A study published in the Journal of Infectious Diseases found that vaccine hesitancy contributed to a 39% increase in measles cases in the United States between 2013 and 2014 (Dubé, Vivion, & MacDonald, 2013). Misinformation about about COVID 19 contributed to increased mortality rates particularly among vulnerable populations (Brennen, Simon, F & Howard, 2020).
ii. *Delayed or Foregone Care*: Health misinformation can also lead to delayed or forgone care, exacerbating health outcomes. Research has shown that misinformation about cancer treatment results in patients forgoing evidence-based treatments in favor of unproven alternatives, reducing survival rates (Vickers, 2004). A systematic review of 24 studies found that exposure to health misinformation increased the likelihood of delayed or foregone care (Ekström, Lewis & Westlund, 2020).
iii. Economic Burden: The economic consequences of health misinformation are substantial. A study published in the Journal of Health Economics estimated that vaccine misinformation costs the United States healthcare system approximately $130 million annually (Lee, Kim & Lee, 2019). Misinformation about alternative treatments can also lead to unnecessary healthcare expenditures, straining healthcare resources (Ernst, 2011).
iv. *Psychological Distress:* Health misinformation can cause significant psychological distress, including anxiety, fear, and mistrust in healthcare providers (Iyanda and Akintaro, 2016;Brennen, Simon & Howard, 2020). A survey conducted by the American Psychological Association found that 62% of respondents reported feeling stressed or anxious due to health-related misinformation (American Psychological Association, 2020).
v. *Social Consequences:* Misinformation can perpetuate health disparities, stigmatize marginalized groups, and undermine public health initiatives (Kata, 2010). For example, misinformation about HIV/AIDS has contributed to ongoing stigma and discrimination against individuals living with the disease (Herek Gillis & Cogan, 2017).

Combating Health Misinformation on Social Media: Strategies and Solutions

i. *Fact-Checking Initiatives:* Independent fact-checking programs can mitigate health misinformation. Cooperation among social media platforms, healthcare organizations, and fact-checking initiatives is essential. Social media platforms can integrate fact-checking tools, as seen in Google's Fact Check feature. Governments can establish regulations, such as the EU's Digital Services Act; an EU regulation adopted in 2022, that addresses illegal content, transparent advertising and misinformation. Furthermore, internet users should endeavor to check for the credibility of health information by checking if the source is a reputable organization or agency such as the World Health Organization, the National Institutes of Health or the Centers for

Disease Control and Prevention (Barron, 2022). Other credible sources include an established medical or scientific institution or a peer-reviewed study in an academic journal.

ii. *Health Literacy Education:* Promoting critical thinking and media literacy skills empowers users to evaluate health information. Educational programs, should be put forward for the public, as well as emphasis on health education from qualified professionals are paramount. Social media users should beware of outdated information and be educated on checking for qualifications, expertise and relevant professional affiliations for the author or authors presenting the information (Barron, 2022). Be wary if author information is missing or difficult to verify. There are satire websites that share sensational content for laughs. If something seems outlandish, determine whether the content is meant to inform or entertain (Barron, 2022).

iii. *Collaborations with Influencers:* Partnering with social media influencers to promote accurate health information can counter misinformation (Kata, 2010). The #VaccinateWithMe campaign exemplifies successful collaboration in this regard.

iv. *Algorithmic Modifications:* Social media algorithms can be adjusted to deprioritize misinformation (Centola, 2010). Platforms can incorporate credibility scores to weigh the credibility and authenticity of the source and health information.

v. *Expert Engagement:* Encouraging healthcare experts to engage on social media can combat misinformation (Vickers,2004). Platforms can facilitate expert-led discussions for this purpose.

vi. *User Reporting:* Empowering users to report health misinformation can aid in its removal (Kim et al., 2018). Social media platforms can implement user-friendly reporting tools. Cross-reference information across multiple reliable sources. Strong consensus across experts and multiple scientific studies supports the validity of health information. If a health claim on social media contradicts widely accepted scientific consensus and stems from unknown or unreputable sources, it is likely unreliable (Wang, 2023).

vii. *Question Sensational Claims*: Misleading health information often uses sensational language designed to provoke strong emotions to grab attention. Phrases like “miracle cure,” “secret remedy” or “guaranteed results” may signal exaggeration (Wang, 2023). Be alert for potential conflicts of interest and sponsored content. Oftentimes headlines are sensational, crafted to grab your attention. Dig into the content itselfdoes the information support the claims?

viii. *Weigh Scientific Evidence over Individual Anecdotes:* Prioritize information grounded in scientific studies that have undergone rigorous research methods, such as randomized controlled trials, peer review and validation. When done well with representative samples, the scientific process provides a reliable foundation for health recommendations compared to individual anecdotes. Though personal stories can be compelling, they should not be the sole basis for health decisions (Wang, 2023).

ix. *When in doubt, don’t share:* Sharing health claims without validity or verification contributes to misinformation spread and preventable harm.

Conclusion

Health misinformation on social media has become a major public health challenge due to the widespread use of digital platforms for health communication. The rapid spread of false and misleading health information can negatively influence health decisions, increase disease outbreaks, create fear and confusion, and reduce trust in healthcare systems and professionals. Factors such as poor health literacy, weak regulations, social media algorithms, and influencer activities contribute significantly to this problem. Therefore, there is a need for stronger regulations, improved public health education, active involvement of healthcare professionals, and effective fact-checking mechanisms to reduce the spread and impact of health misinformation. Proper monitoring and responsible use of social media for health communication are essential for improving public health outcomes and promoting accurate healthcare information. The following recommendations have been proffered;

i. Wholesome public enlightenment should be carried out to educate Internet users on the need to approach health professionals concerning health concerns and only associate themselves with correct and verifiable health information shared by recognized health organizations.
ii. Further researches should be conducted by government to explore the contributory factors to the incessant distribution of health misinformation by influencers and individual social media users peculiar to their country, to draw inference on how to curb the trend.
iii. Strict regulations on health information shared on social media should be enacted and offenders be punished.

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