Original Article

Health Information-Seeking Behavior Related to COVID-19: A Literature Review

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Abstract:

Introduction: Health information-seeking behavior is an activity carried out to obtain information that originates from a need. This research aims to conduct a literature review regarding health information-seeking behavior related to COVID-19.

Method: A literature review was conducted from the Pubmed, Google Scholar, and Google Scholar Indonesia digital databases published in English and Indonesian between 2018 and 2023. The author used search terms on Pubmed and Google Scholar "health" AND "information" AND "seeking" AND "behavior" AND "generation Z" AND "COVID-19" AND "vaccination"; while on Google Scholar Indonesia, the author used search terms *"perilaku" DAN "pencarian" DAN "informasi" DAN "kesehatan" DAN "generasi Z" DAN "vaksinasi" DAN* "COVID-19".

Results: Thirteen studies included in the literature review were published between 2021 and 2023 which 69% used quantitative studies, 23% used qualitative studies, and 8% used a mixed method. All the research designs used were cross-sectional research. Most of the studies (53%) were conducted in Asia, 31% in Europe, 8% in America, and 8% in Africa. Most studies (77%) use test instruments to measure and only 23% conducted narrative interviews.

Discussion: Most studies show that the most frequently used sources of information are social media, television, word of mouth from friends, family, society, radio, health applications or official websites, doctors, or health experts. The types of information most sought after are regarding COVID-19 vaccination, the COVID-19 virus, guidance for self-care during the COVID-19 period, disease prevention and management, and vaccine accessibility.

Conclusions: This literature review found that searching for health information influences people's behavior regarding the decision to vaccinate against COVID-19, so the role of aspects related to processing positive information in the use of the COVID-19 vaccine is important.

Keywords: health-seeking behavior, COVID-19, vaccination, good health, well being

Introduction

On December 30, 2019, the Wuhan Municipal Health Committee provided an immediate notification of pneumonia of unknown cause, which has now been identified as Coronavirus Disease (COVID-19). On January 30, 2020, the World Health Organization (WHO) declared the condition of COVID-19 as a Public Health Emergency of International Concern (PHEIC). COVID-19 quickly spread throughout the world, so that on March 11, 2020, the statement was declared a pandemic (World Health Organization,

2020). This makes COVID-19 one of the health issues that is the topic of world discussion.

The main transmission of COVID-19 is through droplets so it becomes more massive. As a result, the number of cases is increasing rapidly as COVID-19 spreads around the world. One of the efforts to prevent COVID-19 is vaccination (Akhtar, 2022). The total target of complete vaccine or dose 4 on the population of Indonesia is 80 per 100 population or 234,666,020 people. However, since the first vaccine was administered in January 2021, until February 2024, only 2.02% of the population had received a complete dose of the vaccine (Vaccination Dashboard, 2024). For the COVID-19 vaccination effort to be successful, in addition to being proven safe and efficacious, it must also be widely accepted by the community. To create effective communication between the public, government, and health workers, it is important to understand how people search for health-related information on the Internet.

Knowledge and acceptance of the COVID-19 vaccine are closely related to information about the COVID-19 vaccination program (Shah et al., 2022). Information plays a role in building public awareness and shaping health behavior. People rely on media to access health-related information (Chen et al., 2020). Adequate health system capacity and effective strategies are needed to increase vaccine trust and acceptance (Li et al., 2023). More concerns about vaccine hesitancy are growing around the world (Joshi et al., 2021).

During the COVID-19 pandemic, people have been inundated with a lot of information through social media which also contains misinformation and causing chaos and mass panic (La et al., 2020). Exposure to media during a health crisis may increase the risk of anxiety and stress (Shu et al., 2017) Increased susceptibility to misinformation negatively affects compliance with public health guidelines on COVID-19, as well as people's willingness to be vaccinated (Roozenbeek et al., 2020). Increased vaccine hesitancy can reduce vaccination rates and lower community immunity (Kricorian et al., 2022).

Information-seeking behavior related to individual health from various sources is also known as health information-seeking behavior (HISB) (Jacobs et al., 2017). Several factors influence the pattern of information-seeking behavior namely age, literacy level, education, and access to information (Jacobs et al., 2017). Health anxiety, self-efficacy, internet-efficacy, and neuroticism have been identified as psychological factors that predict internet/web use for seeking health information (Wu & Shen, 2022). Motivation in searching for health information can be based on their health perceptions, their current health status, and family health history (Lagoe & Atkin, 2015). In a study by Jacobs et al., (2017), it was found that the internet was the first reference in seeking health information compared to family/friends/coworkers, health care professionals, and traditional media.

One of the impacts of the COVID-19 pandemic is social distancing in non-essential sectors. This has led to many people working, studying, and socializing online. Of course, for Generation Z this activity is not new. Generation Z or Gen Z is someone born between 1995-2010 (Dimock, 2019) Generation Z grew up with the social web. They are digital-centric and technology is their identity (McCrindle, 2021). So Gen Z has a vital role today. Unlike Generation X (1965-1980) and Gen Y (1981-1996) who did not live with the internet (Dimock, 2019). Therefore, Generation Z plays an important role in the dissemination of information within the family.

Given the importance of health information-seeking behavior, the purpose of this study is to conduct a literature review on health information-seeking behavior related to COVID-19. The specific objectives of this study are determining the most frequently used sources of information, what types of information are most sought after, and the effect of health information-seeking behavior on the decision to vaccinate COVID-19.

Method

Research Design

This research was a literature review by searching for relevant articles to achieve the objectives. The design used was a literature review to obtain information about health information-seeking behavior related to COVID-19.

Data Sources

Collected articles from Pubmed, Google Scholar, and Google Scholar Indonesia digital databases published in English and Indonesian between

2018 and 2023. The author used search terms on Pubmed and Google Scholar: "health" AND "information" AND "seeking" AND "behavior" AND "generation Z" AND "COVID-19" AND "vaccination"; while on Google Scholar Indonesia, the author used the search term: *"perilaku" DAN "pencarian" DAN "informasi" DAN "kesehatan" DAN "generasi Z" DAN "vaksinasi" DAN "COVID-19"*. The final step was to review all articles.

Data Analysis

Data was extracted by two reviewers. Data extraction includes several variables that reflect the domain and results. In addition, data variables that reflect the characteristics of the study, namely the author, year of publication, research design, type of research, sample characteristics, test instruments, and results were added.

Results

From the digital database, we found 2 articles from Pubmed, 493 from Google Scholar, and 85 articles from Google Scholar Indonesia. Then the articles were identified between 2018-2023 so 2 articles from Pubmed, 459 from Google Scholar, and 71 articles from Google Scholar Indonesia were found. A total of 532 articles were obtained. Then, we selected based on duplication, and 4 articles were filtered. We also selected based on abstracts and only the first 10 pages of Google Scholar so 512 articles were issued because they did not meet the criteria and were not full text with open access until 16 articles were assessed for Eligibility. Three articles were issued because they used the systematic review method so 13 articles were obtained according to the criteria (see Figure 1).
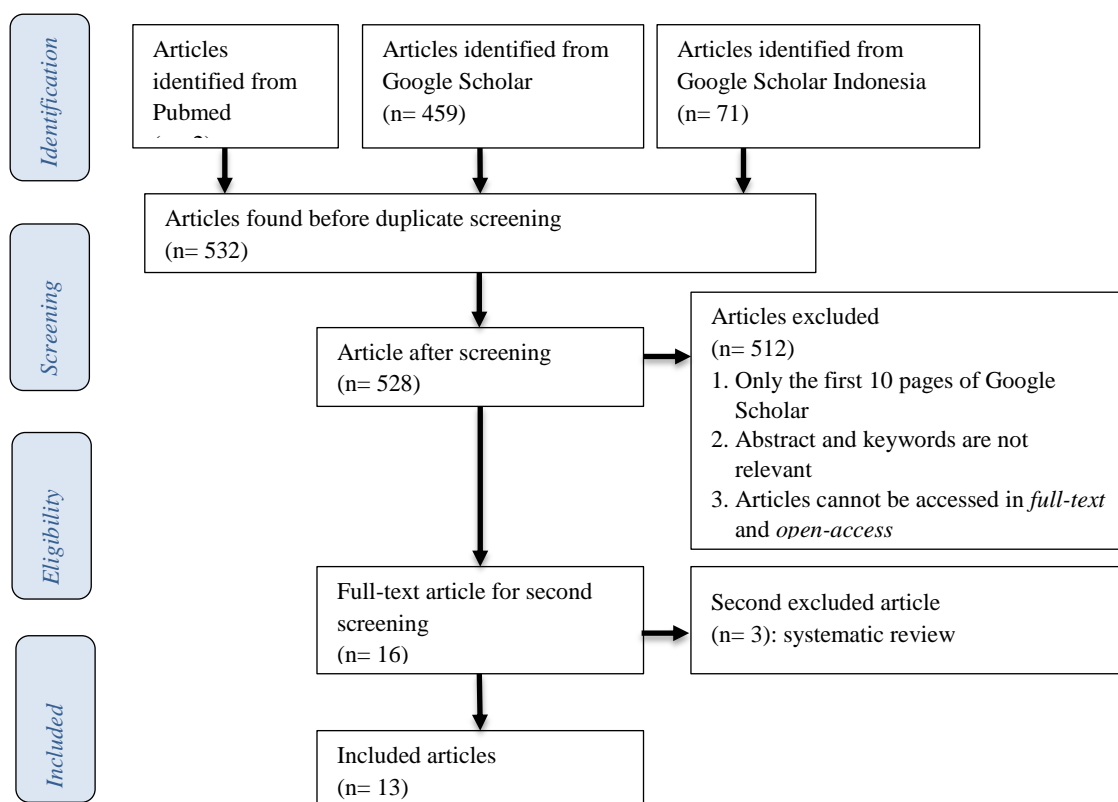

Figure 1 Flow Chart of Selection Process This Literature Review

Thirteen of the studies included in the literature review were published between 2021 and 2023. Nine studies (69%) used quantitative studies, 3 (23%) studies used qualitative studies, and 1 (8%) used a mixed method. All the research designs used were cross-sectional research. Seven studies (53%) were conducted in Asia (Vietnam, Korea, Hong Kong, Indonesia), 1 (8%) study in America, 4 (31%) studies in Europe (Hungary, Transylvania, Slovenia, Spain) and 1 (8%) study in Africa (Nigeria). Most studies (77%) use test instruments to measure social media use,

information sources related to COVID-19 vaccination and health information-seeking behavior, or COVID-19 vaccine use intentions.

Three studies (23%) conducted narrative interviews to look at information-seeking behavior regarding COVID-19.

Table 1 Literature Review Matrix

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
Usman et al., (2023) Nigeria	Assessing the relationship between social media use, awareness of the COVID-19 vaccine, and hesitancy/ acceptance among undergraduates at Kano University	Cross-sectional, quantitative study 150 respondents at Bayero University, Northwest University, and Skyline University in Kano, Nigeria.	The questionnaire was developed using results from previous studies on social media use, awareness of the COVID-19 vaccine, and vaccine hesitancy/ acceptance.	1. 75.2% of respondents use social media, 11.7% use television, 6.9% from the community, and 5.5% from radio as a means to gather information about COVID-19, disseminate news and information about the COVID-19 vaccine 19.92 2. 92% of respondents were aware of the COVID-19 vaccine. Despite respondents' knowledge of the vaccine, 64.8% of respondents are hesitant to receive COVID-19 vaccines, only 35.2% of respondents received vaccinations, but 20% showed interest in receiving vaccines in the future and 23.4% are still hesitant. 3. There is a strong significant correlation between social use and awareness of the COVID-19 vaccine at a level of $p = 0.001$. However, there was no significant correlation between COVID-19 vaccine awareness and vaccination acceptance at $p = 0.006$.
Hisan, (2022) Indonesia	To find out about information-seeking behavior to understand how and why people need health information, as well as where they search for information.	Design not stated, quantitative study Respondents were adults in the Generation Z group or subjects aged 18-27 years.	The questionnaire was divided into three sections: a) demographic data, b) sources of information related to COVID-19 vaccination	1. 89.92% of respondents sought health information related to COVID-19 vaccination. Where 69.34% of respondents the reason is because they plan to get vaccinated. 2. 81% of respondents searched for health information related to COVID-19 vaccination for less than 1 hour a day.

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
		The sample size was 129 respondents.	and health information retrieval behavior, c) respondents' personal views regarding the information obtained	83.72% of respondents used social media as a source of information, and 86.27% of respondents used the Instagram application to find information related to COVID-19.60 vaccination 3. 60.47% of respondents believe the information obtained, while 36.43% of respondents feel hesitant about the information obtained about COVID-19 vaccination on social media.
Nguyen et al., (2022)	To determine the factors affecting the readiness, acceptance, and implementation of mHealth applications in Vietnam, as well as to determine the moderating impact of the COVID-19 pandemic.	Design not stated, qualitative study Sample size of 50 respondents who are Vietnamese citizens who follow the Pew Research Center Category: Generation X (1965-1980), Generation Y (1981-1996), and Generation Z (1997-2012).	Semi-structured and in-depth interviews to collect data and use thematic analysis to analyze the data based on the theory of acceptance and use of technology framework.	1. Generation X and Y mentioned that their busy lifestyles prevented them from taking care of their health. Therefore, mHealth interventions are needed to support their health. On the other hand, Generation Z revealed that since the current mHealth apps do not fulfill their needs, they would need alternatives. 2. Support from credible and authoritative sources was the most frequently mentioned social influence in participants' intentions to use mHealth apps. Recommendations from doctors, health experts were the most reliable source of information mentioned for each group of respondents. Word-of-mouth recommendations were the second most frequently mentioned sub-theme in each group of respondents. MHealth introductions from friends are also widely claimed by respondents as an effective source. 3. Generation X is a group of people who may have many health problems due to their

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
				older age; therefore, facing the highest risk of being severely affected by COVID-19, so this group focuses on COVID-19-related applications and the establishment of healthy lifestyles. Generation Y focuses on preventing possible diseases because the health condition is still healthy. Generation Z focuses on apps that help improve skin and weight or make it look more attractive, healthy, and bright, as well as suggesting entertainment content within apps or influenced by social media
Widiartanto et al., (2021) Indonesia	To determine the determinant model of COVID-19 vaccination in Central Java, Indonesia. To find out what variables affect people's intention to vaccinate, especially those related to the COVID-19 vaccination plan in Indonesia.	Design not stated, quantitative study Residents living in Semarang City as many as 100 respondents	Questionnaire measuring variables of attitude toward vaccination behavior, subjective norms of vaccination, and behavioral control over perceptions and intentions of vaccine use, religiosity, and media literacy.	1. Media literacy has a significant effect on attitudes, whereas attitude toward vaccination behavior has a positive and significant effect on increasing vaccine intentions. Perceived Behavioral Control, and religiosity showed a positive and significant influence on vaccine intention. 2. Subjective norms of vaccination, namely the influence of close friends, the influence of close family, the influence of superiors or people who are considered necessary, and the influence of the social environment do not have a significant impact on vaccine use. 3. Various vaccination socializations are effective in increasing vaccination intentions, especially in Generation Z and the

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
				millennial generation at the age of 20-40 years.
Marschalko et al., (2021) Europe	To explore the predictive role of psychological factors (perceived risk, health anxiety due to COVID-19, negative automatic thoughts, and psychological flexibility) to SARS-CoV-2 prevention behavior in general (considering all areas) and in a domain-specific manner.	Cross-sectional, quantitative study Sample size 834 Hungarian-speaking women. 80% were from Hungary, 15% from Romania and 5% from other countries (Sweden, Germany, Ireland and the UK).	Questionnaire with variables assessed were COVID-19 knowledge, risk perception, COVID-19 health anxiety, negative automatic thoughts, psychological flexibility, and four domains of COVID-19 prevention behavior (social distancing, general hygiene, information seeking, health behavior)	1. Knowledge of COVID-19 is beneficial in prevention, especially in the elderly. 2. Risk perception, which is related to the threat of COVID-19, the likelihood of contracting, and the danger of transmission. COVID-19 risk perception plays a positive role in social restrictions, general hygiene, and information retrieval. Gen Z was the only generation where risk perception became an irrelevant predictor variable. 3. Health anxiety and negative information processing and focus on negative information may only be beneficial in the field of COVID-19 prevention behaviors, especially in terms of general hygiene (Gen X and Gen Y) and health behaviors (baby boomers, Gen X, and Gen Y). However, these variables do not play a predictive role in behaviors domain any COVID-19 prevention in the case of Gen Z. 4. Psychological flexibility, focusing on positive information reorganization is a positive predictor of information seeking in Gen Z.
Marschalko et al., (2022) Romania	To explore generational diversity among psychological predictors of COVID-19 vaccine use	Cross-sectional, Quantitative study Sample size 978 Romanian (Transilvania)	Questionnaire	1. Perceived benefits increased the odds of getting vaccinated by more than 19 times in Gen Z and more than 4 times in Gen X, suggesting the important role of aspects related to positive information

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
		female respondents		processing in the use of COVID-19 vaccines. 2. Variables of doubt towards COVID-19 vaccines, such as skepticism, risk perception (towards side effects), and fear only occur in Generation Y and Generation X in predicting the use of COVID-19 vaccines. In the case of Gen Y, lack of confidence/skepticism decreased the chance of getting vaccinated by 0.06 times, and in the case of Gen X, lack of confidence/skepticism and perceived vaccine risks related to COVID-19 vaccines decreased the chance of getting a COVID-19 vaccine by 0.10 times. 3. Psychological flexibility was only highlighted in Generation Y as a significant negative predictor of the behavior of using the COVID-19 vaccine. This variable decreases the chance of getting a COVID-19 vaccine by 0.06 times. 4. The role of information shows a very positive change in perception, cognition, and emotions related to health in Generation Z. In Generation Y, the likelihood of COVID-19 vaccine use was largely influenced by perceived barriers. In Generation X, psychological predictors, perceived vulnerability (negatively), and perceived benefits (positively) predicted the likelihood of

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
				COVID-19 vaccine use.
Vrdelja et al., (2021) Slovenia	To examine the level of digital health literacy about COVID-19 at Slovenian universities and to determine digital information-seeking behavior.	Cross-sectional, quantitative study Sample size 3621 respondents from the University of Slovenia	Questionnaire with variables searched for COVID-19-related information online; assessed the reliability of COVID-19-related information, and determining personal relevance related to COVID-19 information	1. Results show people with high digital health literacy are less likely to contract COVID-19. 2. About one-third of Slovenian students surveyed (847 students or 27.9%) experienced difficulty in finding the information they were looking for, and a slightly higher percentage (900 students or 29.6%) found it difficult to select from all the information they were looking for. 3. 85.4% of respondents reported having no difficulty in assessing whether the information was useful to them, 82.4% reported having no problems using the information in everyday life, and 86.4% used it to make decisions about their health.
Bas-Sarmiento et al., (2022) Spain	To evaluate the level of health literacy (HL) related to COVID-19 (HLC), risk perception, information available, and attitudes and behaviors taken to prevent the spread of the coronavirus in Spanish students.	Cross-sectional, quantitative study Sample size 499 respondents Universities in Spain	Questionnaire used in the Spain COSMO study, a COVID-19-related health literacy questionnaire (HLCQ). It is based on a survey tool developed by the WHO Regional Office for Europe and assesses participants' self-perception.	1. As many as 78.4% (n = 391) of students had difficulty distinguishing whether news or information about COVID-19 was true or false. 2. The majority of students thought that, if they were infected with the coronavirus, the illness would be "very mild/mild" (42.1%) or "moderate" (54.3%). While only 3.6% thought it would be "severe/very severe". 3. Most students had taken almost all precautions in the past seven days (before the questionnaire) to avoid COVID-19 infection; the average of precautions taken was 7.54 out of 9 points (SD

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
				= 1.56). 4. Most students have an optimal level of knowledge about COVID-19 (7.54 out of 10 points). Students with higher HLC levels took more precautions.
Heo & Jang, (2023) Korea	To examine the changes in daily life patterns of Gen Z students and their perceptions of health during the online era.	Design not stated, qualitative study Korean university students in their 20s. Large sample of 20.	Interview	1. Gen Z students are known to enjoy and adapt to internet-based lifestyles that transcend time and space. Most of them reported that sitting time and screen time increased significantly after the outbreak of the COVID-19 pandemic. 2. Gen Z students are interested in their health and require personalized treatment through individual consultation with a health professional. The participants in the study also showed a keen interest in their health and frequently used YouTube or other search engines to get health information. However, they were unsure about the reliability of the information regarding health management.
Leung et al., (2022) Hong Kong	To identify the construction profile 5C's psychology of doubt vaccines (self-confidence, complacency, constraint, calculation, and collective responsibility) among Hong Kong nurses.	Online cross-sectional The Association of Hong Kong Nursing Staff. Sample size 1193 respondent	Questionnaire	1. Showed that media where people sought information also moderated the relationship between information seeking and vaccination. 2. The results showed five profiles, including "believer" (31%; high self-confidence, responsible; low complacency, constraint), "skeptical" (11%; opposite to the believer), "outsiders" (14%; low calculation, responsible), "contradictor" (4%; high in all 5C constructions), and

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
				"middlers" (40%; intermediate in all 5C constructions). From the highest to the lowest in terms of vaccination use and intentions were believers and contradictory, then middlers and outsiders, and lastly skeptical.
Roselina & Asmiyanto, (2022) Indonesia	To determine the determinants of information seeking related to COVID-19 vaccination by Generation Z through the use of social media.	Cross-sectional, quantitative study Generation Z in Jakarta, Bogor, Depok, Tangerang, and Bekasi. Sample size 588 respondents	Questionnaire	1. Social media use: 56.3% of respondents searched for information about COVID-19 vaccination on Instagram and 17.4% on Twitter. The information requested was about the criteria for the recipient and the type of vaccine (26.0%) as well as the side effects and safety of the vaccine (74.0%). 2. 59.4% of respondents agreed that they believed in information about COVID-19 vaccinations circulating on social media, 58% of respondents double-checked information about COVID-19 vaccinations obtained from social media using other sources and acknowledged hoaxes related to COVID-19 vaccination information obtained from social media (59.0%).
Elsner et al., (2022) United States	To explore students' interests, ideas, and media choices about the pandemic they are experiencing	Design not stated, qualitative study Midwestern states in the US. Sample size 224 respondents	Interview open-ended survey	1. The sources of information used to obtain information about COVID-19 were health institutions (20%), health professionals (17%), friends/ family (14%), TV News (13%), social media (7%), teachers (7%), and online News (6%). 2. Respondents' main concern about COVID-19 was contracting the virus or someone they know contracting the virus at

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
				20% followed by vaccine development and availability at 15%. 3. Science classrooms had the potential to generate students' situational interest by discussing COVID-19 topics, which can improve their academic performance, content knowledge, attention, and engagement in learning about viruses. In addition, classroom teaching about COVID-19 by teachers has been shown to reduce students' stress and anxiety.
Blandi et al., (2022)	To provide a descriptive scenario of the use of digital resources among young people, their approaches and attitudes towards health-related information, and sentiments towards infodemics, with a focus on cross-country comparisons	Cross-sectional, Descriptive study 24 states with a sample size of 23,482 respondent	Questionnaires on various aspects, information on social media platforms used, most trusted sources of information on COVID-19 and related vaccines, attitudes towards finding and sharing scientific content, and their awareness and attitudes towards fake news. The questionnaires also asked the respondents about who they share information with, and how they respond	1. The most frequently used source of information for COVID-19-related content is social media, the proportion is lower in HIC (78.8%) than in UMIC (86.9%) and LMIC (89.9%). The results found that Generation Z and Millennials prefer to access information through social media platforms (including YouTube, Instagram, Facebook, TikTok, and Twitter as the most used platforms. 2. The most sought-after information was about COVID-19 disease (around 79% in HICs, 87% in UMICs, and 90% in LICs) and COVID-19 vaccines (around 78% in HICs and around 88% in LICs). Young people from some UMICs (Egypt, India, and Morocco) and HICs (South Korea) are the most interested in news about COVID-19 vaccines among other young people

Article Identity	Purpose	Design, Respondent	Test Instruments	Results
			to errors or disinformation.	in the world, in contrast to other UMICs (Russia and China) and HICs (Sweden and Australia) who are less interested in COVID-19 topics.

The findings of the literature review in Table 1, show that there is an influence on health information seeking on the decision to vaccinate against COVID-19. In the research of Usman et al., (2023) people who spend 5 hours or more on social media to explore information about COVID-19 are the highest recipients of COVID-19 injections. Similar research by Widiartanto et al., (2021) the moderating effect of the media literacy variable had a significant effect on the relationship between attitudes towards vaccination behavior and subjective norms of vaccination towards the intention to use vaccines. The research by Marschalko et al., (2022) that perceived benefits increase the chances of getting vaccinated more than 19 times in Gen Z and more than 4 times in Gen X. Hence the importance of the role of aspects related to positive information processing in the use of COVID-19 vaccines.

Knowledge about all aspects of COVID-19 clearly and accurately will form a positive behavioral tendency, where if the information received is more frequent and abundant, knowledge will increase so that it will make it easier for someone to accept and understand new information. The level of knowledge affects a person's reaction or response so there is a tendency to take precautions, such as vaccination, social distancing, using masks, etc. This is supported by Widiartanto et al., (2021) which shows that various vaccination socializations are effective in increasing vaccination intentions, especially in Generation Z and the millennial generation at the age of 20-40 years.

The same thing is shown in the research of Marschalko et al., (2022) on the perceived benefits of the Health Belief Model on COVID-19, which is the strongest predictor of Gen Z and Gen X in making decisions to use the COVID-19 vaccine. Vrdelja et al., (2021) show that people with high digital health literacy are less likely to contract COVID-19. However, in contrast to the results of Marschalko et al., (2021) knowledge of COVID-19 is effective in predicting preventive social distancing among Gen X women, but on the other hand, knowledge was found to be insufficient for changes in health behavior and disease management.

Discussion

Information-seeking behavior is the behavior that a person shows when interacting with all types of information systems. Information search is influenced by the information needs desired by users, the higher the need for the information they want, the higher the information search carried out by users (Wilson, 1999). The COVID-19 pandemic along with infodemics is a major threat to public health. WHO refers to infodemics as information overload that includes false or misleading information in digital and physical environments during the threat of the COVID-19 pandemic (Blandi et al., 2022).

The sources of information used today come from social media, official websites, friends/relatives, virtual communities, etc (Schiffman, 2019). The current media platforms have been recognized as a very important tool for health promotion practices. Psychologically, individual disease prevention behavior is influenced by negative and positive information processing which will affect consumer behavior in carrying out Covid-19 vaccination actions. In this study, younger generations known as Gen Z (born 1997-2012), and Generation Y (born 1981-1996) relied heavily on social media as a source of information, while older generations such as baby boomers or Generation X (born 1965-1980) preferred recommendations from doctors or family (Blandi et al., 2022; Marschalko et al., 2022).

The most frequently used source of information is social media (Blandi et al., 2022; Elsner et al., 2022; Heo & Jang, 2023; Hisan, 2022; Roselina &

Asmiyanto, 2022; Usman et al., 2023; Vrdelja et al., 2021; Widiartanto et al., 2021), television (Elsner et al., 2022; Usman et al., 2023), word of mouth friends, family, community (Elsner et al., 2022; Nguyen et al., 2022; Usman et al., 2023), radio (Usman et al., 2023), health app or official website (Elsner et al., 2022; Nguyen et al., 2022; Vrdelja et al., 2021), doctor or health expert (Elsner et al., 2022; Nguyen et al., 2022). The reason social media is most widely used is because of easy access and diverse information features/ appearance. The majority of Gen Z spend most of their time using mobile devices, which is a generation of digital natives who have been exposed to digital culture since birth. Thus, they are highly dependent on mobile devices and are closely connected to the digital world, so they seek more information through social media (Heo & Jang, 2023; Nguyen et al., 2022), for older generations, Gen Y and Gen X more often seek information using word of mouth or doctors because they are considered credible sources (Nguyen et al., 2022; Vrdelja et al., 2021).

Media being a place where people seek information also moderates the relationship between information seeking and vaccination, in terms of use and vaccination intention the highest are believers (older) and contrarians, then middlers and outsiders, and the last is skeptics (Leung et al., 2022). Although the media is a place to find information, feeling that information from the side of science is still lacking, there are difficulties to distinguish whether news or information is true or false (Bas-Sarmiento et al., 2022; Hisan, 2022; Vrdelja et al., 2021). Thus, it is better that a reliable flow of information, providing up-to-date scientific information about COVID-19 vaccination, and uninterrupted information about vaccines should be presented on the pages of various social media platforms in a language that can be understood by the target audience so that the government can assist generation Z and other generations in making decisions to get vaccinated. In addition, other related information on social media should be tracked and monitored to identify and neutralize misinformation during the pandemic (Hisan, 2022; Usman et al., 2023).

The most sought-after types of information are about Covid-19 vaccination (Blandi et al., 2022; Hisan, 2022; Nguyen et al., 2022; Roselina & Asmiyanto, 2022), COVID-19 virus (Nguyen et al., 2022; Vrdelja et al., 2021), guidance for self-care during COVID-19 (Marschalko et al., 2021; Nguyen et al., 2022), disease prevention and management (Marschalko et al., 2021), as well as vaccine accessibility (Blandi et al., 2022; Elsner et al., 2022; Marschalko et al., 2021). This literature review study shows that there is an influence of health information search on the decision to vaccinate against Covid-19. There is an effect of information on behavioral changes (Suarayasa et al., 2023a, 2023b). This is supported by research by Usman et al., (2023) that people who spend 5 hours or more on social media to explore information about COVID-19 are the highest recipients of COVID-19 injections.

Hisan, (2022) pointed out the reason respondents searched for health information related to COVID-19 vaccination was because they planned to get vaccinated. Research by Widiartanto et al., (2021) the moderation effect of the media literacy variable had a significant effect on the relationship between attitudes towards vaccination behavior and subjective norms of vaccination towards the intention to use vaccines and on the research by Marschalko et al., (2022) showed that perceived benefits increases the chances of getting vaccinated more than 19 times in Gen Z and more than 4 times in Gen X, hence the importance of the role of aspects related to positive information processing in the use of COVID-19 vaccines.

The level of knowledge affects a person's reaction or response so that there is a tendency to take a preventive measure, such as vaccinating, using masks as recommended, staying at home if experiencing symptoms, using hand sanitizers or other disinfectants to wash hands, washing hands with soap and water, maintaining physical distance, avoiding public transportation, avoiding leaving the house, and as little as possible leave the house or work remotely. A higher level of optimal knowledge/health literacy towards COVID-19 takes more preventive measures (Bas-Sarmiento et al., 2022). This is supported by the research of Widiartanto et al., (2021) which shows that various vaccination socializations are effective in increasing vaccination intentions, especially in Generation Z and the millennial generation at the age of 20-40 years. The same thing is shown in the study by Marschalko et al.,

(2022) on the perceived benefits of *the* Health Belief Model in COVID-19, which is the strongest predictor in Gen Z and Gen X in decision-making on the use of COVID-19 vaccines. But different in the results of research Marschalko et al., (2021) knowledge of COVID-19 is effective in predicting preventive social distancing among Gen X Women.

Several factors can reduce a person's chances of getting a vaccine, namely doubts about the COVID-19 vaccine, such as skepticism, risk perception (side effects), and fear of using the COVID-19 vaccine. In Gen Y, it decreases the chance of getting vaccinated by 0.06 times, and in Gen X, it decreases the chance of getting the COVID-19 vaccine by 0.10 times. Psychological flexibility as a negative predictor in Generation Y decreased the chances of getting the COVID-19 vaccine by 0.06 times. So, in Generation Z and X, benefits play an important role in decision-making regarding vaccine use, while in Generation Y, low risk, lack of threat, and accessibility can help decision-making regarding vaccine use (Schiffman, 2019).

CONCLUSION

Information seeking is influenced by the information needs desired by the user. The majority of Gen Z seek more information through social media, while Gen Y and Gen X more often seek information using word of mouth or doctors. The most searched types of information are about COVID-19 vaccination, the COVID-19 virus, guidance for self-care during COVID-19, disease prevention and management, and vaccine accessibility. A higher level of optimal knowledge/health literacy towards COVID-19 takes more precautions. The level of knowledge affects a person's reaction or response so that there is a tendency to take preventive action, such as vaccinating, using masks as recommended, staying at home if experiencing symptoms, using hand sanitizers or other disinfectants to wash hands, washing hands with soap and water, maintaining physical distance, avoiding public transport, avoiding going out of the House, and as little as possible leave the house or work remotely.

Conflict of Interest Statement

There is no conflict of interest in this writing.

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