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# **Use of Mobile Technologies for Accessing Health-Related Information among Librarians in Osun State, Nigeria**

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## **Abstract**

**Objectives:** This is an exploratory study that focused on identifying the contemporary health related information needs of librarians in Osun State; types of mobile technology used for accessing health related information as well as identifying challenges experienced in using mobile technology for accessing health related information.

**Methodology:** This study adopted a survey research design. The population of the study consisted of 133 librarians in Osun State. Total enumeration of all the population was adopted. From the total 133 questionnaire that were administered, 126 (representing 94.74%) were duly completed and used for analysis. Frequency counts and percentage calculation were used to analyse the quantitative data, while thematic description was used in analyzing the qualitative data collected.

**Findings:** The study discovered that information on COVID-19 (77.8%); nutrition (66.7%); and physical fitness (66.7%) were the most sought information by the respondents. Majority (94.4%) of the respondents accessed health-related information using their smart phones. Also, majority of the respondents mostly seek for health related information through Whatsapp (83.3%) and Facebook (61.1%). Poor internet service and difficulty in trusting the credibility of the online sources (83.3% each) were the two major barriers faced by the librarians in using mobile technology for accessing health related information.

**Recommendations:** Librarians need to explore other electronic health information sources rather than concentrating on social media; there is the need for increased knowledge of librarians on online information searching strategies and also, there is need for improved internet services provision by the operators.

**Originality:** This study identified contemporary health related information needs of librarians in Osun State, Nigeria and electronic information sources frequently used and preferred. These findings will be instrumental in meeting the health information needs of the librarians by the concerned and relevant stakeholders. This study is also an additional contribution to existing literature in the area of health related information seeking among librarians.

**Keywords:** Mobile technologies, health-related information, librarians, COVID-19

## **Introduction**

Apart from serving as information purveyors, librarians also need information for personal usage. While information are sought from various available sources, the recent global outbreak of COVID-19 pandemic and the attendant lockdown and social distancing policies have further raised public consciousness on reliance on mobile technologies to seek for and share information (Favale, Soro, Trevison, Drago and Mellia, 2020). Librarians, just like other mobile technology users, also rely on mobile technologies to access health related information; this is in addition to other information sources. Mobile technologies are mostly handheld or mobile digital devices meant for sending and receiving information on-the-go.

The last few months were characterized by a global health emergency orchestrated by the outbreak of the COVID-19 pandemic. There has been a recent surge in the use of online platforms for conducting meetings, receiving and sharing of information due to the lockdown

and social distancing policies associated with the outbreak of the COVID-19 pandemic (Nash, 2020). People are making an increase use of online platforms to seek for necessary information. People need health related information to take certain health related decision, and thus, health related information are multifarious, so also technologies for accessing them. The opportunities associated with use of mobile technologies such as smart phones and laptop computers for accessing information are limitless.

Health related information may include information relating to drugs, prevention and treatments of diseases, medical counseling etc. These can be accessed from electronic platforms such as e-mails, YouTube, e-journals, websites, mobile/ Web Applications, Social media etc. Media users have reasons for preferring source preference and tend to seek for information from the most preferred source that can gratify their information needs. Therefore, having access to the right health information on timely basis will not only assist the librarians in decision making activities, but also make them to keep fit to be able to discharge their duties accordingly.

### **Statement of the problem**

The job of a Librarian is multi-tasking. Librarians need to be healthy to perform their duties as expected. Librarians, just as other information users that they serve, equally need information for personal use and development. However, lack of information searching skills on the part of the librarians may affect their ability to access necessary health related information. Also, trust issue relating to electronic information sources and high proportion of fake news and misinformation frequently associated with the new media (Lazer, 2018; Talwar, Dhir, Singh, Virk and Salo, 2020) may also affect librarians' use of mobile technologies for accessing health related information. These challenges may affect health decision making activities of the librarians as well as their job performance.

It has been observed that contemporary health information need of librarians in Osun State, Nigeria has not been empirically identified by previous studies. Also, electronic information sources mostly used by librarians in Osun State to access health related information is not known. Similarly, perceptions of librarians about the use of mobile technologies for accessing health related information as well as challenges encountered with the use of mobile technologies has not been empirically proved. It is against this backdrop that this study was conducted to assess the use of mobile technologies for accessing health related information among librarians in Osun State, Nigeria.

### **Research objectives**

The study aims to:

1. Identify the contemporary health information needs of librarians in Osun State, Nigeria.
2. Identify types of mobile technologies used for accessing health related information among the librarians in Osun State.
3. Determine the commonly preferred electronic sources where librarians in Osun State access health related information.
4. Identify the perceptions of librarians in Osun State towards the use of mobile technologies for accessing health related information.

5. Identify the challenges experienced by librarians in Osun State in accessing health related information through mobile technologies.

### **Research questions**

The study is set to provide answers to the following questions:

1. What are the contemporary health information needs of librarians in Osun State?
2. What types of mobile technologies are used for accessing health related information among the librarians in Osun State?
3. What are the commonly preferred electronic sources where librarians in Osun State access health related information?
4. What are the perceptions of librarians in Osun State towards the use of mobile technologies for accessing health related information?
5. What are the challenges experienced by librarians in Osun State in accessing health related information through mobile technologies?

### **Review of related literature**

There has been increase in the acceptability and use of mobile technologies, especially in the last decade (Verma and Sheth, 2018). Mobile technology can be described as hand-held or mobile devices such as smart-phones, tablets, laptops and wearable like smart watches etc, useful for accessing and sharing of information. Mobile technology can also be described as digital devices that are internet enabled and can be used anywhere. Ciaramitaro (2011) and Vishnuvardhan and Baira (2017) observe that mobile technology has evolved over the years to transcend beyond the traditional voice communication gadget to a tool used for accessing the internet, play games, create and share texts, videos and images. Mobile technology is used for sending and receiving instant messages on the go.

According to Kitikannakorn and Sitthiworanan (2008), health –related information are messages or information that reduce the uncertainty that are associated with individual’s health status and can improve individual’s confidence on issues relating to health. This means that health-related information can be described as information or messages that assist in reducing uncertainty level of individuals in relation to their physical, mental, social or emotional well being. According to Niederdeppe et al (2007), health-related information alters individuals’ knowledge and promotes making of informed health decisions that has implications on our daily lives. This implies that accessing health-related information improves ones knowledge to be able to take informed decision on issues that pertains to health. Other benefits of seeking for health related information include living a healthy life and complying with medications.

Health related information needs vary, depending on the individual seeking for such information and the context or condition warranting such need. Health-related information may include locating treatments for diseases, seeking for alternative treatment methods, nutrition and physical fitness activities, sexual/ reproductive health, mental health etc. (Niederdeppe et al, 2007; Kitikannakorn and Sitthiworanan , 2008; Obasola and Agunbiade, 2016). This shows that health-related information are multifarious just like different sources in accessing them.

Using mobile technology to access health-related information has a number of benefits and limitations. The benefits are associated with the limitless opportunities provided by mobile technologies. These include easy accessibility, timeliness, and multiple information sources to choose from (Maon, Hassan and Seman, 2017). Limitations of using mobile technology in accessing health related information also abound. Notable among these is the trust issue as there are so many mis-information or fake news that may be widely circulated through online platforms, especially the social media. Lazer, 2018; Talwar et al, 2020). No wonder Hesse, Nelson and Kreps (2005) point out that health information from physicians remains the most highly trusted sources among adults in the USA because such information are products of empirical observation and experience.

#### Use of mobile technology for accessing health related information among librarians

Hesse, Nelson and Kreps (2005) note that increased use of mobile technology has greatly improved the amount of health information available and accessible to the information users. Although, there are multifarious media and sources through which health-related information could be sought, however, more people are turning to the Internet and other several online sources to search for health related information (Williams, Nicholas and Huntington , 2003 and Maon, Hassan and Seman, 2017) . While this may be attributed to what Alwehaibi and Almeman (2014) describe as easy accessibility of mobile technology which has increased the global availability and use of health-related information sources; other contemporary factor may include the global outbreak of COVID-19 and the attendant lockdown and physical distancing policies which has forced many people to seek for information online, more than before (Favale et al, 2020 and Nash, 2020).

In using mobile technology for accessing health related information, the user's experience matters. Boyer, Provost, Baujard (2012) claim that experience in using the internet plays a vital role because the more experienced a person is, the more likely to use the sources available through the Internet. Lin (2002) equally observes that age could also play a pivotal role in the use of mobile technology. He claims that people of younger age are more likely to use the technology than the adults. This is corroborated by Horgan and Sweeney (2012) that youth in Ireland use the Internet more often to search for health related information.

Although, there is dearth of literature on the use of mobile technology for accessing health-related information among librarians, a similar study by Folorunso (2018) was found. He investigated health information seeking behaviour of librarians in two academic libraries in Ondo State, Nigeria. He discovered that Radio, Internet and Facebook topped the list of sources where the librarians seek for health-related information. Therefore, this current study will serve as a new addition to scholarly literature in the area of health related information seeking among librarians.

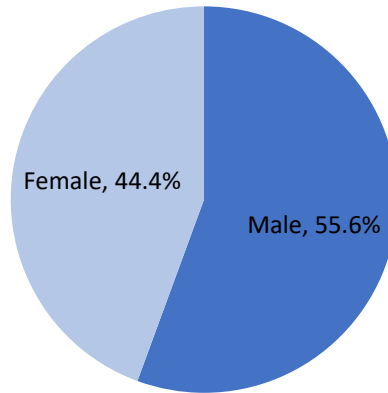
#### **Methodology**

This study adopted a survey research design. The population of the study consisted of 133 librarians in Osun State. Their contacts were obtained from the Osun State Chapter of the Nigerian Library Association. Total enumeration of all the population was adopted. Online questionnaire designed through Google Forms were sent to each participant through online

platforms. From the total number of 133 questionnaire that were mailed, 126 (representing 94.74%) were completed and used for analysis. Frequency counts and percentage calculation were used to analyse the quantitative data, while thematic description was used in analyzing the qualitative data collected.

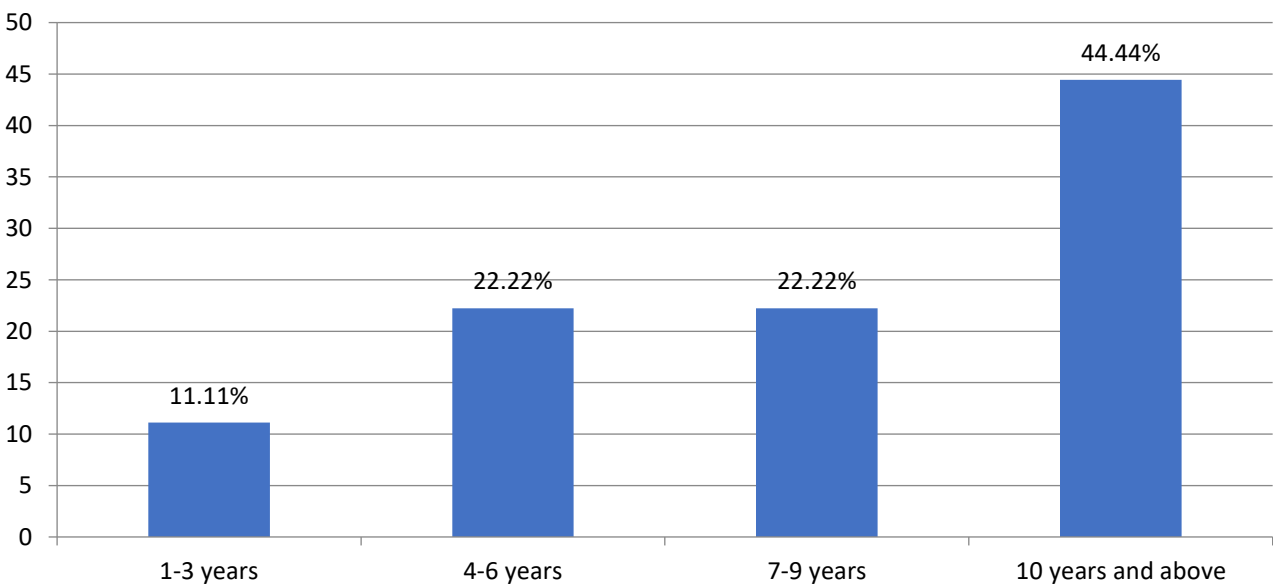
## Data Analysis

### Demographic variables



**Figure1: Gender distribution of respondents**

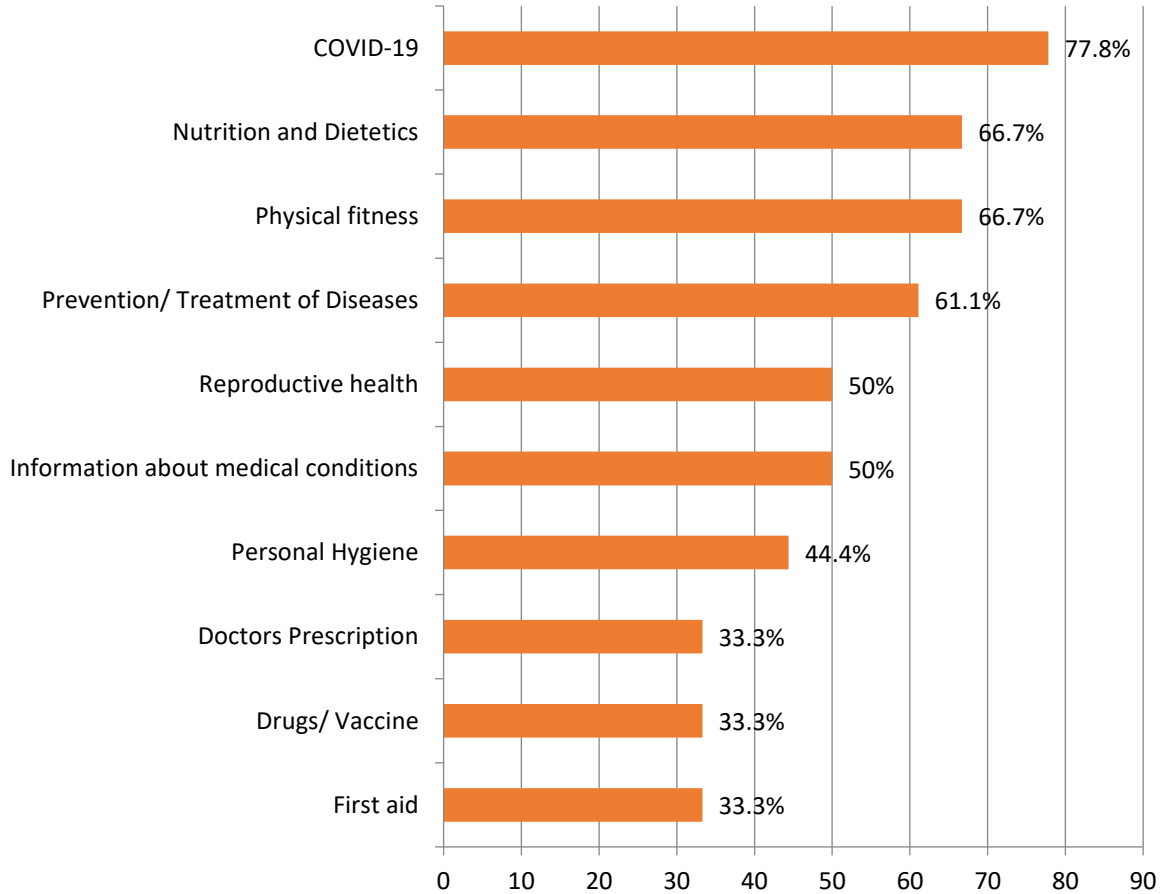
Figure 1 shows the gender distribution of the respondents. 55.6% of the respondents were male, while the remaining 44.4% were female.



**Figure 2: Distribution of respondents according to years of working experience as a Librarian**

From Figure 2, it is evident that majority (44.44%) of the respondents have working experience of 10 years and above as librarians. Also, 22.22% have 4-6 years and 7-9 years working experience, respectively. Only 11.11% claimed to have between 1-3 years working experience. This shows that all the respondents have relative years of working experience.

1. What are the contemporary health information needs of librarians in Osun State?

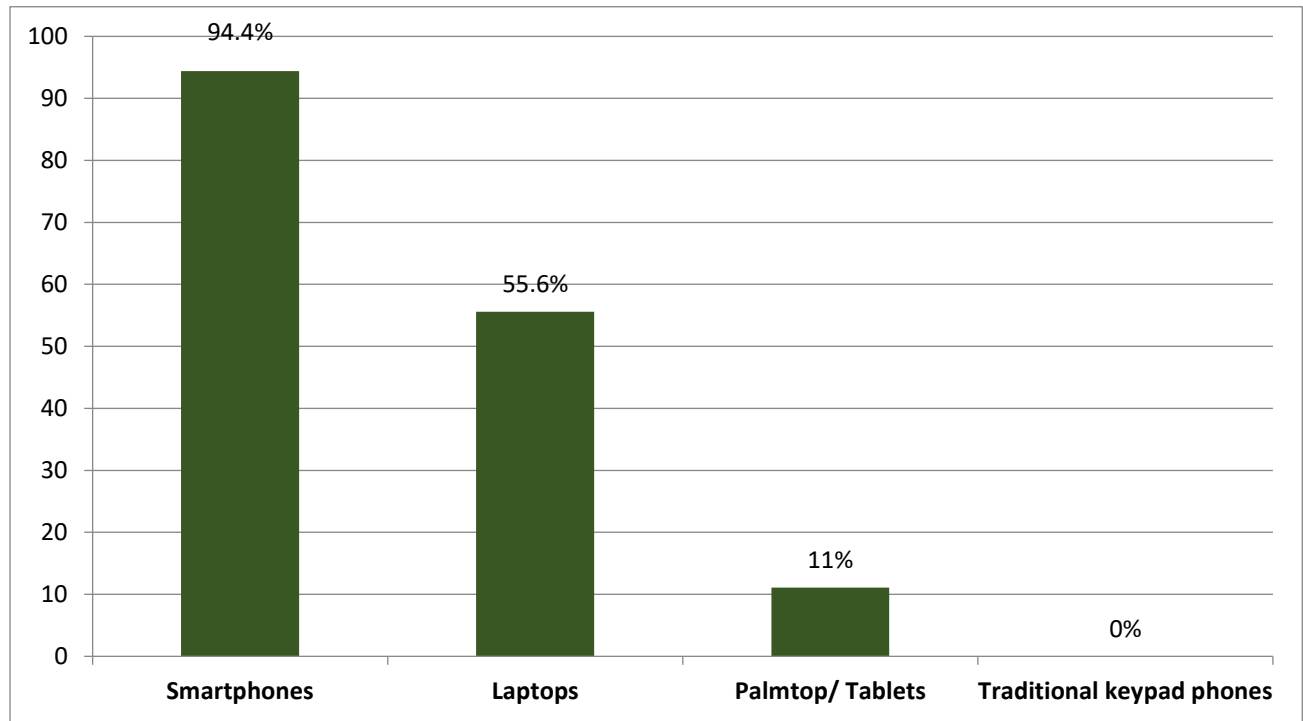


**Figure 3: Contemporary health information needs of librarians in Osun State**

Figure 3 shows the contemporary health information needs of the respondents. The topmost health information need of the respondents is on COVID-19 (77.8%). This is followed by information on nutrition and dietetics; and physical fitness (66.7%). The next is information on prevention/ treatment of diseases (61.1%), while 50% each for reproductive health and medical conditions and 44.4% on information about personal hygiene. The 3 least health information needs of the respondents were information on doctors’ prescriptions; drugs/ vaccine; and first aid (33.3% each).



2. What types of mobile technologies are used for accessing health related information among librarians in Osun State?



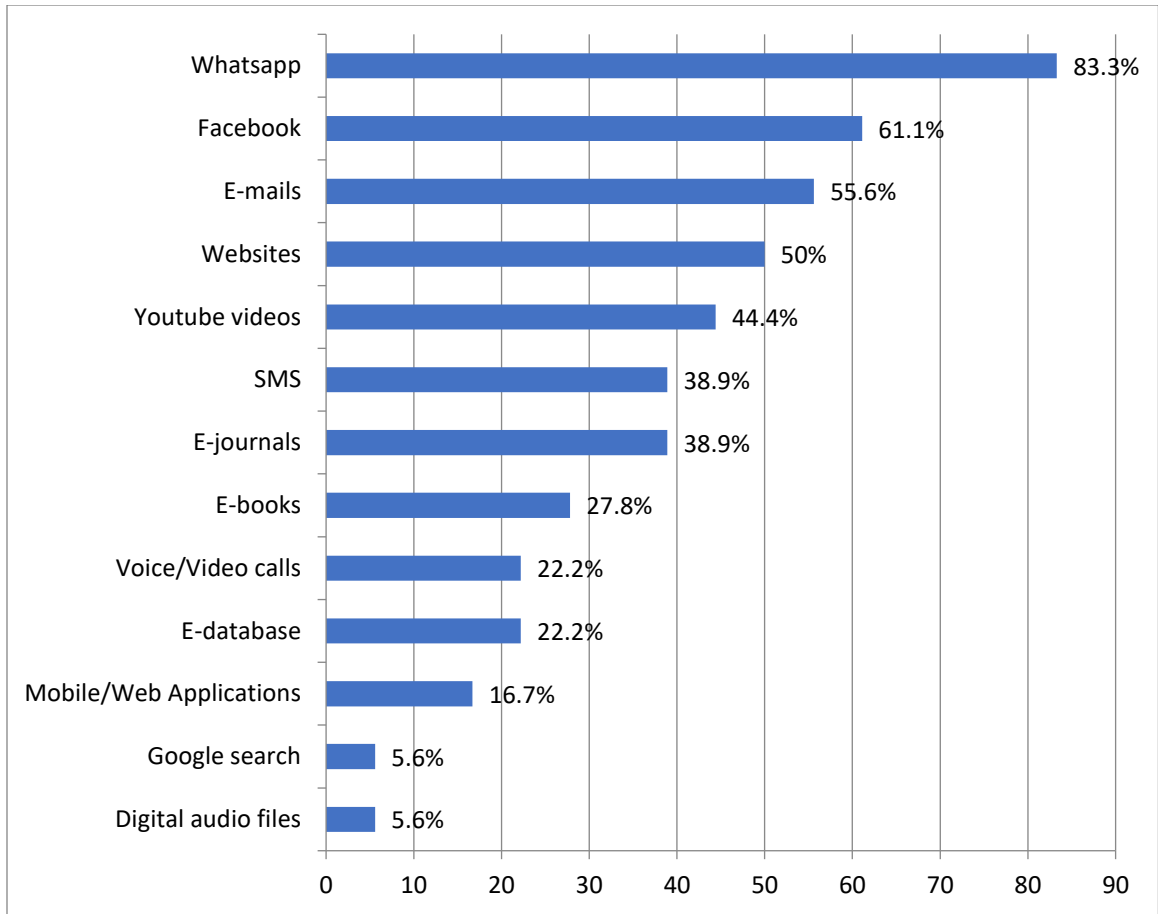
n= 126

**Figure 4: Types of mobile technologies used for accessing health related information among the librarians in Osun State**

n= 126

From Figure 4, it is clear that majority (94.4%) of the respondents claimed that smart phone is the primary gadget used in accessing health related information. This is followed by 55.6% who claimed to also use laptops for the same purpose and 11% who used palmtop/ computer tablets. No respondents claimed to use the traditional keypad phones. This implies that the respondents are conscious of the new developments in mobile technologies as they use internet-ready smart phones robustly.

3. What are the commonly preferred electronic sources (apps/sites) where librarians in Osun State access health related information?



**Figure 5: Commonly preferred electronic sources where librarians in Osun State access health related information**

n = 126

Figure 5 shows various electronic sources where the respondents accessed health related information. Majority (83.3%) claimed to use WhatsApp as the most preferred source of health related information. This is followed by Facebook (61.1%); E-mails (55.6%); and websites (50%). Some 44.4% use YouTube videos while 38.9% claimed to use SMS and e-journals respectively. Only a small fraction of 5.6% claimed to use Google Search and digital audio files, respectively.

Also, the respondents were asked to state the reason for their preference of the above-listed electronic sources. Some of their comments are:

*“WhatsApp: because it is easily accessible”*

*“WhatsApp: very easy and fast”*

*“Facebook, easy to access”*

*“Facebook: because it is easily accessible”*

Summarily, from the qualitative data, it is evident that easy accessibility is a major factor in selecting the desired electronic health-related information source by the respondents.

4. What are the perceptions of librarians in Osun State towards the use of mobile technologies for accessing health related information?

**Table 1: Perceptions of librarians in Osun State towards the use of mobile technologies for accessing health related information**

SN	Perceptions	Agree	Disagree
1	Mobile technologies are easy to use	126 (100%)	0
2	Information is available at any time	126 (100%)	0
3	Up to date information	119 (94.4%)	7 (5.6%)
4	Satisfy information need	112 (88.9%)	14 (11.1%)
5	Easy sharing of information	126 (100%)	0
6	Easy access to health related information	126 (100%)	0
7	It saves time	126 (100%)	0
8	Information authenticity is easy to verify	70 (55.6%)	56 (44.4%)
9	Access to multiple health information sources	119 (94.4%)	7 (5.6%)
10	Mobile technology wastes time	49 (38.9%)	77 (61.1%)
11	Too much of information makes navigation difficult	56 (44.4%)	70 (55.6%)
12	Mobile technology offers lots of misinformation	77 (61.1%)	49 (38.9%)
13	Mobile technologies are difficult to use	28 (22.2%)	98 (77.8%)
14	Mobile technologies offer too many unreliable information sources	84 (66.7%)	42 (33.3%)
15	Youth are more likely to use mobile technologies than the adults	105 (83.3%)	21 (16.7%)

n = 126

Table 1 shows various perceptions of the respondents towards the use of mobile technologies for accessing health related information. From the Table, majority of the respondents have positive perceptions about the use of mobile technologies. All the respondents agreed that mobile technologies are easy to use in accessing health related information; and it makes information available at any time, as well as facilitating easy access to and sharing of health related information. Also, 94.4% claimed that mobile technologies give up-to-date information while 88.9% claimed that it satisfied their information needs. Also, majority (94.4%) of the respondents claimed that mobile technologies offer access to multiple health information sources. However, the respondents had some negative perceptions about the use of mobile technologies. 66.6% claimed that mobile technologies offer too many unreliable information sources, while 61.1% also claimed that mobile technologies offer lots of misinformation. 44.4% claimed that too much of information offered by mobile technologies makes difficult. Also, the age factor relating to the use of mobile technologies also surfaced as majority (83.3%) are of the perception that youth are more likely to use mobile technologies than the adults.

5. What are the challenges experienced by librarians in Osun State in accessing health related information through mobile technologies?

**Table 2: Challenges experienced by librarians in Osun State in accessing health related information through mobile technologies**

SN	Challenges	Agree	Disagree
1	Low bandwidth/ poor internet connectivity	105 (83.3%)	21 (16.7%)
2	Poor information searching skills	70 (55.6%)	56 (44.4%)
3	It wastes time	21 (16.7%)	105 (83.3%)
4	Difficulty in reading on-screen	42 (33.3%)	84 (66.7%)
5	High cost of accessing information online	49 (38.9%)	77 (61.1%)
6	Difficulty in trusting the credibility of the online sources	105 (83.3%)	21 (16.7%)
7	Fear of using mobile technologies	14 (11.1%)	112 (88.9%)
8	Difficulty in navigating through online sources	56 (44.4%)	70 (55.6%)
9	Frequent technological changes	7 (5.6%)	119 (94.4%)
10	Erratic power supply	12 (9.5%)	114 (90.5%)

n = 126

Table 2 indicates various challenges experienced by the respondents in using mobile technologies for accessing health related information. Majority (83.3%) claimed that they experienced low/poor internet connectivity and also difficulty in trusting the credibility of the online sources. Some 55.6% claimed that poor information searching skills is a major challenge, while 44.4% experienced difficulties in navigating through online health information sources. Also, while 38.9% claimed that high cost of accessing information online is a challenge, some 33.3% claimed that they find it difficult to read on-screen.

### **Discussion of Findings**

The finding revealed contemporary health information needs of librarians in Osun State. The most common health information need is on COVID-19, followed by information on nutrition and dietetics; and physical fitness. This is in line with Obasola and Agunbiade (2016). They discovered that many undergraduate students in Nigeria seek for information on nutrition and physical activities, among others. COVID-19 is a novel global health emergency of which scientists are still struggling to study. Therefore, finding revealed that respondents are also curious about knowing more about this novel health challenge. This is in line with Bento et al (2020) discovery that searches for information on COVID-19 increased by around 36% after the index case was announced. Also, information needs on nutrition and dietetics and physical fitness which ranked higher may be connected with the period of data gathering for this study. The data collection coincided with the period that the government asked many of the workers from levels 1 to 12 to work from home. This may influence their need to seek for information on healthy feeding habit and physical fitness as they are expected to be at home for longer periods of time. However, this finding contradicts Alwehaibi and Almeman (2014) who discovered that patients in Qassim Province, Saudi Arabia mostly seek for information on diseases and medication.

The study found that respondents mostly make use of smart phones to access health related information, whereas none of the respondents made use of the traditional keypad phones for the

same purpose. This is similar to Verma and Sheth (2018) discovery that majority of the postgraduate physiotherapy students of some Colleges in Gujarat, India, used smart phones to access healthcare information. This implies that respondents were in tune with the current global reality in making use of current technologies for accessing needed information.

The study discovered that social media (Whatsapp and Facebook) were the two most preferred sources of accessing health related information, followed by emails. This is similar to Folorunso (2018) who also discovered that Internet and Facebook were among the top three health related information sources mostly used by librarians in Ondo, Nigeria. Also, this study discovered that many of the respondents claimed that they preferred social media to other electronic sources because it provided them with the ease of accessibility. This is in line with Montemurro, Porcnik, Heden and Otte (2015) and Tajudeen, Jaafar and Sulaiman (2016) discovery that easy accessibility is a major precursor to social media use among information seekers. This implies that easy accessibility of social media contributed to its high level of use among the respondents.

Majority of the respondents had positive perceptions towards the use of mobile technology in accessing health related information. They emphasized the strength of mobile technology in managing information viz: speed, round-the-clock access, mobility, easy usage, easy accessibility, up-to-date and easy sharing of information. However, many of the respondents claimed that mobile technology offered a lot of misinformation and too many unreliable information sources. The trust issue/ misinformation and credibility of online information sources have been issues of global concern (Lazer, 2018). This finding implies that the respondents are conscious of these developments as part of their duties to fight misinformation. Also, majority of the respondents are of the belief that youth are more likely to use mobile technology than adults. This is supported by Lin (2002) findings who discovered that people who claimed to use mobile technology are typically younger.

There are different challenges experienced by the respondents in making use of mobile technologies for accessing health related information. Poor internet connectivity and difficulty in trusting the credibility of the online health information sources were the two most common challenges. Poor internet connectivity experienced by the respondents is similar to Verma and Sheth (2018) findings where majority of the postgraduate physiotherapy students of some Colleges in Gujarat, India claimed that low internet bandwidth is a major barrier to the use of smart phones. Difficulty in trusting the credibility of online health information sources is also in line with Alwehaibi and Almeman (2014) who discovered that many of patients in Qassim Province, Saudi Arabia also experienced mistrust of online health information a major barrier. Also, 55% of the respondents claimed that they lack required skills to search for health related information using mobile technologies. This is similar to Emiri (2015) discovery that many librarians in Universities in Edo and Delta States Nigeria rated their level of digital proficiency to be low. This indicates a gap which needs to be met by training of the respondents to acquire relevant skills.

The high use of social media (WhatsApp and Facebook) by the respondents as indicated by Figure 5 may be responsible for the lack of credibility of online sources and misinformation issues they claimed to experience in Tables 1 and 2. Studies (Lazer, 2018; Talwar, Dhir, Singh,

Virk and Salo, 2020) have shown that information on social media offer more misinformation and may be less credible as it may be difficult to trace the source or originality of the author(s). Hesse, Nelson and Kreps (2005) point out that health information from physicians remains the most highly trusted sources among adults in the USA. This is because such information are usually products of empirical studies from credible sources often published in journals or other similar scholarly sources.

## **Conclusion**

The global outbreak of COVID-19 and the attendant lockdown and work-from-home policy affected librarians by influencing their information need to reflect the new health emergency. Librarians also use mobile technologies in accessing health related information. They used more of smart phones which implies that they are moving with current trends in technologies. They mostly accessed health related information through social media (Whatsapp and Facebook) because of the easy accessibility of those sources. The librarians had positive perceptions about the use of mobile technologies for accessing health related information. However, they face certain barriers in using mobile technologies such as poor internet connectivity and difficulty in trusting the credibility of the online information sources. Also, many of the librarians lacked required information searching skills.

## **Recommendations**

1. Librarians should explore other electronic information sources, especially academic sources like e-books, e-journals, databases etc as these sources provide empirical literature which are mostly reliable and credible, rather than what may be obtainable through social media.
2. There is the need for increased knowledge of librarians on online information searching strategies. Librarians should seek for more training on information searching skills and also endeavour to develop their information literacy skills as this will also assist in identifying credible health information sources.
3. There is also the need for mobile network and internet service providers in Osun State, Nigeria to improve on their existing services. Poor internet service is one of the major barriers identified by the respondents; therefore, there is the need by the operators to improve the internet services.
4. Librarians need to change their orientation about age factor influencing the use of mobile technology. Learning never ends and anybody, irrespective of age can use mobile technologies.

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