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Social Media, Healthcare Information & Covid-19- A Case Study of Islamabad, Pakistan

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Abstract

The rise of internet technology has also increased information availability through ease of access and ease of use. Especially during the current Covid-19 outbreak, the role of social media is of greater significance. This study also examined the role of social media in spreading healthcare awareness during the Covid-19 crisis in Pakistan. The researcher used an experimental approach and gathered data by using self-designed, structured questionnaires. Data gathered from n=156 respondents revealed that integrating social media technology with healthcare has increased the accessibility to health-related information and awareness in Pakistan. Results revealed a strong, significant relationship between social media usage and ease of accessibility (p > .000), ease of use (p > .011), and Internet Availability (p > .013). Similarly, social media usage was also found to have a significant relationship between social media usage and information Acceptance (p > 1.013), indicating a prominent role of social Media spreading Covid-19 awareness. Thus, this study concludes that, despite the role of social media and other social institutions, we still need more steps to counteract the growing cases of Covid-19 in Pakistan. This research recommends more study, especially regarding rural areas where internet availability is still under process and sometimes confronts several barriers; the role of conventional media platforms and face-to-face awareness campaigns can bring even more positive outcomes.

Keywords: Social Media; Social Institutional; Covid-19; Information Technology; Healthcare Communication

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Introduction

Bordered with China and Iran, the first case of Corona Virus was recorded on January 26, 2020, in Karachi, Pakistan. On the same day, one more case was confirmed by the Federal Ministry of Health in the Capital city, Islamabad (Waris et al., 2020). Vulnerability and existing healthcare challenges for Pakistan led to a speedy outbreak and raised many ordinary people's concerns. Initially, more than 78% of cases were reported among the pilgrims coming from Iran (Nafees & Khan, 2020). Since the first confirmed case in Karachi, the number of Covid-19 cases has crossed four figures and an increased mortality rate as with 207 million inhabitants with limited diagnostic services, local people are becoming the potential careers due to an asymptomatic transmission (A. Ali et al., 2020). However, the National Institute of Health (NIH) has played a significant role in introducing and implementing transmission, prevention, and defection protocols. The National Institute of Health (NIH) also initiated public awareness campaigns on traditional and Social Media platforms regarding the use of facemasks, Personal Protective Equipment (PPE), handling the suspected individuals, measures of personal hygiene, and others (NIH, 2020). The Federal and Provincial governments planned new strategies, including lockdown across the country and closing public and private sector education institutions (UNICEF, 2020). Authorities also announced banning all religious, social, and political gatherings from restricting the virus transmission. Still, despite new policies and strategies, the government of Pakistan is failed to take any effective measures (Saqlain et al., 2020). According to PIDE, (2020), for a developing country like Pakistan, Covid-19 is a war with an invisible enemy. The government and the public need to mobilize and find better solutions to counteract it. Better healthcare management is the need of the day, and besides government, the public should also play their role. All the available information resources, including conventional and social media platforms, are extensively helping the medical practitioners and general public stay updated about the Covid-19 awareness and healthcare measures (Pollack et al., 2013). Significantly, with the rise of social media technology and its broader incorporation in our everyday lives, access to information and technological devices is available just a click away (DEMIREL, 2017).

Similarly, during the current healthcare crisis, social media and other internet sites such as blogs are prominent. People use different internet platforms to seek information regarding the Covid-19, preventive measures, and other significant details. Government and other concerned organizations motivate people to rely on media platforms, particularly digital media, to stay updated about the current healthcare crisis (Gamache-OLeary & Grant, 2017). According to Khalid & Ali, (2020), local healthcare authorities encourage people to stay connected with the authenticated information resources such as the World Health Organization and the National Institute of Health (NIH). These institutions have different websites and have official accounts on different

platforms such as Facebook, Twitter, Pinterest, and others. As a result, people avail direct and validated information regarding the healthcare situation, particularly within Pakistan. For example, the role of social media during healthcare information regarding the outbreak and preventive measures against Auto-Immune Deficiency Syndrome (AIDS) remained prominent. Not only written posts from the World Health Organization but also videos containing the sign language or the disabled people helped them adopt measures against HIV. Social media sites kept them updated about the overall situation (Taggart et al., 2015). During the outbreak of Middle East Respiratory Syndrome and Ebola Virus in Africa, social media highlighted the issue on an international level and spread awareness to hamper the virus transmission (Mansour et al., 2018).

Healthcare communication is a significant aspect of social media content. Especially awareness and information regarding disease spread, control, and prevention, all are efficiently available through social MediaMedia for public healthcare and wellbeing. Similarly, social media providing Covid-19 awareness is prominent, which is highly beneficial to hamper the virus transmission. All the platforms contain helpful information about the Covid-19, which can be used to mitigate the adverse impacts of a disease outbreak (O'brien et al., 2016).

By keeping in view the role of social media during previous healthcare crises such as MERS, Ebola, Cancer, HIV, and others, this research also examines the relevant role during the Covid-19 outbreak. Despite many studies that have witnessed different aspects of Covid-19 and its impacts on different fields of life, no study examined the role of social media during Covid-19 in Pakistan, indicating a significant research gap in this arena. In this context, this experimental study is based on five main sections. In the **first** section, the research extensively discussed the role and importance of social media and its potential role in the Covid-19 outbreak. **The second** section is based on the review of relevant literature, discussing the existing studies regarding the importance of social media in spreading healthcare information. **The third** section discusses the research methods used in this research. The fourth section contains an analysis of results involving both descriptive and inferential statistics. Finally, **the fifth** chapter discusses results, conclusions, limitations, and contributions that are highlighted accordingly.

Literature Review

2.1. Ease of Access to Information & Social Media usage

Digital media work as an information repository for its users, as it provides access to information in terms of both sharing and receiving. Both on an organizational

and individual level, social media usage is common to share and receive information (Parveen et al., 2015). For example, the availability of healthcare information on social Media is benefiting both patients and healthcare practitioners. Besides facilitating u patient-doctor communication, social Media provides direct access to healthcare information through different sources (Levac & O'Sullivan, 2010). This information and communication accessibility indicates the role of social media in accelerating the availability of healthcare information and helps to reinforce health attitudes among the masses. Further validated by Lee Ventola (2014), blogs, micro-blogging sites such as Twitter, Facebook, and even the official websites of healthcare institutions are all available with just a single click.

To further affirm the role of social media in providing access to information, Nisar & Shafiq, (2019) conducted a case study in Pakistan. Data gathered from n= 254 participants through the survey method revealed that all the participants widely use different social networking platforms to gather healthcare information. Mostly they prefer reading health and witness bases blogs that also influence them towards their health. According to Griffiths et al., (2015), online platforms are enriched with different types of information. Blogs and wikis regarding healthcare and fitness are essential for individuals actively seeking ideas to adopt a healthy lifestyle. Besides the public, healthcare practitioners also use social media to share their experiences, healthcare tips and communicate directly with interested individuals. For example, many people rely on digital platforms such as PatientsLikeMe, Treatment Action Campaign, My Pro Ana, Mumsnet, and many others. These web-based platforms are widely available, and regular updates about the ongoing healthcare trends further add to the significance and role of these platforms in improving the lifestyle of many people. A study conducted by Cordos et al., (2017) also examined the role of social networking platforms in providing ease of access to awareness and information. Data gathered using the systematic review technique revealed that most studies witness an increased reliance upon different social media platforms to gather healthcare information directly. Although every platform has different topics regarding healthcare, users select the most suitable ones and stay connected to keep gathering the healthcare information.

H1: Social Media Usage has a significant relationship with the Ease of Access

2.2. Ease of Use and Social Media for Healthcare Information

The simplicity and ease of use regarding social media can be determined by the fact that users can access the required information with just a single click. Patients are facilitated with technological services. They can directly communicate with doctors, share their health details, and consult new doctors through "telemedicine" (SarasohnKahn, 2008). In the current situation, doctors and other healthcare practitioners also use social media to spread healthcare information. As during the

current healthcare crisis, information accessibility is also increased, and even all the social networks are actively engaged in sharing the situational information and daily live updates about the current outbreak, which also keeps the patients updated about the preventive measures and possible options to take under consideration (S. Ali, 2020).

Today, people with different health issues directly communicate and maintain essential consultation with their doctors. One significant advantage regarding informational availability on social media is that people stay updated about the current healthcare trends, advantages, and disadvantages of different treatments and medications. Primarily, health and fitness-based blogs play a significant role in keeping people updated and spreading important information (Vance et al., 2009). To further validate ease of use, Campbell et al., (2016) examined the role of social media in communicating with patients. The researchers used a cross-sectional design, and data gathered from n= 17 physicians revealed a greater conurbation of social media. Participants expressed their dependency on social networking platforms such as Skype, WhatsApp video, and other audio/video calling services to communicate with their patients.

Consequently, patients interact with them easily and inform them immediately if they face any complications. Thus, we assume that social MediaMedia is an excellent career in information and communication regarding healthcare. Despite there are many limitations as well, such as physical examination is limited. Still, digital platforms are easy to access and use by both doctors and patients (Algashaam, 2016).

H2: Social Media Usage has a significant relationship with the Ease of Use

2.3. Internet Availability & Social Media Usage for Healthcare Information

Healthcare practitioners and patients both widely prefer different social networking sites to gather the desired information. This broader usage and dependency on social MediaMedia indicates an increased availability of internet facilities even in those areas where electricity was once a big concern. (Cline & Haynes, 2001). We consider internet availability and briskly improving services such as speed, decreasing prices, and affordable internet subscription packages as the basic mechanisms behind social media usage for healthcare purposes. In this regard, users as information receivers are dependent on social media, but the information providing sources are also dependent on social networking platforms to share the relevant information (Eichner & Dullabh, 2007).

Healthcare information on different social networking platforms is even more accessible, practical, comprehensive, and helpful for information-seeking individuals. For example, healthcare and fitness blogs keep the readers updated about the current

exercising and diet plan trends. Still, they also guide people on how to adopt a healthy lifestyle and ensure better health for themselves. Also, the evolution of telemedicine provided people such as older or physically disabled individuals to communicate through online platforms, get advice, and arrange regular checkups through internet services (Pradeep Kumar Dwivedi, Ingenta Pandey, 2013). Furthermore, Shaikh et al., (2008) analyzed the potential between social media usage for information purposes and internet availability. The researchers used the case study method and gathered data from n= 600 undergraduate university-level students. Findings indicated that young st8udents frequently visit websites by the World Health Organization, The National Institute of Health, and healthcare-themed blogs. According to the participants, these platforms keep them about the healthcare situation, infrastructure, new policies, and rules regarding healthcare policies in Pakistan. Thus, the availability of the internet and the incorporation of valuable social networking platforms have heightened the popularity of online information worldwide. Accessibility to information and further following the relevant healthcare measures, all are possible to keep the public healthy and inspired by a healthy lifestyle (S. Ali, 2018; Macaulay Oweghoro, 2015).

H3: Internet availability has a significant relation with Social Media Usage for Healthcare Information

2.4. Information Acceptance due to Social Media Usage

According to McNab, (2009), fast, direct, and easy internet availability and simple usage patterns offer individuals to consider social MediaMedia as a significant source of information. These characteristics also work as determinants of social media acceptance and information availability from the relevant digital platforms. For example, during the SARS outbreak in 2002, despite many restrictions such as social distancing and isolation, people also relied on the internet for information gathering purposes. Although the internet and social networks were limited at that time, the still internet helped many people to stay updated about the outbreak of the disease (McNab, 2009). The outbreaks of different diseases created geographical distances during the next few years, developing mobile technology and integrating internet technology, further facilitating informational accessibility. As the raid changed and developed in information technology, people instantly accepted social media platforms for entertainment, education, communication, and information. As a result, the availability of internet technology also increased healthcare awareness among people (S. Ali et al., 2021; Hazzam & Lahrech, 2018).

A study conducted by Thackeray et al., (2012) also examined the social media acceptance by the healthcare institutions in the United States. Using the content analysis of social media conversation transcripts revealed that most transcripts involved healthcare consultation and consistent communication between the patients and

doctors. However, the doctors' conversations mainly involved monitoring the patients and keeping updated about their healthcare situation. Greaves et al. (2013) noted that doctors mainly prefer social media technology to modify their interaction with patients and improve their healthcare experiences. According to the patients, internet technology greatly influences healthcare quality, indicating their dependency on social MediaMedia as a healthcare information gathering platform.

H4: Ease of Access, Internet Availability, Information Acceptance, and Social Media usage has a significant relationship with Information Acceptance

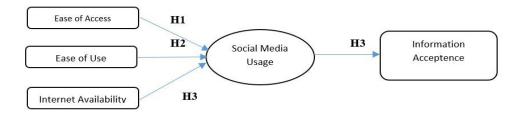


Figure 1: Conceptual Model of Current Research

Research Methods

This study is experimental, and the researcher selected the cross-sectional design to examine the relevant phenomenon. The researcher gathered data using a structured, close-ended survey questionnaire designed at a three-point Likert scale (1= Yes, No=2, Neutral= 3). Notably, due to lockdown restrictions in Pakistan, the participants were sent survey URLs through email. However, informed consent was also considered as the participants were asked to withdraw from recording their responses anytime they wanted. According to Navarro-Rivera & Kosmin, (2013), survey methods are one of the most preferred data gathering techniques as they have ethical compliance. Besides, surveys are flexible and have the efficiency in gathering the desired number of data. Furthermore, the researcher used Statistical Package for Social Sciences Version 64 bit for data manipulation, coding, and analysis purposes.

3.1. Population & Sampling

The study population involved the residents of Islamabad, Pakistan. However, as per the limitations and requirements, the researcher selected a sample of n= 200 respondents. However, before selecting the sample size, the researcher conducted G* Power analysis to determine the ideal sample size for the current research (See Figure 2). G* Power revealed n= 43 as the ideal sample size, and n= 200 respondents indicated a suitable sample size accordingly. Further, under specific circumstances such as lockdown and social distancing measures, the researchers used Google Forms for data gathering purposes and shared the URLs through emails.

Consequently, the response rate remained 78.0%, as 22.0% (n=44) of questionnaires were wrongly filled, incomplete, or missing. It is also notable that the researcher used a convenient sampling method for data gathering purposes. As noted by Farrokhi & Mahmoudi-Hamidabad (2012), despite the convenience sampling method being criticized by many researchers, it aims to facilitate the researchers regarding the data gathering process. Thus, the researcher approached their acquaintances, family members, and other people in their social circle for data gathering purposes.

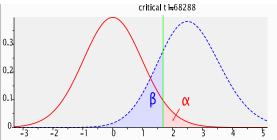


Figure 2: G* Power for Sample Size Selection

3.3. Validity & Reliability of the research Instrument

Table 3: Summary of Inter-Coder Reliability Analysis

		J	
Constructs	Items	A	Status
EAS & SMU	H1	.794	Reliable
EAU & SMU	H2	.719	Reliable
IAY & SMU	Н3	.750	Reliable
IAE & SMU	H4	.704	Reliable

Note: SMU: Social Media Usage, Ease: Ease of Access, IAY; Internet Availability, and IAE: Information Acceptance

The researcher designed a questionnaire under the supervision of subject specialists to affirm its validity. After the initial draft, subject specialists checked, removed some minor errors, and finalized the questionnaire for data gathering purposes. Further to authenticate the reliability, the researcher used Inter-Coder Reliability analysis as reliability assessment has a more substantial impact on the generalizability of the findings (Bastidas-Arteaga & Sojubra, 2014). Therefore, the Cronbach Alpha Value of .862 affirmed that the research instrument is reliable.

Study Results

	Relationshi			df	\boldsymbol{F}	T	Sign	Relationship
	p							
H1.	SMU> EAS	.320	.103	1	17.621	16.739	.000***	Positive
H2.	SMU>EAU	.203	.041	1	6.609	9.061	.011**	Positive
H3.	SMU>IAY	.085	.077	1	2.218	.6572	.013**	Positive
H4.	SMU>IAE	.163	.027	1	4.221	9.318	.042*	Positive

Note: SMU: Social Media Usage, EAS: Ease of Access, IAY; Internet Availability, and IAE: Information Acceptance

H1: To investigate the relationship between Social Media Usage and ease of access to Healthcare information, the researcher conducted a Multiple Regression analysis. The results suggested that ease of access to healthcare information described 10% of the variance, R2=.10, F(1, 154) = 17.621, $p \le .000$. Thus our first hypothesis significantly predicted the positive relationship between Social Media usage and ease of access to healthcare information, B=.460, t=16.739, $p \le .000$. Hence, H1 was supported.

H2: To investigate the relationship between Social Media Usage and ease of use to gather healthcare information, the researcher used Multiple Regression Analysis. Findings indicated that Ease of use regarding healthcare information explained 4% of the variance, R2 = .04, F(1, 154) = 6.609, $p \le .011$. Thus our second hypothesis significantly anticipated the positive relationship between Social Media usage and ease of use to gather healthcare information, B = .664, t = 9.061, $p \le .011$. Thus, the H2 is also validated.

H3: To assess the relationship between Social Media Usage and internet availability to gather healthcare information, the researcher utilized Multiple Regression Analysis. Results showed that internet availability explained .08% of the variance, R2 = .08, F(1, 176) = 2.218, $p \le .013$. The third hypothesis is also supported as it significantly predicted the relationship between media and internet availability to gather healthcare information, B = 1.537. t = 6.572, $p \le .013$.

H4: To investigate the relationship between social media usage and information acceptance regarding healthcare information, the researcher used Multiple Regression Analysis. Findings indicated that Ease of use regarding healthcare information explained 2% of the variance, R2 = .02, F(1, 154) = 4.221, $p \le .042$. Thus our second hypothesis significantly anticipated the positive relationship between social media usage and information acceptance regarding healthcare, B = 1.530, t = 9.318, $t \le .042$.

4.1. Descriptive Analysis

4.1.1. Demographical Data

n= 107 or 69.0% percent of study participants were males and the rest of n= 54 or 34.6% were females. The age of respondents ranged from 16 to 46, 54.0% were between 16 to 25, n = 73 or 46.8% were between 26 to 35 years, n= 15 or 9.6% of participants were between 36 to 45 years and n= 1 or .6% was above 45 years. Likewise, n = 3 or 1.9% of respondents had secondary school certificate, n= 13 or 8.3% had high school certification, n= 28 or 17.9% had a bachelor degree, n= 41 or 26.3% were university graduates, n= 48 or 30.8% possessed masters level degree and n= 23 or 14.7% of participants had PhD.

Table 4: Descriptive Statistics for Social Media, Healthcare Information, Ease of Access and Ease of Use

S/R No.	Variables	Yes	No	Neutral
1.	Social MediaMedia is an essential source of healthcare information	133	8	15
2.	Social Media contain healthcare information from all over the world	142	8	6
3.	I frequently use Social Media to gather healthcare information	113	27	16
4.	I trust health-related information available on Social Media	43	40	73
5.	I trust Social Media based healthcare service providers	60	39	58
6.	Social Media platforms are easy to access for healthcare information	128	11	17
7.	Social Media based healthcare information is readily available for the users	133	8	15
8.	I can easily access the Social Media based Covid- 19 awareness	131	10	15
9.	I use a mobile or tablet device to access the Social Media based Covid-19 information	132	15	9

11.	Social Networking Sites have understandable features	125		22
10. 12.	Social Networking Sites are easy to use Social Networking Sites have simple settings and access options	140 128	3 20 10	13 18

Furthermore, findings revealed a statistically positive relationship between healthcare information, accessibility, usability, internet availability, and Social Media acceptance during the Covid-19. In support of our research hypotheses, n= 133 or 85.2% of respondents considered Social Media an essential source of information that contains (n= 142 or 91.0%) of healthcare information from all over the world. Due to information availability, n= 113 or 72.4% of participants frequently use Social Media for healthcare information as they (n= 43 or 27.5%) trust online platforms. Also, n= 60 or 38.4% of respondents trust online platforms introduced by their healthcare services providers.

According to n= 128 or 82.0% of participants, online healthcare information is easily accessible with ease of availability (n= 133 or 85.2%). In this regard, n= 131 or 83.9% of respondents consider digital platforms accessible for Covid-19 updates and information. They (n= 132 or 85.2%) mainly prefer mobile phones or tablet devices to access relevant online information. Also, n= 140 or 89.7% of participants revealed that these Social Networking Sites are easy to use, having understandable (n= 125 or 80.1%) features with simple settings and access options (n= 128 or 82.0%).

Table 5: Descriptive Statistics for Social Media, Healthcare Information, Internet Availability & Information Acceptance

S/R No.	Variables	Yes	No	Neutral
13.	Social Networking Sites provide easy access to Covid-19 information	127	9	20
14.	I prefer Social Media usage due to internet availability	121	18	17
15.	I prefer Social Media due to internet availability at affordable rates	117	24	15
16.	I prefer Social Media for Covid-19 information as internet-based information is comparatively quick to access	117	21	18

17.	Social Media contain sufficient information regarding Covid-19	122	14	20
18.	It is easy to access information regarding	122	11	23
	Covid-19 through Social Media			
19.	I trust the information regarding Covid-19	137	12	7
	shared by official news sources			
20.	I often share the information regarding	139	11	6
	Covid-19 through Social Media			
21.	I often use Social Media to gather Covid-19	99	34	23
	information			
22.	I trust Social media based online	67	39	50
	information related to Covid-19			

According to n= 127 or 81.4% of respondents, digital platforms provide an easy access to Covid-19 related information. Moreover, n= 121 or 77.5% of participants prefer Social Media for Covid-19 information due to easily available internet services on affordable (n= 117 or 75.0%) rates. Moreover, internet-based Covid-19 updates are comparatively quick (n= 117 or 75.0%), containing sufficient information (n= 122 or 78.2%) with ease of accessibility (n= 122 or 78.2%). Similarly, n= 137 or 87.8% or participants trust Covid-19 information from online resources (GOP, WHO) as they (n= 99 or 63.4%) frequently prefer these platforms to gather the relevant information and share (n= 139 or 89.1%) with others. Therefore, the respondents (n= 67 or 42.9%) completely trust digital media to gather healthcare information in general and Covid-9 related information in particular.

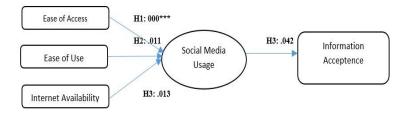
Discussion

The Healthcare system is an integral part of social institutions aimed at everyday wellbeing and development. If the healthcare system is based on a more robust infrastructure and keeping pace with the current healthcare trends, it will be able to cope with the challenges even with crises. Especially technology adoption in healthcare is a practical step that further opens the ways to improve the healthcare facilitates and increased access (Fraser, 2005). According to Al-Maroof et al., (2021), integrating technology with different fields, especially medicine and healthcare, has increased the quality of the healthcare system worldwide (Gulavani & Kulkarni, 2010).

Similarly, during the current Covid-19 crisis, the healthcare system in Pakistan largely resorted to digital platforms to increase awareness about all the preventive measures against the Covid-19 outbreak. Despite digital platforms also contain a bulk of wrong/misinformation, accurate information from the verified platforms adds to the

significance of social media today (S. Ali, 2020b). Youssef (2020) noted that media, particularly social MediaMedia is working as a social service institution as digital platforms are enabled to share and receive user-generated content. They also help us access the authentic and verified sources of information in a better possible manner.

This research also highlighted the potential of social media in Pakistan as playing a significant role in spreading awareness and influencing public behavior towards a healthy and cautious lifestyle. First, the researcher predicted a relationship between social media usage and ease of access to healthcare information. Calculation of responses revealed a strong significant relationship between these two variables. These results are consistent with the study conducted by Alnaser et al., (2020), as they also found the role of social media in spreading Covid-19 awareness in the Jordanian context. As noted that, during the Covid-19 outbreak, the main challenge was to bridge the communication between public and healthcare information providers. In such a situation, digital platforms provide direct access to awareness and information; people stay updated and adopt preventive measures.



Accordingly, ease of use is another significant factor mainly attributed to technology acceptance and usage for different purposes. According to Habes et al., (2020), using social media during the Covid-19 indicates it is user-friendly and easy-touse features that enable the users to access the information with just a sine click. The current research also indicated similar results as findings indicated Social Media Usage and ease of use motivate further digital media dependency, especially regarding the information gathering purposes and awareness.

The third study hypothesis assumed a relationship between social media usage and internet availability, and results also supported this assumption. As noted by Mason, (2017), today internet is readily and cheaply available all over the world. People want to stay updated and communicated all the time. As a result, the internet has become an essential thin to sustain daily life activities. Notably, in Pakistan, the closure of offices, schools, higher education institutions, markets, and other places further increased digital media usage among the public. This increased usage is a root cause of increased internet usage and information gathering from different digital networks (M. Y. Ali & Gatiti, 2020; Youssef, 2020).

Finally, the fourth and last study hypothesis indicates ease of use, access, and internet availability as determinates of social media usage and eventually information acceptance through social media. Al-Maroof et al. (2021) noted that the demand regarding covid-19 information and updates remarkably increased during the current healthcare crisis. People actively use different social networking platforms, which heralds the upcoming era as the technology-mediated period. Despite several geographical, cultural, and other limitations, social media facilitated access to information, helping us cope with healthcare emergencies like the Covid-19 outbreak (Mejia et al., 2020; Wajahat Hussain, 2020).

Summary & Conclusion

Social Media, as the extension of existing media, is prominently playing its role as an educational and informative social institution. The current study involved an experimental method as the research proposed primary study hypotheses further validated by the study results. These findings validated the role of social media in spreading Covid-19 awareness and information, mainly accompanied by ease of access and availability (Alhumaid et al., 2020). This study indicated the distinction of social media platforms in spreading Covid-19 awareness and further provided the positive results of technology acceptance and dependency during the current healthcare crisis. However, despite the role of media and other social institutions, we still need more steps to counteract the growing cases of Covid-19 in Pakistan. Especially, rural areas where internet availability is still under process and sometimes confronts several barriers, the role of conventional media platforms and face-to-face awareness campaigns can bring even more positive outcomes.

1.1. Limitations & Recommendations

This stud is based on an extensive idea, yet it also has some primary limitations. **First**, the researcher had used the convenience sampling method, which is highly criticized due to researchers' own bias. **Second**, we selected the sample respondents only from Islamabad, which questions the generalizability of the study results in other geographical areas. Finally, the **third** limitation involves using the simple experimental method. However, the results could be further improved by using the Structural Equation Modelling (SEM). Thus, this study recommends more investigations, especially the role of other media platforms and even individual social networking sites in spreading healthcare awareness in general and Covid-19 awareness in particular.

References

- Al-Maroof, R. S., Alhumaid, K., Alhamad, A. Q., Aburayya, A., & Salloum, S. (2021). User Acceptance of Smart Watch for Medical Purposes: An Empirical Study. *Future Internet*, 13(5), 127. https://doi.org/10.3390/fi13050127
- Algashaam, N. M. (2016). The Impact of Applying Social Media in the Healthcare Industry. 7(4), 838–840.
- Alhumaid, K., Ali, S., Waheed, A., Zahid, E., & Habes, M. (2020). *COVID-19 & Elearning: Perceptions & Attitudes Of Teachers Towards E-Learning Acceptancein The Developing Countries.* 6(2), 100–115. https://doi.org/10.5281/zenodo.4060121
- Ali, A., Zhongren, M., & Baloch, Z. (2020). Covid-19 in Pakistan and potential repercussions for the world: is the infection on the verge of endemicity? *The BMJ*, 369(May), 2020. https://doi.org/10.1136/bmj.m1909
- Ali, M. Y., & Gatiti, P. (2020). The COVID-19 (Coronavirus) pandemic: reflections on the roles of librarians and information professionals. *Health Information and Libraries Journal*, 37(2), 158–162. https://doi.org/10.1111/hir.12307
- Ali, S. (2018). Social Media Usage among Teenage Girls in Rawalpindi and Islamabad. *Global Media Journal*.
- Ali, S. (2020a). Combatting Against Covid-19 & Misinformation: A Systematic Review. *Human Arenas, October*. https://doi.org/10.1007/s42087-020-00139-1
- Ali, S. (2020b). Combatting Against Covid-19 & Misinformation: A Systematic Review. *Human Arenas*, 0123456789. https://doi.org/10.1007/s42087-020-00139-1
- Ali, S., Habes, M., Youssef, E., Noor, M., & Adwan, A. (2021). A Cross-Sectional Analysis of Digital Library Acceptance, & Dependency during Covid-19. *International Journal of Computing and Digital Systems, July.* https://journal.uob.edu.bh/handle/123456789/4278
- Alnaser, A. S., Habes, M., Alghizzawi, M., & Ali, S. (2020). The Relation among Marketing ads, via Digital Media and mitigate (COVID-19) pandemic in Jordan The Relationship between Social Media and Academic Performance: Facebook Perspective View project Healthcare challenges during COVID-19 pandemic View project. *Dspace.Urbe.University*, *July*. https://www.researchgate.net/publication/342866347
- Bastidas-Arteaga, E., & Soubra, A.-H. (2014). Reliability Analysis Methods. *ALERT Doctoral School* 2014 *Stochastic Analysis and Inverse Modelling*, *January* 2014, 53–77. https://hal.archives-ouvertes.fr/in2p3-01084369
- Campbell, L., Evans, Y., Pumper, M., & Moreno, M. A. (2016). Social media use by physicians: A qualitative study of the new frontier of medicine. *BMC Medical Informatics and Decision Making*, 16(1), 1–11. https://doi.org/10.1186/s12911-0160327-y
- Cline, R. J. W., & Haynes, K. M. (2001). Consumer health information seeking on the internet: The state of the art. *Health Education Research*, *16*(6), 671–692.

- https://doi.org/10.1093/her/16.6.671
- Cordos, A. A., Bolboaca, S. D., & Drugan, C. (2017). Social media usage for patients and healthcare consumers: A literature review. *Publications*, *5*(2). https://doi.org/10.3390/publications5020009
- DEMİREL, D. (2017). Effectivness of Health Information System Applications: Clinical Information and Diagnosis-Treatment Systems in Turkey. *European Journal of Multidisciplinary Studies*, 5(1), 122. https://doi.org/10.26417/ejms.v5i1.p122-131
- Eichner, J., & Dullabh, P. (2007). Accessible Health Information Technology (IT) for Populations with Limited Literacy: A Guide for Developers and Purchasers of Health IT. *National Opinion Research Center for the National Resource Center for Health IT*, 08.
- Farrokhi, F., & Mahmoudi-Hamidabad, A. (2012). Rethinking convenience sampling: Defining quality criteria. *Theory and Practice in Language Studies*, 2(4), 784–792. https://doi.org/10.4304/tpls.2.4.784-792
- Fraser, R. A. (2005). The Importance of Health and Safety. *Golder Associates*, 2(57), 1. https://doi.org/http://dx.doi.org/10.1111/j.1532-5415.2012.04032.x
- Gamache-OLeary, V., & Grant, G. (2017). Social Media in Healthcare. *Proceedings of the 50th Hawaii International Conference on System Sciences* (2017), 3774–3783. https://doi.org/10.24251/hicss.2017.456
- Greaves, F., Ramirez-Cano, D., Millett, C., Darzi, A., & Donaldson, L. (2013). Harnessing the cloud of patient experience: Using social media to detect poor quality healthcare. In *BMJ Quality and Safety* (Vol. 22, Issue 3, pp. 251–255). BMJ Publishing Group Ltd. https://doi.org/10.1136/bmjqs-2012-001527
- Griffiths, F., Dobermann, T., Cave, J. A. K., Thorogood, M., Johnson, S., Salamatian, K., Gomez Olive, F. X., & Goudge, J. (2015). The Impact of Online Social Networks on Health and Health Systems: A Scoping Review and Case Studies. *Policy and Internet*, 7(4), 473–496. https://doi.org/10.1002/poi3.97
- Gulavani, S. S., & Kulkarni, R. V. (2010). Role of information technology in health care. *Proceedings of the 4th National Conference; INDIACom-2010*, 36(1). http://www.ncbi.nlm.nih.gov/pubmed/20097633
- Habes, M., Alghizzawi, M., Ali, S., Salihalnaser, A., & Salloum, S. A. (2020). The Relation among Marketing ads, via Digital Media and mitigate (COVID-19) pandemic in Jordan. *International Journal of Advanced Science and Technology*, 29(7), 12326–12348.
- Hazzam, J., & Lahrech, A. (2018). Health care professionals' social media behavior and the underlying factors of social media adoption and use: Quantitative study. *Journal of Medical Internet Research*, 20(11), e12035. https://doi.org/10.2196/12035
- Khalid, A., & Ali, S. (2020). COVID-19 and its Challenges for the Healthcare System in Pakistan. *Asian Bioethics Review*, 12(4), 551–564. https://doi.org/10.1007/s41649020-00139-x

- Lee Ventola, C. (2014). Social media and health care professionals: Benefits, risks, and best practices. *P and T*, 39(7), 491–500.
- Levac, J. J., & O'Sullivan, T. (2010). Social Media and its Use in Health Promotion. *Revue Interdisciplinaire Des Sciences de La Santé Interdisciplinary Journal of Health Sciences*, 1(1), 47. https://doi.org/10.18192/riss-ijhs.v1i1.1534
- Macaulay Oweghoro, B. (2015). Knowledge, Access and Use of Internet-Based Health Information for Personal Healthcare among Employees of the Foremost Nigerian University. *American Journal of Health Research*, *3*(1), 25. https://doi.org/10.11648/j.ajhr.s.2015030101.14
- Mansour, D., Nashwan, A., Abu Rasheed, H., Hararah, M., Nassar, H., Abu Abbas, R., Alnuaimi, M., & Mrayat, B. (2018). Use of Social Media in Breast Cancer Awareness: GCC Countries' Experience. *Journal of Global Oncology*, 4(Supplement 2), 30s-30s. https://doi.org/10.1200/jgo.18.66200
- Mason, M. (2017). The use of the internet and social media by young people. *Effective Practice in Youth Justice, March*, 1–2. https://www.researchgate.net/publication/315658325_The_use_of_the_internet_a nd_social_media_by_young_people
- McNab, C. (2009). What social Media offers to health professionals and citizens. *Bulletin of the World Health Organization*, *87*, 566–566. https://doi.org/10.1590/S004296862009000800002
- Mejia, C. R., Ticona, D., Rodriguez-Alarcon, J. F., Campos-Urbina, A. M., Catay-Medina, J. B., Porta-Quinto, T., Garayar-Peceros, H., Ignacio-Quinte, C., Esteban, R. F. C., Ruiz Mamani, P. G., & Tovani-Palone, M. R. (2020). The media and their informative role in the face of the coronavirus disease 2019 (COVID-19): Validation of fear perception and magnitude of the issue (MED-COVID-19). *Electronic Journal of General Medicine*, 17(6). https://doi.org/10.29333/ejgm/7946
- Nafees, M., & Khan, F. (2020). Pakistan's response to COVID-19 pandemic and efficacy of quarantine and partial lockdown: A review. *Electronic Journal of General Medicine*, 17(6). https://doi.org/10.29333/ejgm/7951
- Navarro-Rivera, J., & Kosmin, B. A. (2013). Surveys and questionnaires. *The Routledge Handbook of Research Methods in the Study of Religion*, 395–420. https://doi.org/10.4324/9780203154281-35
- NIH. (2020). *National Institute of Health*. https://www.nih.org.pk/novel-coranavirus2019
 - ncov/?__cf_chl_jschl_tk__=0d0b48de5ad3effa3d288cec941793f9fe7c0b72-1590054981-0-
 - Ae3lo1Irdsz_fC8ovBsERj5sodHWwjfXEkHXPa0_teXGsHmLWemCDGaHU23juVHQTjgcTUvy6nhepm3xxm8Dn3ncmMhVZzbFbb8L5UPRcxoihKE8n6Sr1m7lB5diqETxB

- Nisar, S., & Shafiq, M. (2019). Framework for efficient utilisation of social media in Pakistan's healthcare sector. *Technology in Society*, *56*(October), 31–43. https://doi.org/10.1016/j.techsoc.2018.09.003
- O'brien, N., Tan, J., & Yuan, Y. (2016). The role of social networking in healthcare. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 2016-March(October 2018), 3043–3052. https://doi.org/10.1109/HICSS.2016.383
- Parveen, F., Jaafar, N. I., & Sulaiman, A. (2015). Role of social Media on information accessibility. *Pacific Asia Conference on Information Systems, PACIS 2015 Proceedings*. https://doi.org/10.17705/1pais.08402
- PIDE. (2020). COVID-19. PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS (PIDE) P.O.
- Pollack, M. P., Pringle, C., Madoff, L. C., & Memish, Z. A. (2013). Latest outbreak news from ProMED-mail. Novel coronavirus Middle East. *International Journal of Infectious Diseases*, 17(2), e143–e144. https://doi.org/10.1016/j.ijid.2012.12.001
- Pradeep Kumar Dwivedi, . Ingita Pandey, . (2013). Role of media in social awareness. *International Journal of Humanities & Social Sciences*, 1(1), 67–70.
- Saqlain, M., Munir, M. M., Ahmed, A., Tahir, A. H., & Kamran, S. (2020). Is Pakistan prepared to tackle the coronavirus epidemic? *Drugs and Therapy Perspectives*, 36(5), 213–214. https://doi.org/10.1007/s40267-020-00721-1
- Sarasohn-Kahn, J. (2008). The Wisdom of Patients: Health Care Meets Online Social Media. *Medical Benefits*, 25(13), 12. http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=32816528&site=ehost-live&scope=site
- Shaikh, I. A., Shaikh, M. A., Kamal, A., & Masood, S. (2008). INTERNET ACCESS AND UTILIZATION FOR HEALTH INFORMATION AMONG UNIVERSITY STUDENTS IN ISLAMABAD Irshad Ali Shaikh, Masood Ali Shaikh, Anila Kamal*, Sobia Masood*. 20(4), 153–156.
- Taggart, T., Grewe, M. E., Conserve, D. F., Gliwa, C., & Isler, M. R. (2015). Social media and HIV: A systematic review of uses of social media in HIV communication. *Journal of Medical Internet Research*, 17(11). https://doi.org/10.2196/jmir.4387
- Thackeray, R., Neiger, B. L., Smith, A. K., & Van Wagenen, S. B. (2012). Adoption and use of social media among public health departments. *BMC Public Health*, 12(1), 242. https://doi.org/10.1186/1471-2458-12-242 UNICEF.
- (2020). Pakistan. 2, 1-12.
- Vance, K., Howe, W., & Dellavalle, R. P. (2009). Social Internet Sites as a Source of Public Health Information. *Dermatologic Clinics*, 27(2), 133–136. https://doi.org/10.1016/j.det.2008.11.010
- Wajahat Hussain. (2020). Role of Social Media in COVID-19 Pandemic. *The International Journal of Frontier Sciences*, 4(2). https://doi.org/10.37978/tijfs.v4i2.144
- Waris, A., Atta, U. K., Ali, M., Asmat, A., & Baset, A. (2020). COVID-19 outbreak: current scenario of Pakistan. *New Microbes and New Infections*, 35(April), 100681.

https://doi.org/10.1016/j.nmni.2020.100681

Youssef, E. (2020). Role of Social Service Institutions on Social Empowerment of Women at the United Arab Emirates: A field analysis study. *Multicultural Education*, 6(4), 99–111. https://doi.org/10.5281/zenodo.4252122