Exploring the Awareness and Adoption of Online Healthcare Consultations in Metro Vigan, Philippines

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KEYWORDS

COVID-19, telehealth, online healthcare consultations, digital literacy, healthcare access

Introduction: The COVID-19 pandemic accelerated the adoption of telehealth, offering a safer alternative to traditional in-person care. However, its adoption remains limited, especially among socioeconomically disadvantaged groups. This study investigates the awareness and usage of online healthcare consultations in Northern Philippines, focusing on socio-demographic factors.

Objectives: This research explored the respondents' adoption of online consultation in Metro Vigan. Specifically, it looked into the participants' socio-demographic profile, sources of health information, and awareness of online healthcare consultations, as well as the relationships between these variables to inform targeted health interventions.

Methods: A descriptive-correlational design was used, with a survey administered to 100 respondents to assess demographics, awareness, and adoption of online healthcare consultation.

Results: Most respondents were young, primarily female, Roman Catholic, single, and unemployed, with moderate monthly incomes. Social media was the dominant information source (98%), while print media was less preferred (28%). A high percentage (81%) was aware of online healthcare consultations, largely due to COVID-19. There were positive correlations between consultation awareness and family income, occupation, and religion, while age, gender, education, and information sources showed no significant correlation.

Conclusions: The findings indicate that adoption and utilization of online healthcare consultations are influenced by socio-economic factors, with monthly family income, occupation, and religion playing a significant role. Social media was essential for disseminating health information, emphasizing its impact on public health participation.

1. Introduction

The COVID-19 pandemic has presented profound challenges to public health, with significant implications for healthcare access and patient behavior. Fear of infection has led many individuals to reduce their engagement with healthcare services, even when care is urgently needed. Recent studies underscore this trend: 41% of U.S. adults delayed or avoided medical care due to concerns about

COVID-19 exposure, while an additional 12% postponed urgent or emergency care[1]. These findings align with other data showing declines in hospital admissions and emergency department (ED) visits for critical conditions, such as myocardial infarctions and cerebrovascular incidents, since the onset of the pandemic. This hesitancy to seek in-person medical attention, particularly among high-risk individuals, has contributed to indirect COVID-19-related mortality, as delayed medical intervention can exacerbate underlying conditions and result in poorer health outcomes. Being inflicted with COVID-19, especially during the year 2021, has been considered a traumatic event; diagnosis of COVID-19 infection leads to significant anxiety and distress [2].

Amid this context, telehealth has emerged as a transformative tool for maintaining patient-provider communication, reducing in-person visits, and addressing geographical healthcare barriers. Advances in telecommunication technology, such as mobile health applications and electronic health records (EHR), now facilitate continuous patient monitoring and allow healthcare providers to deliver care remotely. According to the Health Management Journal Library (2020), these digital platforms have enabled healthcare providers to communicate safely and effectively with patients, broadening the reach of healthcare services to rural areas where access to specialists may be limited. Telemedicine using 5G networks is becoming a game changer towards effective patient-centered care worldwide due to timely intervention opportunities for health professionals leading to better outcomes in health and because fewer resources are used with fewer interactions [3]. Telemedicine involves all forms of virtual patient care, including phone conversations and telerobotic surgery performed by doctors remotely. In underprivileged communities, such as remote areas with a deficiency or nonexistence of sufficient clinical treatment, telemedicine has been demonstrated to be helpful[4]. Telehealth services bridge geographic gaps, providing remote consultations that extend health care to underserved populations[5]. Furthermore, enculturation can also be done through informal or formal interactions such as teleconferencing, group chats, and consultation sessions [6].

In the Philippines, telehealth initiatives like the Teleconsultation System for Rural Health Units (RHUs) have demonstrated success in streamlining care delivery[7]. In Metro Vigan, Ilocos Sur, for example, this system, deployed as an Android application, aims to reduce waiting times and expand access to medical consultations. Studies at Pira Hospital in Cabugao, Ilocos Sur, indicate promising utilization of telehealth for symptom checking and primary consultation services, with potential for expansion to other healthcare settings across the region.

In terms of public health, telemedicine support has the potential to significantly enhance access to health care, benefiting individual members of the population. Respect for personal autonomy indicates that a patient has the right to choose a remote service, as long as there is a true choice between meaningful possibilities based on complete information[8]

The rise of telemedicine has revolutionized healthcare delivery, especially in bridging the gap between rural and urban areas. However, significant barriers remain, particularly in rural communities with limited access to high-speed internet. Reliable internet connectivity is essential for effective telemedicine services, and expanding broadband infrastructure is a crucial step toward addressing these disparities [9]. Without such infrastructure, rural populations may continue to face inequities in accessing timely and efficient healthcare services. On the other hand, telemedicine during the COVID-19 pandemic has simplified access to specialized medical treatment; however, constraints

such as digital literacy, affordability, and age must be addressed to ensure high-quality care for all [10].

Telehealth technologies provide speedier and more convenient patient care while facilitating physicians' medical operations. However, as the demand for telehealth goods grows, so do data privacy worries and difficulties. Patients are concerned about their data privacy due to regular cyberattacks aimed at stealing and misusing sensitive healthcare information.11. According to studies, funds are a barrier to offering telemedicine services. However, few research have looked into how finances affect the availability and use of telemedicine for both physicians and patients [11]

This study seeks to assess the awareness and use of online healthcare consultation among residents of Metro Vigan during the COVID-19 pandemic. By understanding community attitudes and access to telehealth, this research may improve patient outcomes, lower healthcare costs, and reduce the strain on local healthcare facilities. Findings are anticipated to inform policy recommendations to support telehealth adoption, particularly within nursing practice, research, education, and administration. Increased telehealth integration could aid nursing professionals in adapting to remote patient care, especially in times of public health crises, while also providing practical knowledge that can support future research and curricular development. Ultimately, this study's findings will contribute to the ongoing evolution of healthcare delivery in response to unprecedented global health challenges.

Objectives

This study aimed to determine the adoption and effectiveness of online healthcare consultations in Metro Vigan, Philippines. It specifically sought to identify the socio-demographic profile of the respondents, explored their primary sources of information, and assessed their adoption of online healthcare consultations. Additionally, the study examined the relationship between the respondents' socio-demographic profile and their level of awareness regarding online healthcare consultations.

2. Methods

Study Design: The research utilized a descriptive-correlational design to examine the relationship between respondents' socio-demographic profiles and their awareness of online healthcare consultation during the COVID-19 pandemic.

Study Sampling: The study covered the municipalities of Vigan City, Bantay, Sta. Catalina, and San Vicente, Ilocos Sur. Respondents were selected through random sampling. Twenty-five respondents aged 20 to 60 years old were selected from each municipality. Thus, a total of 100 individuals participated in the study.

Study Instrument: An online survey questionnaire served as the primary data collection instrument. The questionnaire had two parts: Part 1 gathered information regarding socio-demographic profiles and the sources of information, while Part 2 focused on their level of awareness of online healthcare consultations and their relationship with these.

Data Gathering Procedure: After obtaining authorization from participating Local Government Units (LGUs), the survey questionnaires were distributed electronically via Google Forms, allowing respondents ample time to complete the questionnaire without time pressure.

Ethical Considerations: The study adhered to ethical standards to protect participants' rights and confidentiality. In order to guarantee that participants were completely aware of the study's goals,

methods, possible advantages, and related risks, informed consent was obtained before data collection. They were told that they may stop participating at any time and that it was entirely voluntary. Cultural sensitivity and participant well-being were given top priority during the study. The potential advantages of promoting online healthcare consultation as a workable alternative during the pandemic, as well as honoring local values and enhancing healthcare access, were emphasized, and participation was completely voluntary**.**

Statistical Tools: Average scores indicated general awareness, whereas frequency counts and percentages were employed in the statistical analysis to characterize socio-demographic traits and awareness levels. Bivariate correlation analysis was conducted to ascertain the relationship between socio-demographic traits and knowledge of online medical consultations.

3. Results

3.1 Socio-demographic Profile of the Respondents

Majority of the respondents were within the 20 to 30 age range (73 or 73%), with only a small portion (8 or 8%) falling in the 51 to 60 age group, suggesting that younger adults were more prevalent in the study. Regarding gender, 69% were female, and 31% were male. In terms of educational background, most respondents (43 or 43%) were college graduates, with only a small group (1 or 1%) who were high school undergraduate. In terms of occupation, 60% of respondents were unemployed, while 6% were self-employed. The religious profile revealed that the majority were Roman Catholic (85 or 85%), with a small percentage identifying as Iglesia ni Cristo, Born Again Christians, or Muslims (5% each). On civil status, 74% were single, with minor representation from separated or widowed respondents (1% each). In terms of monthly family income, 41% earned between Php 10,000 and Php 30,000 per month, while a small proportion (5%) reported higher monthly incomes, ranging from Php 50,000 to Php 100,000.

3.2 **Sources of Information on Online Healthcare Consultation**

The study's findings indicate that 98% of respondents strongly favor social media as a source of information, indicating that digital platforms are widely used for information dissemination. This inclination probably results from social media's speed, accessibility, and engagement, allowing users to stay informed in real-time. However, only 28% of respondents said they relied on print media, which may be because it is less accessible and disseminated more slowly. This discrepancy shows that people are increasingly consuming information digitally, particularly those who value speed and convenience.

Table 1
Distribution of the respondents in terms of sources of information

Source of Information*	*f*	%
Social Media	98	98.0
Mass Media	59	59.0
Print Media	28	28.0

* Multiple Responses

Knowledge and information distribution have thrived in recent years as technological advancements have accelerated the transition from traditional to modern methods of information dissemination. With the ever-changing mass media, the delivery of knowledge has unwittingly become more vast and adaptable [12].

3.3 **Adoption and Awareness of Online Healthcare Consultation Among the Respondents**

Table 2 reveals that 81% of respondents are aware of the availability of online healthcare consultations, indicating a high level of awareness for this service. However, only 24% have used online consultations, while 76% have not.

Table 2

Frequency and Percentage Distribution of the respondents in terms of Online Healthcare Consultation Awareness and Adoption

Online Healthcare Consultation	***f***	**%**
Q1: Are you aware of the about online healthcare consultation?		
No	19	19.0
Yes	81	81.0
Total	100	100.0
Q2: Have you experienced adopting online healthcare consultation?		
No	76	76.0
Yes	24	24.0
Total	100	100.0

This demonstrates a disconnect between awareness and use, implying potential limitations such as accessibility, familiarity, or a preference for traditional in-person consultations. Despite raising awareness, further efforts are needed to promote uptake and overcome barriers to utilization. Significant impediments to the adoption of telemedicine and e-consultations include technological challenges, a lack of trustworthy IT infrastructure, and privacy and security concerns [13].

3.4 Relationship between Socio-demographic Profile and the Adoption of Online Healthcare Consultation

Table 3 shows the results of correlation analysis done to determine the relationship between the respondents' socio-economic profile and their awareness and adoption of online healthcare consultation.

Table 3

Correlation Coefficients Between socio-demographic Profile and Online Healthcare Consultation Awareness and Adoption

Components	**Awareness of Online Healthcare**	**Adoption of Online Healthcare Consultation**
1. Age	-.129	-.045
2. Sex	-.072	.102
3. Educational Attainment	.188	.147
4. Occupation	.050	.195
5. Religion	.014	-.063
6. Civil Status	.012	.042
7. Monthly Family Income	.201*	.133
Sources of Information	.035	-.026

**. Correlation is significant at the 0.01 level
*. Correlation is significant at the 0.05 level

These findings underscore the influence of socio-economic factors and cultural values on healthcare behaviors. Lower socio-economic level is linked to lower health outcomes and reduced access to healthcare services. People from deprived communities are more likely to die in hospitals and receive less specialized palliative care [14]. Other factors, such as age, sex, educational attainment, and

sources of information, did not show significant statistical relationships with the awareness or use of online healthcare consultations.

4. Discussions

The study's findings illustrate the complex relationship between knowledge and acceptance of online healthcare consultations in Metro Vigan, Philippines, underlining the importance of socio-demographic characteristics and ongoing challenges in achieving equitable healthcare access. Awareness of online healthcare consultations was particularly high, attributed to media advertising and the growing reliance on digital healthcare during the COVID-19 epidemic. However, similar to Malaysia's findings, where 69.7% of respondents had strong knowledge but just 24.6% indicated actual usage [15], the study found a considerable disparity between awareness (81%) and utilization. This disparity was especially prominent among economically disadvantaged groups and rural individuals, highlighting the ongoing digital divide that hinders access to technology and the utilization of telemedicine services [16].

Socio-economic status has emerged as an important predictor of telemedicine use, with higher-income individuals and those with stable employment being more likely to use online consultations. These results are in line with international research that attributes telemedicine disparities to economic injustices rather than racial or ethnic factors [17]. Additionally, older people have additional challenges, including limited access to devices, low digital literacy, and trouble understanding digital interfaces, especially in remote areas. According to research, older adults are less likely to use digital healthcare solutions; for instance, just 50.7% of those 75 and older reported utilizing online health information, whereas younger adults reported doing so 90.3% of the time [18]. Specialized treatments, such as literacy classes and simpler digital tools, are required to close these gaps [19][20].

Additionally, the study provided insight into cultural variables, such as the importance of religion in shaping attitudes about online healthcare. The acceptance of telemedicine among Roman Catholics seemed to be influenced by traditional values and a lack of faith in contemporary technology. This result is in line with earlier studies showing that little technological exposure combined with religion might deter telehealth uptake [15]. Additionally, misunderstandings and concerns regarding the effectiveness and security of online consultations increase public hesitancy, particularly among older and less tech-savvy people [21][22].

A diversified strategy is needed to get beyond these obstacles and boost adoption rates. Through specialized training programs, efforts should target increasing digital literacy, especially among low-income and elderly groups [23]. Accessibility might be significantly improved by expanding low-cost internet connections and lowering the cost of technology in disadvantaged communities [16]. Furthermore, telemedicine systems would gain greater confidence if security issues were resolved by educating users about data privacy and secure procedures [17]. Engagement may be raised by using social media for awareness campaigns, especially in remote locations.

Patient portals, health monitors, and remote monitoring devices are examples of online healthcare solutions with the potential to improve patient involvement, expedite care, and save costs. Studies have shown that virtual consultations improve accessibility and efficiency while offering care comparable to traditional in-person contacts [23]. However, issues regarding the digital gap and data security must be carefully addressed to ensure fair access and long-term trust in these platforms [24]. By combining these tactics, the groundbreaking potential of online healthcare consultations can be realized, resulting in more inclusive and effective healthcare delivery for all populations.

5. Conclusions and Recommendations

Religion, work, and family income are the most influential predictors of awareness and adoption of online healthcare consultation, while age, gender, educational attainment, and civil status have little

impact. Social media has shown to be an important medium for delivering health information, emphasizing its significance in public health involvement. Respondents, who are largely young, female, unmarried, and make a modest salary, have a good attitude towards telemedicine, with higher-income and employed individuals exhibiting stronger adoption. This implies that, while socio-economic considerations influence telehealth engagement, there is still a need to address access disparities, particularly among disadvantaged groups.

The results of this study may be considered a way to improve online consultation as a new method, not only during this pandemic. Training, seminars, and conferences for healthcare providers, especially doctors and nurses, may be done to equip them in the use of online consultations. The government may facilitate the evaluation of existing online health consultations to nearby expanses and pilot one to areas that have limited healthcare access, like the residents in rural areas, and those patients with chronic illness with regular consultations with their healthcare provider. Governments and academes may work with professional associations with experience in online health consultation to educate the broader health and healthcare communities about how the online health consultation can benefit them.

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