The Use of ICTs and Mental Healthcare Service Provision during Covid-19 and the Anglophone Crisis in Cameroon

Azinwi Terence Niba

Ph.D Research Fellow, Department of Educational psychology, Faculty of Education,
The University of Bamenda, Cameroon

Abstract: Mental health professionals especially those working in the Northwest and Southwest communities in Cameroon are confronted with a plethora of challenges that impinge on their service delivery. Today, the use of information and communication technologies (ICT) has the potential to improve the provision of mental healthcare services through greater access and coverage, effectiveness and efficiency, and quality. Thus, the purpose of this study was to investigate the effect of ICT utilization on mental healthcare service provision in the Northwest and Southwest communities of Cameroon during Covid-19 pandemic and the Anglophone Crisis. More specifically, the study sought to ascertain the extent to which computer utilization, and internet utilization affects mental healthcare service provision. The employed the survey research design with a mix of both quantitative and qualitative techniques. Quantitative data was collected through questionnaires while a semi-structured interview guide and an observational checklist was used to obtain qualitative data from a sample of 150 mental healthcare workers. Data was analyzed with the aid of the Statistical Package for Social Sciences (SPSS) version 23.0 for Windows. Descriptive statistics such as simple percentages, mean scores and standard deviation, and inferential statistics such as the one sample t-test, one-way analysis of variance (ANOVA's F-test) and the Pearson Correlation test were used to analyze quantitative data while qualitative data was analyzed using content analysis with the support of ATLAS.ti software version 8.0. Based on the findings, recommendations were made to mental healthcare trainers who were advised to make efforts to effectively use information and communication technologies to improve the quality and effectiveness of mental healthcare services in Cameroon secondary schools.

Keywords: ICT utilization, Computer, Internet, Mental Healthcare Service

INTRODUCTION

Technology has revolutionized the world and defined how we live, how we think, how we work and has launched the world on an information superhighway (Omolaye-Ajileye, 2012). It is an accepted view among many scholars and researchers that in the last three decades, an information revolution has been taking place, catapulting us into an information society where the information and communication technologies (ICTs) dominate (Castells, 2000; Bell, 1999; Brody, 1990). Daniels (2002) argues that ICT has become within a very short time, one of the basic building blocks of modern society. Stephens (2007) defines ICTs as technologies that handle information and enable communication among human actors. More specifically, they include a broad spectrum of participatory communication technologies that consist of electronic information media such as radio, television, computers, e-mail, the Internet, mobile phones among others (Idowu, Ogunbodede, & Idowu, 2003).

Vinluan (2011) states that the Internet is one of the brand new technologies that has affected the field of mental health. Gradually but steadily, mental healthcare professionals notably those working in schools are increasingly incorporating the use of ICTs in the provision of mental healthcare services. A good number of mental health professionals in today's schools have different ICT gadgets that they

use in the execution of their various services, be it in their offices, classrooms or in the course of performing administrative duties (Martin, Brown, DeHayes, Hoffer & Perkins, 1999). Various ICT hardware and software devices such as recorders, cameras, projectors, radio, television, telephones, computers and the internet among others are currently being used to enhance mental healthcare effectiveness especially in schools.

By 2003 computers were seen by mental health professionals as useful resources for clients for registering and encoding information, analyzing psychological tests and storing relevant records (Guillot-Miller & Partin, 2003). Vinluan (2011) maintains that the most obvious way computers can be used is in information encoding, storage and retrieval for different purposes including mental healthcare service provision. Computers have been proven to be beneficial in supporting mental health planning and assessment activities. He states that the education of mental health experts can be enhanced through the use of laptops, desktops, and tablets (handheld computers) among others. Vinluan (2011) also found out that mental health specialists use computers for writing letters and reports, and keeping records. ICT is a quick and sure means to carry out measurement and evaluation of mental health programmes. Computer-based tests are devoid of bias as they introduce acumen and acuity in the process of measurement and reporting for a valued conclusion. He asserts that with the use of computer software programs, computer-administered interviews and rating scales were more comprehensive and reliable, and less biased than evaluations routinely conducted in clinical practice (Vinluan, 2011). He further stresses that ICT proficiency should be a required skill for professional mental health providers.

With regards to internet utilization and mental healthcare service provision, mental healthcare professionals are also utilizing the Internet for their own information, for professional development and keeping in touch with colleagues (Rust, 1995). This technology seems to have been embraced by mental health experts as they can retrieve and disseminate information by email, videoconferencing, websites, online journals and newsletters. Supervision of practising mental health professionals through the use of the internet has also been undertaken (McMahon, 2002; Myrick & Sabella, 1995). In addition, some mental health practitioners were also using the Internet to communicate effectively with diverse and troubled clients (Guanipa, 2001). Email allows mental health practitioners to develop different forms of service delivery to clients. The asynchronous quality of emails provides both the client and mental health professional with more time for reflection thus perhaps enhancing mental health services (Murphy & Mitchell, 1998). Therefore, the internet through the use of web browsing, google search and emailing can be very beneficial as an ICT tool when used in conjunction with mental health services in communities, especially during crises periods.

Within the framework of mental healthcare service provision which involves the provision or delivery of professional services within a community setting, ICT has become useful in improving the provision of mental health services, especially in times of conflict and health crisis. According to Vinluan (2011), these mental health services include any interventions-assessment, diagnosis, treatment, or counselling- offered in private, public, inpatient, or outpatient settings in the community for the maintenance or enhancement of mental health or the treatment of mental disorders in individual and group contexts. ICT has become relevant and useful in diverse ways such as electronic discussion forums, accessing clients' information, delivering individual and group clinical sessions, and depositing client information for research Oraegbunam (2009). Multimedia and websites are important to optimize mental health services (Beidoglu, Dinçyürek, & Akıntug, 2015). However, with the increasing use of ICT, there is a distinct possibility that full mental healthcare service provision can be achieved in communities (Backhaus, Agha, Maglione, Repp, Ross, Zuest & Thorp, 2012) including those in Cameroon rocked by the ongoing Anglophone crisis and the Covid-19 pandemic such as the Northwest and Southwest communities.

The Covid-19 pandemic and the ongoing Anglophone crisis in English-speaking Cameroon have been associated with significant mental health problems such as anxiety, depression, posttraumatic stress disorder (PTSD) and phobias, and this has aggravated the demand and the need for qualified professionals to diagnose, treat, and prevent mental health issues. People experiencing symptoms are increasingly seeking mental healthcare services (Haddison, Julius & Kagina, 2020). Optimal mental healthcare service provision can be achieved through increased access and coverage by mental health practitioners to assuage the suffering of individuals with mental health problems and others in dire need of psychosocial support trapped in the dual crises. Few mental health experts offer professional services at distance, yet one of the first motivations for using ICT is to reach populations who would otherwise not request mental health services (Mallen, Jenkins, Vogel & Day, 2011).

Neba (2010) notes that with the coming of the internet to Cameroon in 1998, there was some improvement in communication though this was still expensive and there were very few cyber cafés. North West Region for example with a population of about 1,600,000 inhabitants had just one cybercafé (with about 10 PCs). As of 2010, there were over 100 cybercafés in the North West region alone and all the major businesses and organizations now have internet connections in their offices and there are a few home connections. This has greatly facilitated business transactions and the provision of services including mental healthcare and has lowered the cost of communication. Neba (2010), further reveals that about 40% of Cameroonians now have access to the internet. However, Neba (2018) admits that Cameroon has witnessed a great improvement in the use of ICT in enterprises and organizations in the country, especially in the use of computers.

According to the International Telecommunication Union (ITU) (2013), there were more than six billion mobile phones and more than one billion Internet users in the world at the beginning of 2013. This digital revolution is based on the Internet, which is the vehicle for the convergence of telecommunication protocols that enable a simultaneous transmission of text, sound and image.

However, while there is a great deal of knowledge about how ICTs are used in mental healthcare services in developed countries, there is not much information on how they are being used by mental healthcare service providers in developing countries, Cameroon inclusive. However, Tamukong (2007) analyzes information and communication technology (ICT) draft policies from 28 African countries including Cameroon developed participative with the involvement of the Economic Commission for Africa. All the countries look at ICTs as a means to solving many developmental problems and have thus generated visions and/or goals that implicate ICTs in social and economic development through poverty eradication, health, better education and good governance, agriculture, environment, science, tourism, culture and employment. The policies indicate that the major problems/difficulties facing ICTs in Africa and which the countries intend to resolve immediately include inadequate infrastructure, insufficient human resources and inadequate access.

Cameroon is among the sub-Saharan African countries that are making enormous progress in the use of the information and communications technologies (ICTs) in the education sector, including mental healthcare (Tchinda, 2007). The government officially introduced ICTs in schools in 2001 (President Biya's speech, 2001) and this was consolidated by Presidential Decree n°. 2002/092 of April 9, 2002 establishing The Agence Nationale des technologies de l'Information et de la Communication (ANTIC) which brought ICTs into the realm of education at all levels of schooling. Then in 2003 a decree introducing ICTs in education was published by the Ministry of National Education (presently MINESEC, the Ministry of Secondary Education). ICTs in secondary schools in Cameroon are provided by the following: Government, Non-Governmental Organizations (NGOs), Private sector, including individuals and enterprises, Development and international organizations, such as UNDP and UNESCO, Parastatal companies and agencies such as the Cameroon Telecommunications

Company (CAMTEL) and the Agence Nationale des Technologies de l'Information et de la Communication (ANTIC) (Tchinda, 2007).

Until very recently, CAMTEL was the only Internet service provider for government secondary schools and universities in Cameroon, but private investors such as MTN are now coming on board. Meanwhile, according to the United Nations Development Programme (2006) there is not yet any specific policy guiding their use in education in general and mental healthcare in particular in Cameroon, which has led to each school counsellor applying ICTs using his/her own method or programme. The integration of ICTs in schools for mental healthcare purposes therefore seems to be done in an informal basis at the moment.

Achale, Tani and Chongwain (2007) found that students, teachers, administrators, ICT coordinators and counsellors had a positive perception that the use of ICTs enhances the quality of instruction, quality of administration and mental healthcare services in Cameroon State Universities. Their participants however highlighted that some obstacles which hinder the effective use of ICTs to improve on the quality of education include: inadequate computers and other ICT equipment, lack of skills and knowledge in ICT usage, poor and slow internet connections, high cost of ICT equipment and irregular electricity supply.

STATEMENT OF THE PROBLEM

The researcher observed that the Covid-19 pandemic and the ongoing Anglophone crisis have been associated with significant mental health problems such as anxiety, depression, posttraumatic stress disorder (PTSD) and phobias in the English-speaking part of Cameroon. The associated ghost towns, lockdowns, physical or social distancing, quarantines, travel and other restrictions, and other containment strategies, and the resulting economic breakdown, have exacerbated the prevalence of mental health conditions in previously healthy people and especially in people with pre-existing mental health disorders. This has further led to attendant adverse effects such as deterioration of physical health, suicidal tendencies, substance abuse and even death. This unfortunate situation has overwhelmed the mental healthcare system and has created a growing demand for mental healthcare services that exceeds available or existing supply. Despite the efforts currently being made by practitioners to enhance the delivery of mental healthcare, there is the possibility that comprehensive mental healthcare service provision can only be achieved if mental health services are associated with the use of Information and Communication Technology (ICT). With the above contextual argument at hand, this study therefore came in to fill the gap of the above studies by investigating the use of ICTs and its effect on mental healthcare service provision during COVID-19 and the Anglophone crisis in Cameroon.

Specific Objectives

➢ To explore the extent to which the use of computers affects the effectiveness of mental healthcare service provision during COVID-19 and the Anglophone crisis.

➢ To assess the extent to which the use of the internet affects effectiveness of mental healthcare service provision during COVID-19 and the Anglophone crisis.

METHODOLOGY

The cross sectional survey design was used in this study as well as the triangulation approach wherein both quantitative and qualitative techniques were used to manage the data collected for the study. The Northwest and Southwest Regions were chosen for this research due to the presence of numerous mental health practitioners such as psychiatrists, psychologists, mental health counsellors, mental health nurses, case workers, protection (child, disabilities and gender-based violence) officers and

social workers working tirelessly in schools, hospitals, mental health facilities, community based-organizations, international relief organizations and government agencies among others to assuage the mental health challenges that have been perpetuated by ravaging effects of the Covid-19 pandemic and the Anglophone crisis on the populace.

The study targeted 315 mental health professionals in the Northwest and Southwest Regions of Cameroon. The accessible population included 191 school counsellors in secondary schools in Mezam Division and Fako Division of the Northwest and Southwest Regions. The sample consisted of 150 participants drawn from Fako and Mezam Divisions using the purposive and snow ball sampling techniques. In Fako division, 71 participants were selected from 32 institutions/secondary schools while 79 were selected from 31 institutions/ secondary schools Mezam division. A questionnaire, a semi-structured interview guide and an observation schedule/guide were used as instruments for data collection.

Data was analyzed quantitatively using the Statistical Package for Social Sciences (SPSS) software version 23.0. Descriptive statistics such as frequencies tables containing the various weighted responses, percentages, measures of central tendencies (mean), and dispersion (standard deviation) were generally used to provide answers to the research questions. The independent t test, one-way analysis of variance (ANOVA's F-test) and the Pearson correlation test was also used to compare means within the variables under investigation, thereby supplying the inferential statistics for this study. The Pearson product moment correlation was used to determine the magnitude and direction of the relationship between computer use and internet use with respect to the effectiveness of mental healthcare service provision. Qualitative data obtained from the interviews and observations were analyzed using the technique of content analysis and the ATLAS.ti software version 8.0 (Friese, 2011).

RESULTS

Research question one: What is the extent to which the use of computers affects the effectiveness of mental healthcare service provision during COVID-19 and the Anglophone crisis?

The mean of real limits of numbers were used to statistically determine the extent to which the use of computers affect the effectiveness of mental healthcare service provision. $1 \geq x \leq 1.49$=very low extent, $1.5 \geq x \leq 2.49$=low extent, $2.5 \geq x \leq 3.49$=high extent, $3.5 \geq x \leq 4.0$=very high extent. Summarily, the overall mean rating for the fifteen items was 42.16 on a scale of 60, and a standard deviation estimate of 0.44. Conclusively, to a high extent the use of computers positively affects the effectiveness of mental healthcare service provision in secondary schools during the COVID-19 and the Anglophone crisis as evidenced by the deviation statistic which remains positive about the mean value.

Interview responses on computer use and mental healthcare service provision

The Qual-quan paradigm was used in presenting the interview findings. All the cases asserted that they have a positive view in the use of the computer for mental healthcare service provision. Case7 explained that:

"The advent of the computer in the field of mental health has come a long way to ease the job of the mental health professionals in providing mental healthcare services. It provides valuable help in the collection, storage and easy retrieval of clients' information. I personally think that all mental healthcare professionals should develop a positive mindset towards the use of the computer in mental healthcare service provision because it represents a significant milestone for effective mental healthcare service provision."

An in-depth thematic analysis of case 17 revealed that:

"I love the computer and have a positive mindset towards its use; however, I do not use it in providing mental healthcare services because I do not have one but I plan on buying it so I could learn how to use it in providing mental healthcare services. It excites me a lot when I see my colleagues using the computer to provide mental healthcare services and I think it greatly helps them to facilitate their provision of mental healthcare services. Before the end of the year, I think I will be proficient in the use of the computer in providing mental healthcare services."

Majority of the cases (8) expressed dominant views on the fact that they use the computer to store and communicate useful information to their clients. It was however a very disturbing issue to some counsellors because they do not use the computer for counselling at all. Other pertinent uses of the computer for counseling includes collecting educational and career information about clients and storing them in well encrypted databases. Some cases declared that they use the computer to work with members of the community such as parents and other educational stakeholders while others said they use the computer to key in store and retrieve information about educational stakeholders.

Verification of hypothesis one

Ho1: There is no significant relationship between the use of computers and effectiveness in mental healthcare service provision in schools during COVID-19 and the Anglophone crisis.

Table 1: Correlation between computer use and counselling effectiveness

Variable		Computer	Counselling effectiveness
Computer	Pearson Correlation	1	.654[**]
	Sig. (2-tailed)		.000
	N	100	100
Counselling effectiveness	Pearson Correlation	.654[**]	1
	Sig. (2-tailed)	.000	
	N	100	100

NB: Correlation is significant at the 0.05 level (2-tailed).

There is a significant relationship between the use of computers and effectiveness in mental healthcare service provision (r=0.654, df=98, p<0.05). Based on the fact that the significance level of the hypothesis is above 0, the null hypothesis that there is no significant relationship between the use of computers and effectiveness in mental healthcare service provision in secondary schools was rejected while the alternative hypothesis was retained.

Research question two: What is the extent to which the use of the internet affects the effectiveness of mental healthcare service provision during COVID-19 and the Anglophone crisis?

The mean of real limits of numbers were used to statistically determine the extent to which the use of internet affects counselling effectiveness. $1 \geq x \leq 1.49$=very low extent, $1.5 \geq x \leq 2.49$=low extent, $2.5 \geq x \leq 3.49$=high extent, $3.5 \geq x \leq 4.0$=very high extent.

To conclude, the sum of the mean rating was estimated at 47.45 on a scale of 60 and a total standard deviation estimate of 7.99. This implies that to a high positive extent, the use of the internet affects the effectiveness of mental healthcare service provision in secondary schools.

Interview responses on internet use and mental healthcare service provision

All the cases asserted that they have a positive view towards the use of the internet for mental healthcare service provision. Case 1 was selected for detailed thematic analysis based on his experience in the use of the internet for counselling and for the fact that he had received training in ICT. He explained that:

"I received training in the use of ICT tools in mental healthcare service provision and this knowledge has helped me over the past 4 years as I have been using the internet to search any mental healthcare service information needed, to watch simulations of mental healthcare sessions, to store and retrieve clients' information via secured locations on the web".

An overwhelming majority of the respondents said they have no experience in the use of the internet for the purpose of providing mental healthcare services. Cases 25 explained that:

"I received training in the use of ICT tools but not specifically for the purpose of mental healthcare. I have been using the internet for different purposes but did not see the need to use it for mental healthcare. However, seeing my colleagues using the internet to facilitate mental healthcare services served as an eye opener. I developed a positive view towards its use but have not started using it. My colleagues now help explain to me how I can use the internet for providing mental healthcare services and I am optimistic about the fact that I will start using it very soon."

Nineteen mental health professionals on a scale of 25 expressed dominant views on the fact that they do not use the internet specifically for the provision of mental healthcare services. Cases 1 and 15 said they use the internet to conduct client mental health needs assessment surveys. Case 3 declared he uses the internet to cooperate with colleagues (counsellors and administrators). Cases 8 and 24 said they use the internet for ongoing and annual evaluation of mental healthcare services in schools. Case 13 was of the view that he uses the internet to make adjustments on school mental healthcare programs when the need arises.

Verification of hypothesis two

Ho2: There is no significant relationship between the use of the internet and effectiveness in mental healthcare service provision in secondary schools during COVID-19 and the Anglophone crisis.

Table 2: Correlation between internet use and mental health service provision

variable		Internet	Counselling effectiveness
Internet	Pearson Correlation	1	.804[**]
	Sig. (2-tailed)		.000
	N	100	100
Counselling effectiveness	Pearson Correlation	.804[**]	1
	Sig. (2-tailed)	.000	
	N	100	100

NB: Correlation is significant at the 0.05 level (2-tailed).

There is a significant relationship between the use of the internet and effectiveness of mental healthcare service provision (r=0.804, df=98, p<0.05). Based on the fact that the significance level of the hypothesis is above 0, the null hypothesis that there is no significant relationship between the use of the internet and effectiveness of mental healthcare service provision in secondary schools was rejected while the alternative hypothesis was retained.

Table 3: Summary of the findings

Variables	Test value	Sig	Decision
Computer	r=0.654	0.001	There is a significant positive relationship between the use of computers and effectiveness of mental healthcare service provision.
Internet	r=0.804	0.001	There is a significant positive relationship between the use of the internet and effectiveness of mental healthcare service provision.

DISCUSSION

Computer Use and Mental Healthcare Service Provision

Mental health professionals in schools reported diverse uses of the computer in the provision of mental healthcare services. To a high extent, they used computers to educational and career information for clients (students), to gather background information about clients, to communicate information to students, to conduct psychological tests on students, to analyze psychological tests for clients, and to communicate test results for mental health. They also reported computer use for placement of clients in jobs, internships and employment opportunities, for placement of students in various scholarship opportunities and educational programs, and to match the students' aptitudes, abilities and interests with career options. Some mental health professionals also said they used computers to conduct clients' mental health needs assessment surveys, to do ongoing and annual evaluation of mental healthcare services in school, to make adjustments on school mental health program when the need arises, to actively cooperate with colleagues such as teachers and administrators, to work with members of the community such as parents and other professionals, and to actively cooperate with other school mental healthcare professionals within and beyond their immediate school.

The finding that computers affect the effectiveness of mental healthcare service provision is in line with the findings of Cabaniss (2001) which indicated that mental health professionals are using a large variety of computer-related tools (CRT), including word processors, spread sheets, a variety of software programs, e-mail, chatrooms, list servers, databases, and other web-related tools to assist them in over half of job-related tasks today. The finding is also in congruence with Encyclopedia Britannica (2019) which states that today computers make jobs that used to be complicated much simpler, for example, you can write a letter in a word processor, edit it anytime, spell check, print copies, and send it to someone across the world in a matter of seconds. All of these activities would have taken someone days, if not months, to do before.

The results showed that some mental health professionals in schools are yet to integrate computer use in their provision of mental healthcare services. This finding is related to the Diffusion of Innovations (DOI) paradigm where Rogers (1995) states that individuals adopt technological innovations at varying degrees of willingness.

Internet Use and Mental Healthcare Service Provision

Internet use proofed to be useful in enhancing the effectiveness of mental healthcare service provision. The internet can be used to collect educational and career information for clients, and to gather background information about clients especially with the effective use of social media. The internet can also be used to communicate information and test results to clients, to cooperate with other colleagues, parents and members of the community. This can be done through the use of emails and other social media handles. The finding aligns with that of Myers (1995) who said the internet has a

variety of uses. Among them is the social media. These are interactive internet technologies that facilitate communication and exchange via virtual communities and networks. They include: Facebook, WhatsApp, Twitter, WeChat, Tumblr, Instagram, Google +, Skype, Viber, Snapchat, Pinterest, LinkedIn, Telegram, MySpace, Badoo and YouTube among others. Counsellors use these social media platforms to provide counselling services to clients and for capacity building through interaction with peers.

There are several psychological tests on the internet which explains the finding that the internet is also used to conduct psychological tests for clients. The finding that the use of the internet significantly affects the effectiveness of mental healthcare service provision is also corroborated by Strickland (2014) who says that the internet is used for web browsing and google search. The worldwide web offers a way to access documents spread over the several servers over the internet. These documents may contain texts, graphics, audio, video, hyperlinks. The hyperlinks allow the users to navigate between the documents. Mental health professionals use the web to browse web sites and google search vital information that is used especially for career orientation, research and capacity building.

CONCLUSIONS

ICT use, specifically computer use and internet use have proven to be necessary in the provision of effective mental healthcare services during COVID-19 and the Anglophone crisis. It was recommended that mental health professionals should increase their mastery of the use of information and communication technologies such as telephones, computers and the internet. This can be achieved by enrolling in short courses or training programs as well as organizing, attending and participating in capacity building workings and training seminars on the use of ICTs in mental healthcare. In addition, reliable power supply, sufficient equipment and free internet preferably WI-FI (a facility allowing computers, smartphones, or other devices to connect to the internet or communicate with one another wirelessly within a particular area) should also be set in secondary schools by the government to enhance effective implementation of information and communication technologies in mental healthcare in public (government) schools within the country. Future researchers should therefore seek to ascertain the use of ICTs and its effects on mental healthcare service provision in non-educational settings such counselling clinics, hospitals, refugee camps, churches among others.

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