



Online Research Supervision and its Influence Among Health Professional Students and Research Supervisors during Covid-19 Pandemic; An Evaluation Study of Clarke International University

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Abstract

The COVID-19 pandemic which hit most nations in 2020 has triggered several changes in the education system. For example, students in higher institutions of learning in Uganda have had to adjust to online learning amidst scarce resources. The study evaluated how online research supervision has influenced self-learning among health professional students at Clarke International University. An analytical cross-sectional study design was employed among 150 students conducting research and 08 Key informants holding administrative positions and supervisory roles were interviewed. Quantitative data was collected using a questionnaire administered through a semi-structured google survey form. Univariate, bivariate, and multivariate analysis conducted using SPSS (20.0) and ATLAS Ti for analyzing qualitative data. The majority 106 (70.7%) of the respondents were satisfied with online research supervision. The findings were influenced by; age of respondents ($p=0.690$), knowledge on application of online tools ($aOR=2.580$, $95\% CI=0.243-27.406$, $P=0.432$), supervisors' availability for consultation ($p=0.996$), availability of e-resources for research ($p=0.995$) and support from other departments ($aOR=4.524$, $95\%CI=0.167-122.535$, $P=0.370$). Online research supervision is possible. Most of the students were able to apply knowledge gained in research methodology class, although there is need for readily available supervisors and provision of timely feedback. Institutions should focus on providing more e-resources, and continuous training and awareness among students and supervisors to improve online research supervision.

Keywords: Online Research Supervision, Health Professionals, COVID-19 Pandemic, Uganda

INTRODUCTION

The COVID-19 is a virus transmitted through respiratory droplets expelled from the nose and mouth for example as a result of coughing and sneezing (World Health Organization, 2020). It can also be transmitted when humans have contact with hands or surfaces that contain the virus and touch their face, mouth, or nose with the contaminated hands. Due to the rapidly increasing number of cases in the country, there is a great danger posed among communities to have cross infection from either symptomatic or asymptomatic individuals if mitigation or prevention measures are not well observed (World Health Organization, 2020). The pandemic has triggered several changes in the way people work and execute their daily tasks and duties. Ever since the outbreak of the disease in March 2020, students in higher institutions of learning faced enormous challenges in ensuring that their learning occurs given the new online technology-based learning introduced by most institutions (Mpungose, 2020). This is not an exception when it comes to research, as many students struggle to make their dreams of graduating a reality. As much as COVID-19 pandemic has disrupted the normal functioning of various activities across the globe including institutions of

teaching and learning (Schleicher, 2020), utilization of Information and Communication Technology (ICT) has enhanced online teaching and learning. Students and supervisors have continued with research supervision using new digital-based supervision tools. However, to increase supervision activities it is very important to provide holistic support to address the challenges of online supervision during the pandemic (Loureiro et al., 2010). Clarke International University (CIU) is focused on the health and safety of its community as it continues to demonstrate collective leadership in sustainably observing the Covid-19 safety measures (Clarke International University, 2021). Conducting research under new COVID-19 research guidelines and Standard Operating Procedures (SOPs) has been particularly challenging. Despite the challenges, online research supervision took place at a rocketing speed in higher institutions of learning in Uganda, as it is the case for online courses (Baber, 2020). To provide more insights to the challenges faced by students in higher institutions, this study aimed at evaluating online research supervision during COVID-19 Pandemic among students (both undergraduate and postgraduate) and supervisors to inform strategies that can positively influence research supervision during the COVID-19 pandemic. Several researches have been conducted on online engagement during Covid-19 [Baber, 2020, Mpungose, 2020, Loureiro et al., 2010, Paul & Jefferson, 2019], but few studies have been conducted in the area of online research supervision among higher institutions of learning during COVID-19 pandemic, which makes this study necessary.

METHODOLOGY

This section focuses on the research design, participant selection, methods of data collection, data analysis as well as ethical considerations.

Study Design

The study employed an analytical cross sectional study design employing a convergent parallel mixed methods approach where both quantitative and qualitative data was gathered from participants electronically concurrently. This study included all students who were in their final year of study and were undertaking research projects as part of their partial fulfilment for the award of diploma, bachelors or masters at CIU. Purposive sampling was adopted and all students who were not doing research were excluded from the study. Qualitative data was collected using interviews, particularly a key informant guide, with 8 senior supervisors holding administrative positions at CIU. Participants who constituted the quantitative arm of the study were also purposively selected. Quantitative data was collected using questionnaires, and a total of 150 participants were recruited. Quantitative data was analyzed using SPSS version 20. The Chi-square statistics were computed to check for statistically significant differences in the parameters between the dependent and independent variables. Logistic regression was done to obtain strength of association between categorical dependent and independent variables and statistically significant items at this level were then analysed using multivariate logistic regression to obtain adjusted conclusion for the study and used ATLAS Ti for analysing qualitative data.

RESULTS

Background

This section provides the results of the study including the socio-demographic characteristics of the respondents; satisfaction with online learning research supervision. A sample of 150 students pursuing health related courses participated in this study together with the research supervisors.

Social-Demographic Characteristics of the Respondents

Table 1: Socio-demographic Characteristics of respondents

Variable	No. (150)	Percentage (%=100)
Age group		
21-30	68	45.3
31-40	54	36.0
41-50	21	14.0
>50	7	4.7
Total	150	100
Gender		
Male	65	43.3
Female	85	56.7
Total	150	100
Program of Study		
Diploma in Clinical Medicine and Community Health	24	16.0
Diploma in Pharmacy	12	8.0
Bachelors of Medical Laboratory Science- Direct	18	12.0
Bachelors of midwifery science	9	6.0
Bachelors of midwifery science-Top up	3	2.0
Bachelors of Nursing Science- Direct	14	9.3
Bachelors of Nursing Science-Top up	14	9.3
Bsc Public Health	8	5.3
Master of Science Public Health	46	30.7
Master of Science Health Services Management	2	1.3
Total	150	100
Level of Study		
Diploma	36	24.0
Bachelors	66	44.0
Masters	48	32
Total	150	100
Own Desktop/Laptop		
No	20	13.3
Yes	130	86.7
Total	150	100
Own Smartphone		
No	2	1.3
Yes	148	98.7
Total	150	100
Access to electricity		
No	2	1.3
Yes	148	98.7
Total	150	100
Have access to internet connection		
No	34	22.7
Yes	116	77.3
Total	150	100

The study findings indicate that majority 68(45.5%) were within the age group 21-30 years, followed by 54(36.0%) those in the age group 31-40 years and the least 7(4.7%) being aged greater the fifty (>50) years. In terms of the gender of the respondents, 85(56.7%) were females and less than half 65(43.3%) of the respondents were males. In addition, 46(30.7%) of the respondents who participated in this studying Masters of Science in Public Health, followed by Bachelors of Medical Laboratory Science 18(12.0%) and the least 2(1.3%) number of participants were registered among students who were studying Master of Science Health Services Management. 66(44.0%) of the respondents who participated in the

study were students who were studying at Bachelors' level and least 36(24.0%) being those studying at Diploma level. In terms of owning a computer, majority 130(86.7%) of the respondents had either a laptop or a desktop and the majority 148(98.7%) of the respondents had a smartphone. 148(98.7%) had access to electricity, with 116(77.3%) who had access to the internet (See table 1).

Satisfaction with online research supervision

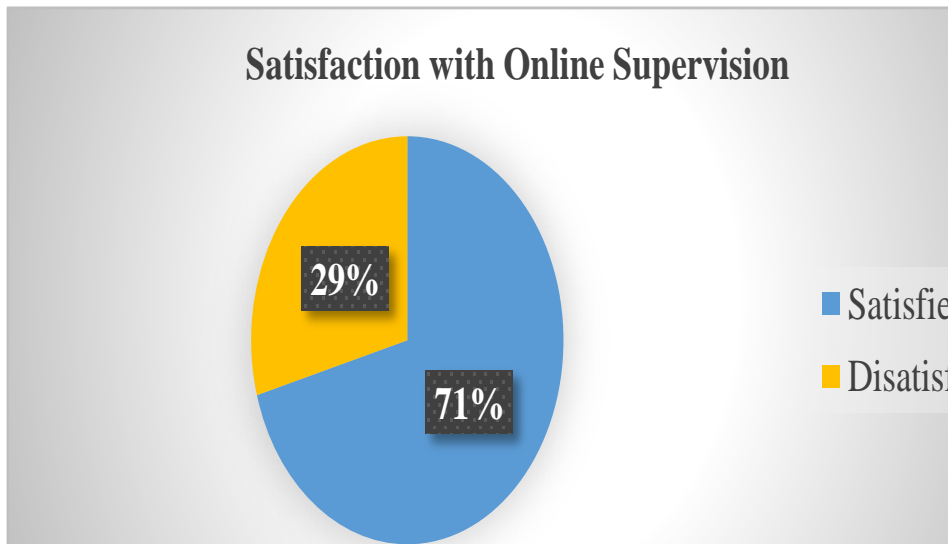


Figure 1: Satisfaction with online research supervision

As regards satisfaction with online supervision, the majority ((71%) were satisfied with online supervision (See figure 1). This was supported by qualitative findings as K1.1 explained the convenience of access to supervision for students who lived far from the university: “Students who may be working and are far from university are able to access supervisors at their own convenience and they do not have to be physically at campus.” *However, there are exceptions where some students go silent for sometime before they respond to changes suggested by their supervisors”* (KI. 1).

Factors influencing online research supervision among health professional students during COVID-19 pandemic at Clarke International University in Uganda

In our multivariate analysis, age of respondents ($p=0.690$), knowledge on application of online tools ($aOR=2.580$, $95\% CI=0.243-27.406$, $P=0.432$), supervisors' availability for consultation ($p=0.996$), availability of e-resources for research ($p=0.995$) and support from other departments ($aOR=4.524$, $95\%CI=0.167-122.535$, $P=0.370$) were not statistically significantly associated with satisfaction with online research supervision among health professional students. Our univariate analysis showed that, age of respondent was statistically and significantly associated with satisfaction with online research supervision. Students aged 50 years and below were more likely to be satisfied with online research supervision compared to students above 5 years of age. In line with knowledge of respondents, students who were not knowledgeable on application of online tools were less likely to be satisfied with the online research supervision and there was a statistically significant association between being knowledgeable on application of online tools and satisfaction with online research supervision. In line with supervisor related factors, supervisors' availability for consultation was statistically and significantly associated with satisfaction in online research supervision.

Table 2: Online research supervision among health professional students during COVID-19 pandemic

Variables	Satisfaction with Online Research Supervision		Univariate Logistic Regression Analysis		Multivariate Logistic Regression Analysis	
	Dissatisfied (%)	Satisfied (%)	uOR (95%CI)	P- Value	AOR (95%CI)	P-Value
Age			3	0.007*	3	0.690
21-30	3	4	1.009(0.109-4.859)	0.991	0.275(0.028-2.732)	0.996
31-40	29	39	3.300(0.636-17.130)	0.155	0.361(0.028-1.586)	0.245
41-50	10	44	7.125(0.882-57.545)	0.065	1.653(0.531-5.145)	0.082
>50	2	19	1		1	
Knowledgeable on application of online tools						
No	15	19	0.422(0.190-0.937)	0.034*	2.580(0.243-27.406)	0.432
Yes	29	87	1		1	
Supervisors' available for consultation						
No	39	5	0.015(0.005-0.045)	<0.001*	20.843(1.856-45.763)	0.996
Yes	11	95	1		1	
Availability of e-resources for research						
No	24	20	4.330(2.042-9.185)	<0.001*	1.356(0.423-18.640)	0.995
Yes	23	83	1		1	
Receive support from other departments						
No	33	50	0.298(0.136-0.650)	0.002*	4.524(167-122.535)	0.370
Yes	11	56	1		1	

Respondents who reported that research supervisors were unavailable for consultation were less likely to be satisfied with online supervision compared to those who said that research supervisors were available for consultation. In terms of institutional factors, availability of e-resources for research was statistically and significantly associated with satisfaction with online research supervision. However, respondents who said that the institution does not have e-resources for research were more likely to be satisfied with online research supervision. Moreover, receiving support from other departments or offices with the institution was statistically significantly associated with satisfaction with online research supervision and those who did not receive support from other offices with the university were less likely to be satisfied with online research supervision (See table 2). This was supported by qualitative findings as KI. II and KI. IV stated that “*some of the departments that offer support during online research supervision include research ethics and quality assurance departments*” (KI II). “However, the key drivers to enhance online research

supervision include, *students' availability and willingness to adopt and respond in time to responses of the supervisors and vice versa*" (KI IV).

DISCUSSION

Our study focused on online supervision at CIU during the lockdown. We found that close to two third of the students were satisfied with online research supervision. The factors that influenced supervision were; age of respondents, knowledge on application of online tools, supervisors' availability for consultation, availability of e-resources for research, and support from other departments. The findings of this study are in line with the findings of a study done in Nigeria among University students by Harsi Fendi et al (2021) where the participants admitted having acquired new knowledge in the process of operating online-based tools to enhance supervision. However, contrary findings from a study by Butcher and Sieminski (2006) shows that face-to-face interaction between student and supervisor is vital building confidence, confidence-building and knowledge enhancement of the supervisee and distance supervision sometimes becomes passive due to lack of face-to-face interaction, causing dissatisfaction among the students that becomes the biggest challenge for the supervisors. The discrepancy in findings can be attributed to the fact that the later finding was conducted before the COVID-19 Pandemic where the online-based engagement was more of an option than the only ideal mechanism of executing supervision. Further, online research supervision has been shown to have students to respond and act at their convenience and a study conducted by Nash (2021) indicated that improved online supervision reduced students anxiety and depression (Nash, 2021). In addition, the current study shows that knowledge on online-based tools positively influences online supervision. This finding was inline with MacKeogh (2006) findings which stated that the effective and appropriate use of ICT can help provide a supportive environment to the thesis students and supervisors (MacKeogh, 2006). This was also in line with Hansen and Hansson (2015) who stated that ICT can be of great assistance in providing frequent feedback and high level of interaction between supervisor and supervisee (Hansen & Hansson, 2015). In another study, results show that there is no significant difference between online and traditional classroom engagement/supervision with regards to gender and age (Paul & Jefferson, 2019).

CONCLUSION

Online research supervision is possible. Most of the students were able to apply knowledge gained in research methodology class for online research supervision, although there is need for readily available supervisors and provision of timely feedback. Institutions should focus on providing more e-resources and continue inter departmental support to enhance online research supervision.

RECOMMENDATIONS

1. The institution should provide more e-resources to enhance research supervision
2. The institution should embrace continuous online training and webinars for both research supervisors and students to enhance a research culture
3. There is need for prompt response or feedback by both the supervisors and students during research supervision
4. The institution should develop research policies that can promote online research supervision
5. Students should be encourage to embrace self-learning through problem based learning to enable acquisition of life skills.

Conflict of Interest

The authors declare no conflict of interest.

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