



Perceptions of Nigerian Physiotherapists Regarding Online Learning for Continuous Professional Development

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Authors' contributions

This work was carried out in collaboration among all authors. Author BSO designed the study, performed the statistical analysis, wrote the protocol, and first draft of the manuscript. Authors STO and OOP collected the data, managed the analyses, did literature searches. Author AFH did the analysis, involved in manuscript writing and data management. All authors read and approved the final manuscript.

Article Information

DOI: <https://doi.org/10.9734/ajarr/2024/v18i10768>

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/124640>

Original Research Article

Received: 30/07/2024
Accepted: 02/10/2024
Published: 09/10/2024

ABSTRACT

Background of the Study: Continuing professional development (CPD) involves learning activities directed at building competence and confidence of healthcare professionals to perform their duties effectively. In recent times, the mode of delivery of CPD has changed from physical classroom to

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online platforms. Online delivery of CPD however has been reported to face some challenges, particularly in low and middle-income countries, including the language of instruction and lack of adequate ICT infrastructure.

Aim of Study: The study investigated the perceptions of Nigerian Physiotherapists regarding Online delivery and barriers to online delivery of CPD training platforms.

Materials and Methods: The cross-sectional study recruited 74 licensed Physiotherapists working in various health institutions in Nigeria. Data on perception about Online learning for CPD was obtained using already validated instrument adopted from previous study. Data were summarized using descriptive statistics of percentage and frequency distribution. Inferential statistics of Chi square was used for test of association among variables. Alpha level was set at 0.05.

Results: The result shows that 90.5% of respondents had CPD attendance within the year. 35.1% had online mode of delivery, 33.8% face to face while 31.1% had blended mode of delivery. The result also showed 87.8% preferred face to face mode of delivery, 51.4% preferred blended, while 45.9% preferred online mode of delivery for future CPD. Furthermore, lack of fast and stable internet connection, adequate technical support to support online learning initiative, lack of funds for online learning and lack of direct support from the senior management were the most recognized barrier to adoption of online learning for CPD.

Conclusion: Nigerian physiotherapists have a good perception and attitudes towards continuous professional development however, majority preferred face to face mode of CPD delivery. Lack of institutional policy for online learning development for CPD, lack of leaders supports and incentives for healthcare staff were the major barriers identified towards adoption of online learning for CPD.

Keywords: Continuing professional development; physiotherapy; online learning.

1. INTRODUCTION

Continuing professional development (CPD) has been emphasized by many professional associations as a veritable tool for constant update of professional knowledge and skills. In the medical and other health care professions, the knowledge acquired via basic medical education sometimes gets Obsolete, and thus a strategic approach for regular updates needs to be established [1]. All over the world, there is increasing need for healthcare professionals to constantly update their knowledge and skills so that they can stay dynamic and confident in managing the increasing and changing health challenges.

CPD has been defined in various ways to reflect the importance of skills development. The Academy of Royal Medical Colleges [2] define CPD as “a continuing process, outside formal undergraduate and postgraduate training, that allows individual health care providers to maintain and improve standards of medical care through the development of knowledge, skills, attitudes, and behavior.

Similarly, Regional Guidelines for Continuing Medical Education [3] describes CPD as “The wide-ranging competencies beyond clinical update, research and scientific writing, multidisciplinary context of patient care, ethical

practice, communication, management and behavioral skills, team building, information technology, audit, and appropriate attitudinal change to ensure improved patient outcomes and satisfaction”

Continuing professional development has been found to improve professional expertise and scholastic capability for clinical and teaching responsibilities of healthcare professionals throughout their working life [4]. A goal oriented CPD shares the broader perspective of CPD that is: self-driven and individually tailored according to needs assessment; considers the professionals' complex working environment as a multidisciplinary context of patient care; an on-going learning process that build knowledge and skills on initial education to ensure competence regarding current and future work duties [5].

The Concept of continuing professional development therefore involves the building of newer competencies and at the same time, expanding and strengthening already acquired knowledge and skills. In other words, healthcare professionals constitute a critically important component of a successful healthcare Delivery system [6].

CPD has been put in place by the Ministries of health from several countries to provide access of life-long learning for their healthcare

professionals [7,5]. This strategy ensures that Healthcare professionals (HCPs) can update their knowledge and practice skills during various training events. However, in most countries CPD is not required by law, and is generally considered to be the responsibility of Professional associations and/or individual health Workers. In Nigeria, it is the responsibilities of each health care professionals particularly, the physiotherapists to periodically update their knowledge as a pre-condition for annual practicing license renewal, promotion and continuous relevance in health industries.

In recent times, the mode of delivery of CPD has changed from physical classroom to online training platforms. Current information technology has therefore been seen as an enabler for online CPD delivery [8,9], and health care professionals have been encouraged to use it to update their specialties at the workplace [10,11]. Consequently, online CPD programs are being adopted in both developed and low-resource countries [12-14]. More importantly, with the rise of the COVID-19 pandemic and other infectious diseases, online learning systems are seen as a strategic digital solution to ensure CPD delivery to healthcare professionals from across the world [15,16].

Although the conventional face to face or onsite mode of CPD learning platforms also have some identifiable challenges such as cost of participation, accessibility, job and time constraints [17,18] however, the recent improvement in technology that provides online platforms for the delivery of CPD should therefore rendered the complaint of distance and accessibility to classroom-based CPD unacceptable.

Findings from previous studies have reported some challenges encountered during online mode of CPD delivery particularly in low and middle-income countries, among the challenges are: language of instruction [19] and Lack of adequate ICT infrastructure [12,20,21]. In spite of all these challenges, Nigerian Physiotherapists are encouraged to attend continuing professional development program either through onsite or online delivery system as a precondition for the annual renewing of professional license by the regulatory agency. However, there seems to be paucity of empirical literature concerning the perceptions of Nigerian Physiotherapists regarding Online delivery and barriers to online

CPD training platforms. This study therefore was designed to assess the perceptions of Nigerian Physiotherapists regarding Online delivery and barriers to online CPD training platforms.

2. MATERIALS AND METHODS

This cross-sectional descriptive study recruited 74 licensed Physiotherapists working in various health institutions in Nigeria. They were recruited for the study during the 2023 annual scientific conference of clinical and academic physiotherapists in Nigeria.

Data on perception about Online learning for CPD was obtained using already validated instrument adopted from previous study.

The study protocol was approved by the Health Research Ethics Committee of Federal Medical Centre, Owo (FMC/OW/380/VOLCLXXVI/140). The rationale behind the study was explained to all participants and informed consent was granted from them before their participation.

The survey instrument adopted from previous study [1] was a four sectioned self-administered questionnaire. Section A obtained information on demographic characteristics and job history, section B on mode of CPD delivery, section C was on institution readiness for online CPD while section D obtained data on the perceived barriers to adoption of online CPD learning platforms.

The data obtained from this study were analyzed using Statistical Package for Social Sciences (SPSS) for windows, version 25. Descriptive statistic of proportion as well as frequencies was used to summarize the data, while inferential statistics of Chi square was used for test of association between mode of CPD delivery and gender, location and work setting. Alpha level was set at 0.05.

3. RESULTS

Table 1 shows the socio-demographic characteristics of the respondents. The result shows that majority of the respondents age ranged between 25-30years (32.4%). More than half are male (66.2%). Majority of the respondents are bachelor degree holder (44.6%) and reside in urban location (77.0%). Furthermore, majority of the respondents work in a government setting (62.2%) while orthopaedics specialization has the highest proportion (44.6%).

Table 1. Socio-demographic characteristics of the respondents N=74

Demographic Data		Frequency	Percent %
Age	25-30	24	32.4
	31-35	9	12.2
	36-40	6	8.1
	41-45	6	8.1
	46-50	11	14.9
	51-55	13	17.5
	56-60	4	5.4
	61-65	0	0
	66-70	1	1.4
Gender	Male	49	66.2
	Female	25	33.8
Year Graduated	1977-1986	6	8.1
	1987-1996	10	13.5
	1997-2006	17	23.0
	2007-2016	18	24.3
	2017-2023	23	31.0
Degree	Bachelor	33	44.6
	MSc	21	28.4
	PhD	20	27.0
Location	Urban	57	77.0
	Semi-urban	17	23.0
Work Setting	Government	46	62.2
	Private	5	6.8
	Teaching Institute	23	31.1
Specialization	Ortho	33	44.6
	Paed	8	10.8
	Women	4	5.4
	Neuro	17	23.0
	Sport	1	1.4
	Others	11	14.9
Designation	Physiotherapist (PT)	22	29.7
	Senior PT	7	9.5
	Principal PT	10	13.5
	Chief PT	5	6.8
	Assistant Director PT	5	6.8
	Deputy Director PT	8	10.8
	Director PT	3	4.1
	Senior Lecturer	9	12.2
	Professor	5	6.8

Presented in Table 2 is the CPD attendance and mode of delivery of the respondents. The result shows that 93.2% of respondents renewed license within the year while 90.5% of respondents had CPD attendance within the year. 35.1% had online mode of delivery, 33.8% face to face mode of delivery and 31.1% blended mode of delivery. The result also showed 87.8% preferred face to face mode of delivery, 51.4% preferred blended, while. 45.6% preferred online mode of delivery for future CPD.

Presented in Table 3 is the result of perceived status of internet connection in respondent health

institutions to support online learning for CPD. Result shows that 36.5% have good connection for cable network, 44.6% for mobile broadband, 41.9% for wireless network and 18.9% for satellite network. However, the result revealed that 37.8% have no internet connection for cable network, mobile broadband (27.7%), wireless network (27.7%) and satellite network (44.6%).

Table 4 shows the result of the level of agreement or disagreement regarding factors that can enhance online learning adopting for CPD. The result shows that 95.9% of the respondents agree to individual staff perceptions

Table 2. Respondents CPD attendance and mode of delivery N=74

Variables	Responses	Frequency	Percentage %	
License Renewed during the year	Yes	69	93.2	
	No	5	6.8	
CPD Attendance in the year	Yes	67	90.5	
	No	7	9.5	
Mode of delivery	Online	26	35.1	
	Face to face	25	33.8	
	Blended	23	31.1	
Prefer mode of delivery for future CPD	Face to Face	Prefer	65	87.8
		Moderately Preferred	9	12.2
		Not preferred	0	0.0
	Blended	Prefer	38	51.4
		Moderately Preferred	27	36.5
		Not Preferred	9	12.2
	Online	Prefer	34	45.9
		Moderately Preferred	29	39.2
		Not Preferred	11	14.9

Table 3. Perceived status of internet connection to support health professionals for online learning

Variables	Good Connection n (%)	Fair Connection n (%)	No Connection n (%)
Cable Network	27(36.5)	19(25.7)	28(37.8)
Mobile Broadband	33(44.6)	22(29.7)	19(25.7)
Wireless Network	31(41.9)	18(24.3)	25(25.7)
Satellite Network	14(18.9)	27(36.5)	33(44.6)

Table 4. Level of agreement or disagreement regarding factors that can enhance online learning adopting for CPD

Variables	Agree n (%)	Disagree n (%)
Individual staff perceptions on personal development in line with emerging technologies.	71(95.9)	3(4.1)
ICT Infrastructural support such as video conference online / learning hardware.	69(93.2)	5(6.8)
Institutional Support for online learning adopting of CPD.	68(91.9)	6(8.1)

as one of the factors that can enhance online learning adoption for CPD. 93.2% agree to ICT infrastructure support while 91.9% agree to institutional support for online learning adoption of CPD.

Presented in Table 5 is the result of perceived barriers to adopting online learning for CPD. The result shows that more than half of the

respondents agreed that lack of institutional policy for online learning development for CPD (55.4%), Lack of leaders support for activities of the online learning initiative (54.1%), Lack of reward or incentives for healthcare staff to adopt online learning (55.4%), Lack of online trainings of staff on new emergency technological skills (60.8%), Lack of fast and stable internet connection (63.5%), Lack of adequate technical

Table 5. Perceived barriers to adopting online learning for CPD

Variables	Agree n (%)	Moderately Agree n (%)	Disagree n (%)
Lack of Role Models to follow within the Healthcare domain.	28(37.8)	18(24.4)	28(37.8)
Lack of contextual and appropriate e-courses developed for CPD	29(39.2)	17(23.0)	28(37.8)
Lack of Institutional Policy for online learning development for CPD	41(55.4)	17(23.0)	16(21.6)
Lack of System of credit accumulation towards horizontal promotion	35(47.3)	27(36.5)	12(16.2)
Lack of System of credit accumulation towards renewal of professional license	33(44.6)	21(28.4)	20(27.0)
Lack of leaders support for activities of the online learning initiative.	40(54.1)	20(27.0)	14(18.9)
Lack of reward or incentives for healthcare staff to adopt online learning	41(55.4)	23(31.1)	10(13.5)
Lack of online trainings of staff on new emergency technological skills	45(60.8)	17(23.0)	12(16.2)
Lack of fast and stable internet connection	47(63.5)	17(23.0)	10(13.5)
Lack of adequate technical support to support online learning initiative	43(58.1)	21(28.4)	10(13.5)
Staff lack of funds for online learning	46(62.2)	19(25.7)	9(12.2)
Lack of direct support from the senior management.	39(52.7)	20(27.0)	15(20.3)

Table 6. Chi square test of association between mode of CPD delivery and gender, Location and work setting of respondents.

Variables	Online	Face to Face	Blended	X ²	P Value
Gender	Male (49)	15 (30.6%)	17 (34.7%)	1.169	0.557
	Female (25)	11 (44.0%)	8 (32.0%)		
Location:	Urban (57)	17 (29.8%)	24 (42.1%)	9.385	0.009
	Semirural (17)	9 (52.9%)	1 (5.90%)		
Work Setting:	Government (46)	20 (43.5%)	13 (28.3%)	6.190	0.185
	Private (5)	0 (0.0%)	3 (60.0%)		
	Teaching Institution (23)	6 (26.1%)	9 (39.1%)		

support to support online learning initiative (58.1%), Staff lack of funds for online learning (62.2%), Lack of direct support from the senior management (52.7%).

Table 6 shows the Chi square test of association between mode of CPD delivery and gender, location and work setting of respondents. The result revealed no significant association between CPD mode of delivery and gender with work setting of the respondents. However, a significant association was found between CPD mode of delivery and location of respondents ($p < 0.05$)

4. DISCUSSION

There is limited literature about the perceptions of Nigerian physiotherapist regarding online

learning for continuous professional development. This study aims to determine the perceptions of Nigerian physiotherapists regarding online learning for continuous professional development and barriers to adopting online learning for CPD. The result from this study shows that approximately 90% of physiotherapists attended CPD within the year, this is supported by Bello and Lawson [22] which shows that a good proportion of physiotherapists demonstrated good attitudes for CPD in Ghana. This may be because CPD activities have been found to improve the performance and practice of physiotherapists among other health care professionals. This also implies that physiotherapists in this study have a good perception of the concept and relevance of continuous professional development.

This study showed that about 35.1% of physiotherapists that participated in this study had online mode of delivery of CPD, 33.8% had face to face mode of delivery of CPD and 31.1% had blended mode of delivery of CPD, this result contradicts the finding from the study done by Mgbeojedo et al [18] where the most practiced type of CPD were scientific conferences, seminars, congress, reading journal articles and participating in publication of journal articles as supported by French [23] that reported CPD to be more than attending courses and undertaking postgraduate studies but involves seminars, research and workshops. CPD can also occur through day-to-day experiences, peer discussion critical reading and personal reflection. From the present study, the most likely CPD practiced by physiotherapists are online activities and face to face activities of CPD. This could be because of the time variation in the studies and also the world advancement towards E-learning.

This study reported that 87.8% of physiotherapists that participated in this study preferred face to face mode of delivery for future CPD, 51.4% of physiotherapists preferred blended mode of delivery for future CPD while 45.6% of physiotherapists preferred online mode of delivery for future CPD however, there is no available study to compare the report of this study with. This study shows inadequate readiness of institution for CPD delivery through online learning, the findings shows that internet is not mostly used in health institution although there is no available literature in Nigeria to support the findings from this study. Observation from this study showed there is a perceived status of good internet connection to support health professionals for online learning which is also reported by Bello and Lawson [22] that physiotherapists need good access to internet connection for online learning.

The findings from this study revealed factors that can enhance online learning adoption for CPD: individual staff perceptions in line with emerging technologies; ICT infrastructure support such as video conference online/ learning hard-wares; institutional support like leader involvement and commitment in ongoing learning and direct senior management support. This result therefore supports the findings of Byungura et.al [1] that reported lack of training about emerging technologies related to online CPD and lack of adequate technical support.

The findings from this study also showed the most perceived barriers to adopting online learning for continuous professional development from physiotherapist who participated in this study were lack of role models to follow within the healthcare domain, lack of contextual and appropriate e-courses developed for CPD which supported the findings by Harland and Drew [23,24] that online learning for CPD is affected by difficulty in accessing the information needed by the physiotherapists and this could be explained by the historical examination of the learning culture of physiotherapists which is affected by the availability of different types of learning resources to different generations of physiotherapists. Also, some perceived barriers like lack of institutional policy for online learning development for CPD, lack of system of credit accumulation towards horizontal promotion, lack of system of credit accumulation towards renewal of professional license, lack of reward or incentives for healthcare staff to adopt online learning and staff lack of funds for online learning were also reported by the physiotherapists in this study. In study done by Bello and Lawson [22] it was reported that the barriers of physiotherapists to participation in CPD was non availability to libraries and online databases to access literature at work facilities which was also supported by Akinbo et al [25] that reported about 28% of physiotherapists in Nigeria performing less than two database searches a month.

This study also reported lack of fast and stable internet as another barrier to online learning for CPD which is also reported by Bello and Lawson [22] that even though majority of physiotherapists had access to general internet connection, there is a major challenge in obtaining up to date professional information. Lack of online trainings of staff on new emergency technological skills and lack of adequate technical support to support online learning initiative including sponsorship were also reported in this study as perceived barriers to adopting online learning for continuous professional development, this finding is supported by Bello and Lawson [22] that reported lack of sponsorship and leadership direction as the barriers of physiotherapists to participation in CPD.

The findings from this study also revealed a significant association between mode of delivery of CPD attended by the respondents and the location of the respondents. Face to face mode of delivery was more associated with

respondents in the urban centers while online was more associated with respondents in the semi urban areas. The reason for this result could be attributed to the fact that, most CPD facilitators prefers staying in the urban centers than moving to the semi urban centers, also cost of transportation of participants to urban centers may also be the reason online CPD seems to be more associated with participants in the semi urban centers.

5. CONCLUSION

This study showed majority of Nigerian physiotherapists have a good perception and attitudes towards continuous professional development similarly, majority of physiotherapists preferred face to face mode of delivery for future CPD. Approximately half of physiotherapists perceived a good internet connection to support health professionals for online learning for CPD Furthermore, lack of contextual and appropriate e-courses developed for CPD, lack of institutional policy for online learning development for CPD, lack of system of credit accumulation towards horizontal promotion and renewal of professional license and lack of reward or incentives for healthcare staff to adopt online learning among other factors were identified as the most perceived barriers to adopting online learning for CPD. Individual staff perceptions in line with emerging technologies, ICT infrastructure support and institutional support were however, identified as factors that can enhance online learning adoption for CPD.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declares that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

ETHICAL APPROVAL

All authors hereby declare that the study have been examined and approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

ACKNOWLEDGEMENTS

The authors would like to thank almighty God for the blessings and professional colleagues for giving support in the conduct of this study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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