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ORIGINAL RESEARCH

Continuing Professional Development Program in Health Facilities in Rwanda: A Qualitative Study on the Perceptions of Health Professionals

Emmanuel Munyaneza[1], Belson Rugwizangoga[1,2], Emmanuel Rusingiza[1,2], Jean Berchmans Niyibizi[2], Simon Rutayisire Kanyandekwe[1], Jean Claude Byiringiro[1,2], Florence Masaisa[1,2]

[1]Clinical Education and Research Division, University Teaching Hospital of Kigali, Kigali, Rwanda; [2]School of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda

Correspondence: Emmanuel Munyaneza, Clinical Education and Research Division, University Teaching Hospital of Kigali (CHUK), KN 4 Avenue (Avenue de la Paix), P. O. Box 655, Kigali, Rwanda, Email emmanuel.munyaneza@chuk.rw; emamunyaneza@gmail.com

Background: Continuous professional development (CPD) is an important pillar in healthcare service delivery. Health professionals at all levels and disciplines must continuously update their knowledge and skills to cope with increasing professional demands in the context of a continuously changing spectrum of diseases. This study aimed to assess the CPD programs available in healthcare facilities (HFs) in Rwanda.

Methodology: Semi-structured interviews were conducted using purposive sampling. Accordingly, the respondents belonged to different categories of health professionals, namely nurses, midwives, laboratory technicians, pharmacists, general practitioners, and specialist doctors. Thirty-five participants from district, provincial, and national referral hospitals were interviewed between September and October 2020. A thematic analysis was conducted using Atlas ti.7.5.18, and the main findings for each theme were reported as a narrative summary.

Results: The CPD program was reported to be available, but not for all HPs and HFs, because of either limited access to online CPD programs or limited HF leaders. Where available, CPD programs have sometimes been reported to be irrelevant to health professionals and patients' needs. Furthermore, the planning and implementation of current CPD programs seldom involves beneficiaries. Some HFs do not integrate CPD programs into their daily activities, and current CPD programs do not accommodate mentorship programs. The ideal CPD program should be designed around HPs and service needs and delivered through a user-friendly platform. The motivators for HPs to engage in CPD activities include learning new things that help them improve their healthcare services and license renewal.

Conclusion: This study provides an overview of the status and perceptions of the CPD program in HFs in Rwanda and provides HPs' insights on the improvements in designing a standardized and harmonized CPD program in Rwanda.

Keywords: continuous professional development, healthcare professionals, program, Rwanda

Background

Continuous professional development (CPD) is and will always remain an important pillar in healthcare service delivery. In fact, CPD in known to have a positive impact on competence, confidence, networking, continuous improvement of services and scholarly accomplishments.[1,2] Health professionals at all levels and disciplines must continuously update their knowledge and skills to cope with their increasing professional demands in the context of a continuously changing spectrum of diseases and healthcare technologies.[3,4] Continuous quality improvement, compliance with safety measures in hospitals, and the need to renew professional licenses by regulating bodies make CPD even more sensitive and critical for all healthcare professionals.[3,4]

CPD is an important requirement across all career stages, with direct implications for patient care, retention, and recruitment.[3,5] The available evidence suggests that capacity-building initiatives for the existing health professional staff

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of an institution can quickly boost confidence, productivity, and quality of patient care, while the lack of in-service training negatively impacts staff morale and contributes to professionals leaving their jobs.[4–6]

A study conducted in Rwanda in 2018 reported some challenges, including limited opportunities to share learned knowledge among colleagues, frequent staff rotation in hospital services, lack of refresher training and mentorship, and staff turnover.[6] Another recent survey conducted among managers of healthcare facilities in Rwanda highlighted the importance of adopting online CPD programs; however, the targeted audience for such CPD programs was not interviewed.[7] The literature suggests that CPD programs are more effective when constructed to encourage health professionals to take the initiative and direct their own learning relevant to the clinical challenges they encounter.[5]

CPD is one of the top priorities of the University Teaching Hospital of Kigali (CHUK). As part of its mission, CHUK must be a center for health professional education and provide support to provincial and district hospitals in terms of health care services and capacity building.[8,9] Hence, the CPD program is regarded as a key component of CHUK's support for provincial and district hospitals, especially those in its catchment area. The CHUK is striving to avail high-quality education and development opportunities for healthcare professionals working in different settings in Rwanda. We strongly believe that access to high-quality CPD programs for healthcare professionals can help leverage and enhance patient-centered quality care and safety, with a very positive impact on patients' and families 'experiences in different hospitals in Rwanda.

One of the major challenges regarding the quality of CPD programs is the lack of sufficient information on the needs of the audience,[5] especially those in district and provincial hospitals. Rural hospitals face unique challenges that are not necessarily seen in urban settings and could serve as a foundation for more contextually relevant learning and development opportunities for healthcare professionals working in those settings. This study aimed to investigate the actual needs of healthcare providers to contribute to the establishment of strong and well-informed CPD programs.

Methods

Study Design

This was a cross-sectional qualitative survey that used semi-structured interviews and focus group discussions (FGDs).

Study Sites

The University Teaching Hospital of Kigali (CHUK) is the largest tertiary hospital in Rwanda, and its catchment area (22 public hospitals) covers >50% of Rwandan territory. This survey was conducted in CHUK and ten purposefully sampled public, rural, and urban hospitals in the catchment area of CHUK between September and October 2020.

Participants

The study Participants were healthcare professionals working at study sites employed by the ministry of health and licensed by relevant council with at least two years of experience: doctors (general practitioners and medical specialists), nurses, midwives, and diagnostic and therapeutic support (Laboratory technicians, Pharmacist, Physiotherapist). These key informants were purposively selected to represent the diverse opinions and experiences of the healthcare professionals. At least two key informants were interviewed for each professional group available at each visited facility wherever possible.

Study Procedures

Two trained interviewers conducted the interviews using an interview guide in the national and local languages (Kinyarwanda). Before the interview, potential participants signed an informed consent form to be interviewed and audio recorded. The participants' informed consent contained information about the study project; its purpose, risks, benefits, and confidentiality measures; their right to withdraw at any stage; and the relevant contacts should be contacted when problems arise. Also, the information about anonymity of the research participants during publication was included in the informed consent form. One interviewer moderates the interview, while the second serves as a note-taker by writing down key points and non-verbal data. Interviews were recorded using devices that could not be connected to the

internet to protect privacy. The recorded data were transcribed verbatim into Microsoft Word documents and translated into English. To ensure the accuracy of the translation, it was translated back into Kinyarwanda and proofread.

Data Analysis

The data were analyzed using thematic analysis following the six steps described by Vaismoradi et al:[10] (i) familiarizing with data, (ii) generating initial codes, (iii) searching for themes, (iv) reviewing themes, (v) defining and naming themes, and (vi) producing the report. Both inductive and deductive approaches were used during the analysis, which was performed using Atlas.ti 7.5.18.

Before uploading transcripts in using Atlas.ti 7.5.18, one interview from each category of the study participants (nurses, midwives, laboratory technicians, general practitioners, medical specialists, pharmacists) was thoroughly read to obtain an idea of initial themes and codes. This first step (familiarizing with data) was also intended to check whether there was any difference between the responses from different categories of study participants. Fortunately, no special observations have been made on this matter. Subsequently, a thematic codebook was developed, and no new coding emerged from the ninth transcript despite the diversity of respondents. The analyst (JBN) continued with other steps of qualitative data analysis, as mentioned above. After the analysis, the results were shared with BR, EM, ERK, and FM for review before finalizing the report. In the reporting results, a narrative summary of the main findings under each theme was provided and salient quotes from respondents were presented.

Results

This study included 35 respondents; their demographic characteristics are presented in Table 1. Briefly, 60% of respondents in this study were men, and almost all respondents were in the age group of 30–50 years (91%), most of whom were nurses and medical medical specialists (23% for each profession), while over half of the participants were

Table 1 Characteristics of Respondents

Characteristics	n (%)
Gender (n=*35*)	
Male	21 (60.0)
Female	14 (40.0)
Age group (n=*35*)	
25–30	2 (5.7)
30–40	16 (45.7)
40–50	16 (45.7)
50–60	2 (2.9)
Job title (n=*35*)	
General practitioner	6 (17.1)
Laboratory scientist	4 (11.4)
Midwife	6 (17.1)
Nurse	8 (22.9)
Pharmacist	3 (8.6)
Specialist	8 (22.9)

(*Continued*)

Table 1 (Continued).

Characteristics	n (%)
Location (n=*35*)	
Rural	18 (51.4)
Urban	17 (48.6)
Facility (n=*35*)	
District hospital	26 (74.3)
Provincial referral hospital	4 (11.4)
National referral hospital	5 (14.3)

from rural areas, and approximately three-quarters (74%) worked for district hospitals. Medical specialists include one gynecologist, two internal medicine medical specialists, four pediatricians and one surgeon. It is important to note that all respondents worked in public health facilities and institutions.

The following seven themes summarized participants' perceptions: (i) CPD availability, accessibility, and relevancy; (ii) planning and implementation features of available CPD programs; (iii) perception of how institutions value CPD; (iv) perception of available CPD programs; (v) motivation to engage in CPD activities; (vi) preferences around an ideal CPD program; and (vii) suggested reviews and changes to available CPD programs. These themes are described separately.

CPD Availability, Accessibility, and Relevancy

Availability and Accessibility of CPD Programs

In this qualitative study, some respondents reported that they had CPD programs running at their health facilities (HFs), and others openly reported that they did not have CPD programs in their HFs.

Some respondents who accepted CPD programs in their HFs declared that it was difficult for them to access the available CPD programs. We also recorded many respondents who claimed not to have CPD programs at their HFs or institutions.

This finding indicates that CPD programs are available in three major forms of training: 1) external training, which takes place outside of institutions (HFs), 2) internal training organized and delivered within the institution, and online training. The quotes provided below serve as illustrations of the available CPD programs.

> Yes, program is there, there are many ways we get CPD, there is the first one which is presentations that can take place in the hospital, some training related to the topics needed in the hospital and online way where you [virtually] attend the meeting or learning in order to get those CPD. R#16, GP Rural DH

Regarding the impact of COVID-19 control measures, we found that many respondents said that they did not have access to CPD programs previously held at their HFs. We also recorded one respondent working in a rural area who declared that it is difficult for him or her to access online training because of (poor) Internet connectivity, as illustrated below:

> Even the ones which are there, we don't have access to them. We don't even have enough internet connection for downloading those things; it is a problem. Or they can be present but to access them is a problem especially as we live in rural area. R#4, laboratory technician, rural DH

Regarding study participants who declared not having CPD programs at their HFs, some participants accepted that CPD programs are available, but there is no specific CPD program at the HF for their professions or careers; this was the case for pharmacists, laboratory technicians, and some medical specialists. As illustrated below:

> Even if the present CPD programs are not specific for a pharmacist, they are mostly for nurses, doctors and other paramedical personnel depending on the chosen topic. #10, Pharmacist urban DH

In some instances, we found cases where study participants categorically reported not having a CPD program, as illustrated below:

"Thank you, hose CPD programs, frankly, I can say that they are not there…. R#2, Nurse rural DH "No, CPD program…none. R#14: Pediatric Urban National Referral Hospital.

"In general, there is no known CPD program. R#25, Midwife urban DH

Relevancy of Available CPD Programs

Regarding the relevance of available CPD programs to health professionals and patients' needs, some respondents explained how they were relevant:

> I find them relevant; they are relevant to my profession because they help us to correct how we do things and the way we work together. They also help us to give good services to our clients who benefit from that. These programs help so much. Mostly, programs are planned according to the problems encountered in department R#8, GP urban DH

In this study, it was found that there is inconsistency in the relevance of CPD programs to"

—p8: "and not in others". to and not in others. We recorded some respondents who indicated that CPD programs are relevant in some instances and not in others.

> There is what you attend, and you find to be relevant, others not relevant. For example, you can do a CPD of public health and as someone who works in lab you find [it] not to be relevant in your performance at work. …. R#13, Laboratory Technician Urban Referral Hospital

On the other hand, some respondents reported that the available CPD programs were irrelevant to their needs and patients' needs. This irrelevance resulted from the training/CPD sessions being prepared without consulting potential participants. Some health professionals attended CPD sessions or training because they needed CPD credits; otherwise, they did not attend.

> They are not relevant to my profession, because sometimes. with understanding it but, after all, we must get signature for CPD credit without even understanding what we have been taught. R#2, Nurse rural DH

> They (CPD programs) reflect on what they planned not my needs nor my patient's needs, because most. services/departments. It is possible that you can learn something that you cannot find in your service/departments, or it is not relevant to the patients.: R#31, Nurse rural DH

Planning and Implementation of Available CPD Programs

During the interviews, study participants were asked if they were involved in deciding on the content and process of the available CPD programs. With this question, very few respondents (four out of 35 participants) considered that they were involved in deciding on the content and process of CPD programs provided to them for internal training. Further investigations indicated that two of those four participants were from the same institution. Almost all study participants reported that they were not involved in deciding on the content and process of current CPD programs/trainings, whether prepared and delivered at the HF level (internal training) or outside HF (external training).

> Well, they don't consult us before. They only inform us that tomorrow morning there is a presentation about this topic. They don't ask what we need so that they may start with that. R#2, Nurse rural DH

"Personally not, I have never been involved. R#7, GP urban DH

It was found that leadership at HF level does not value the involvement of health professionals in deciding on what to be taught to them as some respondents who serve as trainers in their respective hospitals have reported that their leaders, Directors of HFs, are the ones who dictate to them what topic to present to their colleagues, as illustrated below:

> No, no, no they didn't ask me any advice, but there is some presentation that I do prepare. There is a time they tell me you must go to prepare and teach but they didn't ask me any advice. I just See them like that. R#21, Nurse Urban Provincial Hospital.

> No, we don't meet for that, director just calls you informing that you will teach about a topic they have chosen. R#24, Pharmacist urban DH

One respondent, who seemed to make presentations in internal training at the HF, self-reported not considering the views of co-workers when preparing which topic to present to them:

> Well, we didn't do special trainings, but we know what is necessary in order to train those people I mentioned above. R#6: Pediatric Urban National Referral Hospital.

Surprisingly, respondents reported that CPD programs provided by national councils of health professionals are not evidence-based; they simply prepare topics and train their members without considering their needs in the workplace.

> …regarding CPD program/training we receive from NCNM [National Council of Nurses and Midwives], maybe we have never been consulted …. R#30, Nurse rural DH

Regarding whether available CPD programs support continuous learning, very few participants (three out of 35) perceived that CPD programs did this. Among these, only one respondent provided convincing reasons:

> Yes, very much, it is well constituted because there is a program to follow, we have the timetable for CPD programs so that it is good program which may be productive to us. R#30, Nurse rural DH

In contrast, other participants clarified that the available CPD programs do not favor continuous learning. Some advanced reasons are that they [available CPD programs] are not regular; that is, they do not have a fixed program; they take place irregularly. Another indicator that available CPD programs did not support continuous learning was that they were planned without follow-up, where at least trainers or organizers could have verified whether learning was put into practice or that additional training was required.

> …I find that it is not continuous. Something that I find continuous and permanent is that we should have a fixed program. For example, on fixed day in a week we know we have a meeting for sharing, but it is not the case. So, it happens randomly. R#7, GP urban DH.

> It is intermittent it may take place today and the other week it is dismissed so it is not consistent for now I may say that it is not continuous. R#20, Doctor specialist urban provincial hospital.

It has also been reported that a health worker can attend a training/session on a given topic and will not attend the next session or training complementing the first, but someone else will attend it. This does not favor continuous learning for the beneficiaries of CPD programs.

> The way those CPDs are planned, I cannot say it is a continuous process because I can attend this training, then next time I will not attend and finally, I will not get training which complement the other one I did not get, I can say it is not a continuous process, it occurs occasionally. R#28, GP rural DH

This study revealed that in some institutions or HFs, when one of the health professionals attended (external) CPD program/training, he or she organized a session in which he or she shared what was learned during training.

> …. When I go in trainings prepared on a central level by Ministry of Health, Rwanda Biomedical Centre, it is because the hospital allowed me to go … they know I am gaining knowledge from there. And when am back, I share that knowledge with others if they [knowledge] concern them, or if it is only for me, I use to ameliorate the quality of what I do every day. R#10, Pharmacist urban DH

> …if some protocols have been reviewed so one understands more and when he/she comes back in hospital he/she prepares the presentation and share with other whom they share profession. R#28, GP rural DH

Occasionally, health professionals within the same HF can prepare a session to share knowledge and skills depending on the actual challenge or case they have in health care services provision, which helps them provide quality health care services.

> …the way we help the patients and in our daily work and where we see the gap we seat and say here there is a problem or the workers may say that they need certain skills due to this reason and we put them together, we confirm that it is really a problem and after confirmation there can be that presentation, we share ideas and due to this, we find the answers of that question and some improve their knowledge because we seat together and share ideas and knowledge. R#15, GP rural DH

In this study, concerning whether available CPD programs foster collaboration and sharing of experience between health professionals, we found a few cases where respondents reported that, in their institution, those who attended training did not share with co-workers when they returned.

> …. Truly those who get chance to participate in those programs [CPD programs], they don't come back to us to share what they learned… I don't know if it is because of lack of time or if they don't even understand what they learned. That's how I can answer that. R#9, Midwife urban DH

Furthermore, one respondent explained that this issue (of not sharing knowledge between co-workers) was due to a lack of training materials and, in turn, the mistake was attributed to the organizers of training (CPD event).

> …. there is still a problem in sharing what we learned to the ones who didn't attend because I can see, when people are back from the trainings, to gather people and share with them what they learned in trainings is a challenge. The big problem I see which hinder sharing is the lack of explanatory materials and the used presentations…. They should send you with materials you will use to explain to others. Otherwise, if they just send you to share (with others), you can give a different message. R#1, Nurse rural DH

Few respondents (only two in the entire sample of 35 respondents) in this study perceived that available CPD programs integrate mentorship programs because their HFs have structured the way newcomers/novices in health professions should be trained/mentored before starting their work.

> …Here in our oncology department, where we work if we have a new staff member, he/she is trained for a period of 3 weeks taking intensive cancer training so that he/she (new staff) will have knowledge on cancer……. He/she does not start work immediately. The nurse educators we have here supervise him or her in a period of 3 months. R#30, Nurse rural DH

> Yeah, if we have new staff they are introduced and undergo trainings/mentorship before they start working. R#35, Nurse Urban Provincial Hospital

Other respondents perceived that mentorship is integrated into CPD programs but not in an organized way, and surprisingly, only some departments within an institution have integrated mentorship programs into CPD programs.

> I see that that kind of mentorship is only done by some projects. But to think that a newcomer will have someone to show him/her everything until he/she excels in them, it is not done. R#1, Nurse rural DH

Most respondents perceived that available CPD programs did not integrate mentorship programs into their HFs. In some instances, newcomers struggled to integrate with their workmates.

> Like a new staff member/ professional there is no special mentorship for him/her. You start working the time you arrive there and your colleagues who are more experienced from their experience they help you to be familiar with the work and you go up slow by slow. R#27, GP rural DH

Some respondents from this study claimed that the time allocated to CPD programs, especially those held at HFs, was insufficient. Sometimes, they prioritized taking care of their patients instead of taking a lot of time to attend training.

> …the problem: — it is not possible for all to participate due to number of workers; we avoid patients to do not have good service, this causes some people to miss the training sometimes. R#23, Nurse rural DH

Perception Towards How Institutions Value CPD

This study found that some respondents perceived that their institutions valued CPD programs, whereas others did not. On the one hand, those who perceived their HFs value as CPD programs supported their perceptions for either of the following reasons:

i) Their administration granted permission when they were invited.
ii) They were requested to provide a report from a training/continuing professional development event.
iii) They were given time to share what they had learned with co-workers.
iv) Their leaders attended the CPD events.
v) They sign in their CPD booklets
vi) Leaders (Directors of Hospitals) encourage staff to organize CPD events to share knowledge and skills.

Reasons (i), (ii), and (iii) pertain to external training/CPD events, whereas reasons (iv), (v), and (vi) pertain to internal training/CPD events.

Those who perceived their HFs to value CPD programs supported this with one of the following reasons: some respondents reported that their leaders did not talk to them about CPD.

> No, they really do not value it because they don't even talk about those CPD programs. I can say that they don't give it value. R#2, Nurse rural DH

Some respondents perceived that way (their HFs do not value CPD) because when they are invited for external training/CPD events, their leaders do not give them permission.

> …. they do not yet value them because when there is training organized by national council, ministry of health and RBC and you find no people attend them and yet is knowledge. R#12: Laboratory technician, urban national referral hospital.

Some respondents perceived that their HFs did not value CPD programs because there were no follow-up mechanisms for those who attended CPD events held either within or outside the institution.

> I think even if someone tries to know something there is not any other follow up, no one to ask what you benefitted from what you learned, where did it (training) take you from. It seems like it ends from the training site and no other added value is given to those CPD programs. R#31, Nurse rural DH

We observed two extremes as to whether HFs integrated CPD programs into their health professional workers' daily activities: one group of participants perceived that their HFs integrated CPD programs into their daily activities, whereas the other group perceived the opposite.

Participants who perceived such integration gave one of the following reasons:

i) Their HFs have staff in charge of the CPD program, and that staff gives value to what they learned and sign in their CPD booklets if they validate the presentation or training.
ii) Their leaders encouraged staff to organize CPD events.
iii) CPD programs are in performance contracts.
iv) In staff morning meetings, they shared their experiences.
v) Their leader gives them permission to attend CPD events which take place outside the institution.

However, many respondents perceived that their institutions did not integrate CPD programs in their daily activities. Even though most of the respondents did not explain that answer, one respondent explained that it was because there was no permanent CPD program in his or her HF.

> The reason I said no, is because if they consider them (CPD) as an integral part of our daily work there should be a regular program or once a year to train professionals so that they get new knowledge and skills. But, as they are not there, one can spend a year or even 3 years without any new knowledge or skills apart. R#35, Midwife Urban DH

Perceptions About the Available CPD Programs

Respondents' perceptions of the availability of expertise in available CPD programs were assessed in this study. It was found that some participants judged that they encountered expertise.

Among respondents who perceived appropriate expertise in available CPD programs, most were based on how they appreciated the trainers as illustrated below:

> …recently we have had a lecturer from the university of Rwanda who came to train us about renal failure. It is nephrologist, someone who is strong in his skills. It was really an appropriate course because it was given by an expert. R#7, GP urban DH

Other responses were based on how well the training was organized and prepared.

Most respondents who perceived that there is no appropriate expertise in available CPD programs do not trust the training/CPD event held at the HF level for lack of educator

expertise in what they teach.

> Well, it's because we are teaching ourselves linking with what we meet where we work from but, if possible, to bring other more skilled than us, it can be better. R#24, Pharmacist urban DH

Some participants, particularly nurses, reported not understanding topics taught by medical doctors yet reported that topics taught by their colleagues at the same level of education and educational Background were comprehensible.

> …. for those presentations of doctors, sometimes you don't even understand, let me say nothing about that. But if a nurse has prepared something, we understand, we ask questions we discuss among us…. there, you can say that you learned something. But those presentations of doctors are on a different level; they discuss on a different level; they discuss among them, and we sit there without a word. They do not help us much. R#2, Nurse rural DH

In assessing whether respondents would recommend the available CPD programs, all participants expressed satisfaction or appreciation, either for the available CPD programs; this level (of satisfaction or appreciation) was provided either mostly in quantitative (percentage) or qualitative forms (no appreciation/no satisfaction at all, very less, less /low, and medium/middle).

For the level of satisfaction and appreciation expressed in a quantitative form, the lowest level was 5%, whereas the highest level was 98%. Among the participants who provided quantitative answers, their level of satisfaction varied between 40% and 60%.

Those who expressed low levels of satisfaction and appreciation explained that CPD programs were decreasing,

> …in this period, they are so much down, in a way I don't believe they can go beyond 20%. Because there has been serious regression since this period especially of COVID-19…. we didn't have any program…. But there are other trainings I attend online…. R#8, GP urban DH

One respondent who scored current CPD programs at a low level explained that there was no follow-up for those who attended the CPD event and that there was no clear direction for how current CPD programs were coordinated.

> I see they don't have organization, so it is like 30%. Only being aware that CPD are needed, and people arrange for themselves to get them - there is no direction R#13, Laboratory Technician Urban National Referral Hospital

Considering the respondents who provided their level of satisfaction, ie, no respondent had a high level of satisfaction or appreciation about how CPD programs were varied from no (zero) satisfaction to medium satisfaction, which means that no respondent had a high level of satisfaction or appreciation vis-à-vis the way current CPD programs are implemented.

Respondents who expressed dissatisfaction with current CPD programs at all, in the extent to which they would not recommend them, blamed them to be neither continuous nor consistent, and did not help them to improve their knowledge.

Motivation to Engage in CPD Activities

In this study, almost all respondents unanimously perceived that the importance of current CPD programs is to remind them of what they had learned or practiced in the past. They were also aware that medicine is a growing science in which new discoveries are emerging over time, and thus they perceive that they learn new things from CPD.

> …the importance of CPD; first, they help you remind some of the things and teach you knew things you didn't know before. That's one. The second, it helps us because it is a way of increasing permanent knowledge. R#1, Nurse rural DH

In this study, it was found that some participants were aware that they sometimes wrongly practiced their profession, and they perceived the importance of CPD to help correct their practice, thereby providing quality services to patients.

Some respondents perceived CPD programs as a tool that helped them grow professionally to obtain licenses. There are respondents who also perceive CPD programs as a tool that helps them grow professionally as they help them obtain licenses in their profession, in addition to gaining skills and knowledge that help them improve the quality of health care services they provide to clients.

> CPD programs have a very big role because if you participate and get those CPD, there are many new things that you did not see from school or you have never been exposed to before that, new knowledge that you got which also helps you to improve on how you take care and follow-up of patients…. Eh … CPD programs are very crucial. R#28, GP rural DH

In this study, it was found that what motivates health professionals to engage in CPD activities includes the need to learn new things in the healthcare profession, gain licenses, and get promoted professionally, as found earlier when describing the findings about the importance that health professionals perceive from CPD programs. Some respondents, particularly medical specialists, are motivated to train their co-workers because they believe that when co-workers can perform some of their practices, it will lessen their workload, as some of their colleagues will take over some of their work.

> For me, what motivates me because I have been here for three years ago and I have suffered for the first two years when I was almost learning pediatrics, so engaged in this CPD program when I train my peers, general practitioners, or interns, it has helped it makes my work easy. It means that it helps to improve the knowledge of my colleagues and from that they will be helping me ….eh…decrease the workload that would be done by me. R#20, Pediatrician Urban Provincial Hospital

Preferences About an Ideal CPD

In this study, ideas of an ideal CPD program were explored in terms of the number of hours per year, three top priorities for each health profession, perceived mandatory and cross-cutting topics for all health professions, need for continuing CPD abroad, recommended CPD Methods, changes, and concerns to be reviewed in the current CPD program. The findings for each point are described below.

Number of Hours per Year for CPD Program

The number of hours per year preferred for CPD programs differs from professional to professional. Preferences in terms of the number of hours per year for each professional category are displayed in Table 2. The minimum and maximum numbers of hours recorded for each profession are listed in Table 2. In addition, the average number of hours preferred per profession per year is calculated. The minimum number of hours suggested across all professions was the same at 52 (Table 2), except in the group of laboratory technicians, where it is 105. The maximum number of hours varied from 150 (in the specialist group of medical specialists) to 500 (in the group of nurses and general practitioners). The average number of hours per year varied from 95 (among medical specialists) to 179 (among nurses).

The Most Preferred CPD Methods

The first three preferred CPD methods were information and communication technology (ICT) or web-based methods, experiential learning, and grand rounds.

Table 2 Number of Hours per Year per Each Profession for an Ideal CPD Program

Profession	Proposed Number of CPD Hours Per Year		
	Minimum	Maximum	Average
Medical specialists	52	150	95
General Practitioners	52	500	151
Nurses	52	500	178.4
Midwives	52	200	117
Laboratory technicians	104	208	138
Pharmacists	52	255	119.6

> We can take self-directed learning comes first, ICT or web-based methods come on second position, and then the last is Practice-based or Point of care methods takes third position, probably the fourth would be lifelong learning. R#31, Nurse rural DH

> Experiential learning would be the best, it may help mostly to understand things well…the second is practice based or point of care method…. R#8, GP urban DH

Respondents preferred the web-based method because it helps learners self-learn and obtain certificates immediately. Respondents also expressed their preferences for this web-based method because it can be used by a wide audience in different locations.

> The method of teaching, due to that people are at work, the easiest method is just visiting internet and you find the courses ready, learn by yourself and then you are questioned then they give you a certificate with credit you worked for, that is a very good method… R#13, Laboratory technician urban national referral hospital

Suggested Mandatory Topics for All Professionals

When respondents chose one topic that was cross-cutting and mandatory for all health professionals, patient-centered care came first. In some instances, respondents explained that they prefer patient-centered care because they are aware that poor customer care for patients can worsen their condition.

> …the first thing they can teach us is patient-centered care, customer care that's the thing we lack the most. When you talk harshly to the patient, it's wrong and it can worsen his/her condition. But caring him/her is enough. Other things will come after but first patient care. R#2, Nurse rural DH

Respondents who proposed to be trained on the topic of interprofessional teams were aware that treating a patient requires diversity of expertise, which justifies the need for collaboration between health professionals.

> …work in inter-professional because you will not manage patients alone, I think that way that network is needed. R#22, gynecologist, rural DH

Topics to Study Abroad

Most of the respondents expressed that they do not think that they have a topic that is not available in the country and must be studied abroad. Some respondents proposed that if there is a topic not available in Rwanda, an expert from abroad could be invited to provide the required skills through in-country training.

> …. Even if we may need expert / specialist they can come in Rwanda and give us training/CPD except where it is not possible. R#34, Midwife urban DH

Pharmacists perceived that they did not need to go abroad for training because the skills they might need could be found online.

> If medications are available…the skills about their uses are available, what you can't find for yourself you can use internet. It is easy, we have permanent internet. R#10, Pharmacist urban DH

However, this can apply to other professions, and if it is difficult, as proposed earlier, an expert can be invited from a broad range.

Even though, in this study, most of the participants expressed that there was no need to have CPD programs abroad, a few respondents from different professionals expressed a need to do CPD on some topics abroad, as indicated below:

- Calibration training was requested by a laboratory technician working in an urban national referral hospital.
- Training in pelvic reconstruction was requested by a surgeon working at an urban provincial hospital.
- Training in forensic nursing was requested by a nurse working at an urban provincial hospital.
- Training on ultrasound was requested for nurses and midwives working in rural and urban DH, respectively.

Suggested Reviews and Changes to Available CPD Programs

In this study, there was a need to explore what respondents suggested to change or review available CPD programs. The following suggestions were made.

Establish a Coordination of CPD Programs

In this study, the respondents indicated that there was no well-known structured coordination of current CPD programs. The (respondents) suggested that CPD should be decentralized and coordinated at the hospital level because it is where they will know how to provide CPD sessions to their staff, because health professionals (of the same educational portfolio but working in different departments) may have different CPD needs. Importantly, the study respondents suggested that a national curriculum should be followed countrywide.

> ….there is a way that this training can be done at national level and there can be an organized way that will help general practitioners at their level they need to be trained, nurses need to be trained too, so there can be what can take place in every institution or hospital in continuous way and be monitored at central level….if possible Rwanda medical association in collaboration with other medical councils, if possible they can put this training in their responsibilities they coordinate so that every specialty in Rwanda may have a continuous way even if it can be once a month but every institution may be facilitated in sending that a staff in the training. R#22, gynecologist, rural DH

Ensure the Availability of Competent Trainers

It was found earlier that in some cases where CPD sessions are organized locally by hospitals, one staff member may prepare a presentation on a given topic and share it with co-workers. Subsequently, we found that in some instances, some study respondents claimed that they did not understand the presentations made by their colleagues. One of the study's respondents suggested ensuring that people who train others should be well trained, either on the topic to be taught or on basic teaching methodologies. As illustrated below:

> People who are training must have where to be trained too so that it can be clear that they are well trained, or there can be also the case of someone who can document him/herself but after checking if he/she is able to train others. R#17, Midwife rural DH

Ensure the Relevancy of Topics Taught in CPD Program

As found earlier, almost all respondents claimed that topics provided in CPD sessions are irrelevant; thus, it is not surprising that changes suggested by respondents are to organize CPD sessions relevant to health professionals and patients' needs.

What to change as I mentioned above is that the topic must be relevant to all who attend so that everyone may find himself / herself [in the actual CPD event]. R#24, Pharmacist urban DH

Standardized and Harmonized the Attribution of CPD Credits

Respondents perceived that the way CPD credits are attributed is unclear, and they proposed Standardized and harmonized the way credits are attributed in the CPD program context.

However, what they could make clear is the number of credits we get for example if you attended for a week. Let it be something which is known…. R#1, Nurse rural DH

Ensure Fairness on How Health Professionals from the Same Institution Attend External CPD Event

Respondents reported that only the same individuals attended training because of the bias of hospital directors or leaders. This bias of hospital leaders is in the form of favoritism towards some staff because some external training is associated with financial benefits in the form of mission allowances given to public servants attending training, workshops, and meetings in a local context. There should be an organized way to plan how the staff will be sent for training.

…Well, for these programs to be useful they must avoid putting their feeling first. In some places for example in some health facilities they send some persons in trainings because they are the ones with reputation there. Trainings should be attended by the one who should attend, for example if they called the chiefs of the services, or the lab technicians we must follow the order, that will bring encouragement, especially that they give some ticket. R#3: Rural DH laboratory technician

Use the Most Cost-Effective e-Learning Software Applications

Respondent suggested making CPD more accessibility using mobile technology in way there is not much consumption of internet, which may make it costly and render it inaccessible to some staff.

Of course, what can be changed is to make things easier for the beneficiaries and to make those programs accessible. Whether it is on internet or with any other application which doesn't need internet connection or whatever…I don't know. But they should find a way …so that everyone who is in need can have access to them at a low cost for those programs. R#4, laboratory technician, rural DH

Discussion

CPD is an important pillar of continuous quality improvement in healthcare service delivery and personal career development.[1–3] This study aims to provide an overview of the status of the CPD program in health facilities in Rwanda, HPs' perceptions of the CPD program, and recommendations for achieving an ideal CPD program. In accordance with this aim, health providers across various health professions, urban and rural, district, provincial, and national referral hospitals, were interviewed. The interview findings were summarized into seven overreaching themes.

The first theme encompasses opinions on the availability, accessibility, and relevance of CPD programs. The CPD program was reported to be available but not for all health professionals and some HFs. A literature search showed that all health professional councils in Rwanda developed their respective CPD programs and collectively developed a common CPD policy.[11] This implies that some HPs are unaware of CPD policies and programs. The reasons for this low awareness are found in the responses given by the HPs interviewed in this study, such as limited access to the Internet, online CPD programs, and the lack of willingness and ignorance of some health facility leaders. The former of these two barriers was somewhat tackled in a recent study that showed that managers of healthcare facilities value online CPD platforms; however, these respondents do not seem to agree with the latter barrier (that they themselves have either ignorance or no willingness to make CPD programs available to their staff).[7] The challenge of limited access to the Internet is not surprising, as reported in a study that assessed the experience of online continuing professional development among clinicians in Sub-Saharan

Africa [https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-017-0266-4]. An exploratory study of HPs and HF leaders of HFs merit to be conducted to investigate this issue. However, when CPD programs are available, they are sometimes reported to be irrelevant to HPs and patients' needs. This calls for a need to plan CPD programs according to the needs of the participants and health service delivery[3–5] as highlighted in subsequent paragraphs.

The second theme consists of the planning and implementation of available CPD programs. Here, the available CPD programs seldom involve beneficiaries in deciding on the content and platform through which CPD is delivered. Addressing these barriers should include participatory planning with various stakeholders, including representatives of the targeted audience, as highlighted in the Discussions on the first theme above, and engaging leaders of HFs in securing user-friendly platforms for CPD program delivery.[3–5,7]

In the third theme about perceptions of how institutions value CPD, respondents showed that some HFs do not integrate CPD programs into HPs' daily activities and that current CPD programs do not accommodate mentorship programs. The perusal of the CPD policy collectively designed by all health professionals councils in Rwanda lists among activities disqualified for CPD, some important efforts, such as technological demonstrations, published congress proceedings, presentations, and publications for the public.[11] Such policies constitute barriers to HP motivation to engage in CPD activities. HF managers must not only ensure the accessibility of their staff to CPD activities but also ensure that time is duly allocated for HPs to engage in these activities and transfer their knowledge and skills to their peers.[1,6,7,12] The involvement of HP councils in Rwanda in the development and implementation of CPD programs merits appreciation because it is known that the involvement of regulatory bodies is essential for the development, implementation, and sustainability of CPD programs.[13]

The fourth theme concerns the HPs values in existing CPD programs. Accordingly, some HPs do not value CPD events organized at their own HFs for various reasons, including a lack of confidence in organizers and/or trainers. On one hand, considering involving the audience in identifying potential faculty may contribute to overcoming this barrier to CPD program uptake.[5,13] On the other hand, in cases where HPs seem not to accept faculty just because they are acquainted with them, these HPs should learn not to follow the saying that "no prophet is accepted in his own country'.[14] In this context, recent guidelines from the World Health Organization (WHO) recommend moving away from the traditional focus on tertiary care hospitals and towards initiatives that promote local engagement.[15]

In the fifth theme (motivation to engage in CPD activities), respondents showed that motivators included learning new things that helped improve healthcare services and license renewal. These enablers are consistent with those previously reported in various studies (in other settings). For example, nurses in the Netherlands reported motivators to engage in CPD activities to deepen knowledge, increase competence, and comply with requirements.[16] Medical doctors in Jordan also reported similar enablers, such as closing knowledge/skills gaps, discussions with colleagues, personal interests, and career progression. Compliance with requirements was not listed, most likely because of a reported lack of such a requirement.[17] Enablers for Australian paramedical staff to engage in CPD activities included improved knowledge and confidence.[18]

The sixth theme concerns the ideal CPD program. Respondents depicted an ideal CPD program designed around HPs' and services' needs and delivered through a user-friendly platform, with a focus on hands-on skills. As discussed in the previous paragraphs, these components merit special consideration when designing and implementing a CPD program.[3–5,7]

Finally, the seventh theme concerns suggestions on changes to make available CPD programs. In line with the six themes above, our respondents suggested ensuring participative planning, standardization, and harmonization of CDP programs and the optimization of CPD delivery platforms. These suggestions fall into the previously published principles of CPD best practices, which include (i) professional development that ensures personal learning linked to the changing needs of populations and the development of health services; (ii) effective learning interventions designed based on Specific, Measurable, Attainable, Relevant, and Time-bound (SMART) learning outcomes and provides relevant, evidence-based content for the professional's clinical practice; and (iii) being accountable, transparent, regulable, and useful in ensuring quality in the license renewal process.[19,20]

Conclusion

The findings of this study show that CPD programs in Rwanda are not coordinated, resulting in their unavailability, inaccessibility, and irrelevance of CPD programs to some HPs. CPD program planning and implementation exhibit some strengths (such as involvement of health profession regulatory bodies), as well as various challenges stemming from a lack of coordination at different levels. This study has the limitation of being conducted with health professionals working only in public health facilities; thus, the present findings reflect public health facilities' contexts. However, its strength is that it takes into consideration the diversity of professions. Overall, this study serves as a clue to decision-makers on the available CPD programs in Rwanda, and the findings may serve to design new CPD programs to solve the weaknesses and challenges of existing CPD programs. Accordingly, it is recommended that (i) establish a national coordination structure of the CPD program at the national level; (ii) recruit CPD program coordinators at different levels (national, provincial, and district levels); (iii) ensure the existence of a general national curriculum of CPD plan that is specific to each category of health professionals that needs to be updated periodically, or whenever deemed necessary; (iv) conduct a national survey annually as one of the ways to assess gaps in terms of CPD program implementation and needs; and (v) develop tele-education programs, where applicable, for healthcare providers as one of the means to develop their capacity using technology.

Disclosure

The authors report no conflicts of interest in this work.

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