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REMERA CAMPUS

Teleconference as a Solution to Continuous Professional Development in Referral Hospitals in Rwanda case of Rwanda Military Hospital

By

NZABAHIMANA Frederic

Registration Number: 217291104

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Supervisor: Dr UWITONZE Alfred

Co-Supervisor: Mr NIYITEGEKA Charité

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DECLARATION

I, NZABAHIMANA Frederic hereby declare that this Research proposal entitled "**Teleconference as a solution to continuous professional development in referral hospitals in Rwanda case study of Rwanda Military Hospital**" contains my own work except where specifically acknowledged.

NZABAHIMANA Frederic, Reg no: 217291104

Signature: ……

Date: …….

DEDICATION

To the Almighty God,

To my Beloved wife and children,

To my sisters and family,

I dedicate this work.

ACKNOWLEDGEMENT

I would first like to thank my research proposal advisors especially Dr Alfred UWITONZE and Charité NIYITEGEKA respectively my supervisor and co-supervisor. They consistently allowed this paper to be my own work.

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ABSTRACT

In today's technology driven world, the ability to conduct a live communication and collaboration has become critical for any organization's success and productivity. Given the rapid pace of new research and developments in all areas of health care, health professionals must continue updating their knowledge and skills on a regular basis to keep up with the benefits of health care innovations and research findings. Referral hospitals in Rwanda are the ones to promote the knowledge sharing through continuous professional developments sessions.

Nowadays, all Referral hospitals in Rwanda use Information technology in their daily activities, and each of them within different specialties, has a proper plan of Continuous Professional Development (CPD) regularly done and the knowledge is shared locally in health setting where CPDs are organized. In this research project, we are proposing the use of teleconference as solution to continuous professional development in referral hospitals in Rwanda. Using the Teleconference medium, the information will be followed from one site to others without moving personnel or health professionals for the training.

Our research was conducted in Rwanda Military Hospital one of the 3 referral and teaching hospitals in Rwanda, where we collected the opinions of hundred (100) health professionals through semi-structured interviews. After the analysis of their feedback we were led to several outcomes. This study concluded that teleconference can be an effective medium for conducting CPD sessions offering a learning environment that enhance the knowledge of participants, improve knowledge and skills of participants, eliminates distance barriers and increases interaction between presenters and CPD participants. Teleconference offers positive impacts. It helps to improve the quality of healthcare, improve knowledge, sharing updates, knowledge and skills, improve outcome of patient's conditions, mass education, skills improvement and reduce cost.

KEYSWORDS:

Teleconference, Continuous Professional Development (CPD), Continuous Medical Education (CME), Referral Hospitals, Rwanda Military Hospital.

LIST OF ABBREVIATIONS

CHUB: Central University Hospital of Butare

CHUK: Central University Hospital of Kigali

CPD: Continuous Professional Development

CME: Continuing Medical Education

EBH: Evidence-based health

Fig: Figure

GP: General Practitioner

IMIA: International Medical Informatics Association

ICT: Information and Communication Technology

ITAA: Information Technology Association of America

ITU-T: International Telecommunication Union - Telecommunication Standardization Sector

MOH: Ministry of Health

MCU: Multipoint Control Unit

NCNM: National Council for Nurses and Midwives

NPC: National Pharmacy Council

RAHPC: Rwanda Allied Health Professionals Council

RMH: Rwanda Military Hospital

RMDC: Rwanda Medical and Dental Council

SPSS: Statistical Package for Social Science

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CHAPTER 1: INTRODUCTION & BACKGROUND

1.1. Introduction

The information and communication technology (ICT) enables the transformation of the most expensive public services in many parts of the world such as education and health care (Earth Institute at Columbia University, 2015)

The Teleconference is exploiting new abilities provided by new and evolving ICTs. Those technologies promise the spread of diverse types of information that allow immediate and rich interaction between presenter and followers, and can be located in different places where most of the times at the great distance (Panagiotakopoulos et al, 2016)

1.2. Definition of key terms

1.2.1. Teleconference

Cairns et al defined the Teleconferencing as "the use of telecommunications to facilitate contacts that might otherwise have involved business travel – such as meetings, training sessions, interviews or information provision" (Cairns et al., 2004).

1.2.2. Types of Teleconferences

There are diverse types of teleconferences such us: audio conference where people interacts in distant locations via telephones lines; audio graphics teleconference: narrow band telecommunication channels are used to transmit visual information and video pictures as an associate to voice communication; computer teleconference: telephone lines are used to connect two or more computers and modems; Video Teleconference: Combination of audio and video to provide voice communications and video films, Video conferencing: efficient way to practice one teacher who teaches a number of sites, and it is very cost effective. The most wide spread use of teleconference in medical training is in the subject area of continuing medical education (CME). It is now practically compulsory in the well-organized systems of medicine (Luanrattana, 2011).

1.2.3. Continuing Professional Development (CPD).

In their annual report, the Rwanda Ministry of Health defined that CPD is seen as an educational activity in general used to develop, maintain or to increase the knowledge and skills, performance of health professional and the relationships that a health professional uses to provide services to patients, the public, or the profession. The continuing professional development program has been introduced in the framework where it must improve the quality of services to be delivered. The official launch of the program was on 5th April 2011 (MoH, 2012).

The Rwanda medical and Dental council has mentioned that the contents of CPD is that all knowledge and skills received in services, be generally recognized and accepted wherever by the health regulations, professionals in health sciences, end the provision of healthcare to general public (Council, 2013).

1.2.4. Referral Hospital

Debas et al mentioned that "any hospital, including a district hospital, can receives referrals from lower levels of care". Thereby, referral hospital can be defined as any process where healthcare givers at lower level in health system with limited skills, lack of facilities even both when in need of treating a certain clinical condition, require the assistance of a health provider with enough equipment or knowledge to guide them in proper management, even take certain responsibility in case of particular occurrence of a clinical condition of the patient (Debas et al, 2006).

1.2.5. Information Technology

Kohen defined Information and Technology (IT) as a new term used to cover the storage, acquisition, processing and distribution of any kind of information. This term has had defined by different people. The Information Technology Association of America (ITAA), defined IT as "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware. It deals with the use of electronic computers and computer software to convert, store, protect, process, transmit and retrieve information, securely" (M, 2012).

In the role of Information and communication technologies, the term ICT is defined as "diverse set of technological tools and resources used to communicate, create, disseminate, store, and manage information" (Alam & Hoque, 2010).

1.2.6. Telecommunication

The Telecommunications are generally technics and devices used when transmitting information over the long distance through wires, radio or satellite without any damage or loss because of noise and interference (M, 2012).

1.2.7. Real time communication

The real time communication generally called live communication, is "the communication where the sender and receiver exchange information and data through a channel without any delay" (Singh & Passi, 2014).

1.2.8. Telemedicine

According to Harris et al, telemedicine is an "electronic communication that means the use of interactive telecommunications equipment that includes, at a minimum, audio and video equipment" (Harris, Group, Unit, & Clinic, 2016). According to WHO, telemedicine signifies "the use of ICT to improve the patient outcomes by increasing the access to healthcare and medical information" (WHO, 2010)

1.3. Background

The continuing professional development (CPD) has become progressively important as different organizations and businesses are recognizing the life-long learning's advantage, even its role to decrease accidents and increasing the productivity. The healthcare is the one of the fields that has required its affiliates to take part in CPD. The physicians and nurses must involve in CPD on a regular basis to increase their knowledge and maintain their skills. The technology is now playing important role in pre-clinical education and surely in post clinical CPD (Ross, 2005).

During an evaluation via teleconference of a national evidence-based health care course done in developing country journal, authors concluded that via teleconference, the Brazilian EBH course improved the knowledge and skills of public-sector health professionals where approved by the majority of students (Macedo et al, 2013).

In two international teleconferences conducted in 2013 and 2014 on public health problems that involve universities and public health institutions in Colombia, Dominican Republic, Costa Rica, Uganda, and the United States. These educational events were attended by faculty, students and the community members from those countries despite geographical distances. Teleconference technology has been seen as an "effective technology-based health education and health promotion program" (Helda Pinzon-Perez et al, 2015).

In many countries, mandatory CPD for health professionals have been established to help "health professionals as an important strategy of demonstration and maintaining the competences required on the effective, safe and high quality of health services" (Council, 2013).

In Rwanda, health professionals are obliged with regard to the government of Rwanda and the people who are offering the remuneration and legal recognition to do their best for maintaining their competences all the time, and looking for continuing improvement according to standards on services to be provided. In term of CPD points, there are certain learning requirements for each health professional's category. For Dentist and Medical Doctors, 150 points are required each tree years respectively for Dentist and Medical Doctors, 75 points each three years for Pharmacists and Pharmacy technicians, 60 points each three years for Nurses and Midwives and 90 points each three years for All Allied health professionals (RMDC, NCNM, NPC, 2013).

In spite of referral Hospital effort to make in-service continuous professional development training, there is a gape on knowledge sharing from one to other referral hospitals. The knowledge remains only in the reduced number of participants who attend the session. Discussions and questions after each presentation are not useful for others while any update should be communicated to others.

The Rwanda Medical and Dental Council in their annual continuing professional development strategic plan (2010-2013) mentioned that many physicians present insufficient access on the continuing medical education (CME). They have also less opportunities to attend the continuous medical education (CPD) after their graduation (Council, 2013).

The aim of this research study is to highlight the use of Teleconference as a solution to CPD presentations in order to bring together audiences from referral hospitals in Rwanda into one platform by moving the information from one referral hospital and disseminate it to other referral hospitals in Rwanda and share discussions the same time.

1.4. Problem statement

The development of information technologies and telecommunications has made the teleconference a low cost and easily reachable way for the dissemination of information and knowledge.

The Rwanda Medical Council shows that CPD aims to improve patient care and at the same time ensure that health professionals maintain and improve their competences in their field of practice (Council, 2013)**.**

Implementing Teleconference trainings will ensure a high CPD participation of health professionals from different healthcare settings at low cost and time saving. The Council mentioned that " the most up-to-date application of scientific knowledge to the specific problems with which the patient presents, provision of a broader range of services to the patient, improve levels of health outcomes at a national level because of progressive improvement in medical care" (Council, 2013).

The Ministry of Health and RBC were organized several continuing professional development (CPD) towards all health professionals particularly those employed in public health settings (MoH, 2012). Nevertheless, many of health professionals were not able to attend those CPD trainings (Council, 2013). Taking an external accredited CPD provider or health professional CPD participant out of his/her working place to attend a day-long will be much expensive in terms of money and time. Conscious that those external CPD training don't allow healthcare settings to provide quality care service delivery due to the duty low staffing.

The teleconference will be a solution to handle many of the challenges hindering the CPD provision in respective healthcare institutions. The mains challenges are the following: problems with physician to access CPD activities, insufficient access of Physicians to Continuing Medical Education after graduating (MoH, 2016). The aim of this research study is to highlight the use of Teleconference as a solution to provide CPD to many health professionals.

1.5. Objectives of the project

1.5.1. General objective

The general objective of the study is to demonstrate basing on CPD program provision in the referral hospital the successful application of Teleconference use.

1.5.2. Specific objectives

1. To find out the level of CPDs participation in referral hospitals in Rwanda.

2. To investigate advantages that can influence health professionals' participating in CPDs teleconferencing.

3. To estimate the impact of CPDs through teleconference.

1.6. Research questions

1. How is the level of CPD's participation in referral hospitals?
2.What advantages that encourage health professionals to participate in CPDs teleconferencing?
3. What are the impacts of implementing teleconference in CPDs?

1.7. Significance of the study

The research study is aimed to show the new approach of knowledge sharing in Rwandan referral hospitals by using teleconference as a communication medium during continuous professional developments sessions. The presenter who is supposed to make long distances to reach other referral hospitals can transmit the knowledge without moving. Furthermore, the cost implication related to logistics, time spent and risk are reduced considerably. For one session the followers gain the same knowledge at the same time wherever they are, and this can automatically increase the number of participants during CPD cession. This new tool proposed will be significant and efficient to increase the number of participants in CPD compared to the existing system.

The findings from this research will be convenient to the Ministry of Health in general and referral hospitals in particular as stakeholders in the purpose of redesigning the plan of CPDs to gain maxim impact.

1.8. Organization of the study

This work is subdivided into six chapters:

Chapter 1 is the introduction and background. It contains the introduction, the background, the problem statement, the objectives, the research questions, the significance of the study and organization of the study.

Chapter 2 is the literature review. It contains the definition of key terms and different readings in relation to the research topic.

Chapter 3 is the research methodology. It contains the study area, the study design, the study population, the study sample and sample size, the sampling strategy, data collection methods and procedures, data analysis techniques, limitation of the study, and the ethical considerations.

Chapter 4 is the research findings. This consists of the presentation of data provided and their interpretation. It contains demographic data, CPD participation and CPD teleconferencing participation.

Chapter 5 is the discussion of the findings. It contains the level of CPD's participation, advantages influencing CPD teleconferencing and the impact when implementing CPD teleconferencing.

Chapter 6 is the Conclusion and Recommendations.

CHAPTER 2. LITERATURE REVIEW

2.1. Overview on Teleconference use

This chapter contains the literature review related to the research undertaken. It attempts to provide the importance of the study and the comparison of the results with other findings.

2.2. Overview on Teleconference use

In the field of education and training, the experimentation using teleconferencing dates to the 1980s. This time the Instructional Television Fixed Service (ITF) in United States and Canada, enabled students to interacts with teachers in live television classroom. The use of teleconferencing for education in the developed country took a lot longer. In India, the teleconference has been in use since 1990s (Learning, 2004).

In the Medical Journal Australasian, Lamba concluded that Teleconferencing is a stimulating and useful tool used for both learning and teaching in medical education. Due to the advances in Internet technology, there are opportunities of learning and teaching wherever in the world without time and distance constrictions. In the future, the Teleconferencing was supposed to play important role in medical education (Lamba, 2011).

In 2006, the Brazilian Cochrane Center in collaboration with the Ministry of Health, has launched a mass teaching initiative in evidence-based health care (EBH) for public-sector professionals via teleconferencing. During the session, the majority of students approved that the Brazilian EBH course using teleconference has improved both the knowledge and skills of health professionals (MacEdo et al., 2013).

Daniel K. Rosetti, Theodore J. Surynt in their research, concluded that the videoconference may be more effective than the face to face meetings (Daniel K. Rosetti, 1985).

As published in Medical education by Backstein and Reznick, the videoconferencing during continuing medical education purposes has found as an effective teaching tool, and it was also believed by learners (Backstein & Reznick, 2003).

The two international teleconferences were conducted in 2013 and 2014 on public health problems involving universities and public health institutions in Colombia, Dominican Republic, Costa Rica, Uganda, and the United States. These educational events were attended by students, faculty and the community members from those countries despite geographical distances. Teleconference technology has been seen as an effective technology-based health education and health promotion program (Helda et al, 2015).

The didactic teleconference between Mbarara Regional Referral Hospital (MRRH) in Southwest Uganda and the Massachusetts General Hospital (MGH) in Boston (USA), was instituted in June 2012, for increasing the access of specialist training. One of their three specific objectives was to demonstrate the effectiveness of teleconferencing for local and remote audience. Boat et al concluded that the collaboration via teleconference was successful and sustainable with low cost and beneficial to different institutions (poor and rich). The knowledge was also shared bilaterally and internationally by individuals who were unable to travel (Boatin et al., 2015).

Reference made to Rwanda Medical Council Policy, "Rwanda has recently taken significant steps toward provision of comprehensive healthcare for every citizen and improving the quality of healthcare to be provided" (RMDC, NCNM, NPC, 2013).

According to Wamala and Augustine, the telemedicine project has been initiated in Rwanda to address the challenge of few physicians and other healthcare givers. The project was expected to play the role of providing a solution to the limited number of doctors and limited number of specialists in different disciplines or even complete the lack of specialists in other fields (Wamala & Augustine, 2013).

2.3. Overview on CPD use

Considering the progress resulting on new research and the development in different areas of healthcare, health givers are obliged to increase their knowledge and skills continuously and must be updated to keep up the benefits from research findings and healthcare innovations. The continuous professional development (CPD) complements mostly the formal training, and contributes to the performance of healthcare professionals (RMDC, NCNM, NPC, 2013).

In Rwanda, "health professionals have an obligation to the government and the people who offer legal recognition and remuneration for their professional services to maintain capabilities at all

time and to aim for continuous perfection in the standard of service they provide. In recent years, many countries have instituted mandatory CPD for health professionals as one of important strategy to help health professionals maintain and demonstrate their abilities required for safe, effective and high quality health services" (RMDC, NCNM, NPC, 2013).

According to MUBIANA, there are minimum requirements of CPD learning in term of CP points for any category of health professionals. Nevertheless, there is no limit. "CPD requirements that must be met include a commitment to undertake continuing professional development" (MUBIANA, 2011).

In Rwanda, Medical Doctors and Dentists require 150 points each three consecutive years; Pharmacists and Pharmacy technicians, 75 points are required each three consecutive years; Nurses and Midwives 60 points each three years, and for All Allied Health Professionals, the requirements are 90 points each three consecutive years (RMDC, NCNM, NPC, 2013).

As Rwanda is emerging in information and communication technology, the use of teleconference as medium in continuous professional development/ medical education could be useful for health providers who gain knowledge, and very efficiency for Referral Hospitals. This new link between health providers is a new way of using technology to improve the healthcare education in Rwanda Referral Hospitals which is the main contribution from this research.

CHAPTER 3. RESEARCH METHODOLOGY

3.1. Introduction

The chapter3 describes in detailed manner, the methods and techniques that will be used to collect data and or data analysis. It includes the study area, study design, study population, study sample& sample size, sampling strategy, data collection method& procedures, data analysis, problems and limitation of the study and the ethical considerations.

3.2. Study area

The research study was conducted in one of the three public Referral and Teaching Hospitals of Rwanda that use teleconference during continuous professional development sessions especially at Rwanda Military Hospital (RMH).

3.2.1. Rwanda Military Hospital

The Rwanda Military Hospital started in 1968 as military health facility. After the Genocide against Tutsis (since 1994), RMH opened doors to the general population. Due to 1994 Genocide, the country's health system was destroyed; the Rwanda Defense Force (RDF) took the lead in the rebuilding process such us the training of medical personnel and Support to other hospitals by sharing of specialists. Currently, RMH treats between 85-95% civilians and 5-15% military personnel. Since 2012, RMH is a Referral & University Teaching Hospital by LAW Nº07/2012 OF 29/02/2012 (Gazette, 2012).

3.2.1.1. Telemedicine service at RMH

In RMH, the telemedicine started in 2011 to facilitate teaching and education. RMH is now connected to Rwandan referral and teaching hospitals such as University of Rwanda College of Medical sciences in teaching sessions, CHUB, CHUK and some hospitals abroad such us Mercy Hospital, Oklahoma, Boston children hospital, Aga Khan Hospital, Kenya etc. (Price, 2018).

3.2.1.2. Teleconference setting at RMH

The equipment in use is the Telepresence MX300G2 installed in the room with capacity of 45 participant's well sited. The telepresence is bellow presented with its main parts such us: Screen with camera, touch screen keyboard, power and network cables.

Fig1. MX300G2 at Rwanda Military Hospital (Price, 2018)

The equipment in use is a H.323 Teleconferencing system which is a terminal-type/hardware-based system. This terminal has a multipoint control unit (MCU) and can connect 3 sites or more. The H.323 is a system that uses a standardized transfer protocol (ITU-T) known as H.323. The H.323 teleconferencing system is generic and sold by various manufacturers. In many cases, the H.323 teleconference system includes a camera and a microphone, and it is necessary to have displays and audio speakers ready. A network with a Global/Public IP address, once you set them up, it is simple to communicate by entering counterparts' IP address (Technology Team, Globalization Section, 2017).

3.3. Study design

The study design used in this research is the cross-sectional study design.

3.4. Study population

The study population for this research include, Specialist Doctors, GP Doctors, Nurses, Midwives and Paramedics working at Rwanda Military Hospital who attend the continuous professional development sessions through RMH, one of the 3 public–Rwandan referral and teaching hospitals. The target population is 133 Health professionals.

3.5. Study sample & sample size

"The sample size is calculated using the Taro Yamane formula for sample size calculation (Pandya, 2012).

$$n=\frac{N}{1+N(e)^2}$$

Where **n** is sample size, N is the total size, e is the error. The error considered is 0.05". The sample calculated is $n=\frac{133}{1+133(0.05)^2} = 99.8$

The sample size calculated in this research is approximately **100**

3.6. Sampling strategy

For this study, the sampling strategy used is the Simple convenience-sampling.

3.7. Data collection methods & procedures

The data collection took place in August 2019 using hard copy questionnaires that cover both open-ended and closed-ended questions. The primary data is used as source of information.

3.8. Data analysis

The statistical tool used for the work to meet the objectives is SPSS (Statistical Package for Social Science) for quantitative data analysis, and QDA Miner Lite (Qualitative Data Analysis software) to analyze qualitative data.

3.9. Problems &limitation of the study

The research study was limited to Rwanda Military Hospital, one of the three public referral and teaching hospitals due to time limit. However, the study would have covered more referral and teaching hospitals such as CHUB and CHUK.

3.10. Ethical considerations

During this study, the IMIA Code of Ethics for Health Information Professionals is highly considered. Participants are explained on the broader context of the research study. Participants are also considered by respecting their autonomy, their decision, dignity and confidentiality. Risks are minimized and benefits maximized to each research participant. Participants are selected from Rwanda Military Hospital staffs, and we are obliged to protect and respect the values and interests of the community as a whole and protect the community from harm. The ethical permit from RMH/Institutional Review Board (IRB) is annexed.

CHAPTER 4: RESEARCH FINDINGS

4.1. Introduction

The chapter 4 presents the findings of the study. The first section gives the demographic characteristics related to the sampled participants working at RMH. It is followed by a detailed analysis of the findings organized based on the research questions. The second section reports the questions on CPD participation. The section three aims to address the questions on Teleconference participation. The section four shows the impact of Teleconference use during the continuing professional development sessions.

4.2. Demographic characteristics

The demographic of the sampled participants is described in terms of gender, age, and qualification. The findings are detailed as sub mentioned using IBM SPSS Statistics 20.

4.2.1. Gender

The results show that both male and female are represented. The Table 4.1 shows the distribution of respondent by the gender, where (54%) are male and (46%) female.

Distribution of respondent by gender

Gender	Frequency	Percent
MALE	54	54.0
FEMALE	46	46.0
Total	100	100.0

Table 4.1 Respondent by gender 1

Source: Primary data using IBM SPSS Statistics 20

4.2.2. Age

The Table 4.2 shows the distribution of respondents by age. The data show that all ages are represented where the majority of respondent are aged from 26 years and above.

Distribution of respondent age

Age category	Frequency	Percent
20-25	1	1.0
26-30	20	20.0
30-35	22	22.0
36-40	23	23.0
40-45	24	24.0
45-50	4	4.0
51-55	6	6.0
Total	100	100.0

Table 4.2 Respondent by age 1

Source: Primary data using IBM SPSS Statistics 20

4.2.3. Qualification.

Table 4.3 shows the distribution of respondent according to their academic qualifications. Data shows that the majority (42.4%) are Registered Nurse and Specialist Doctor (20.2%).

Distribution of respondent qualification.

Academic qualification	Frequency	Valid Percent
Professor	1	1.0
Specialist Dr	20	20.2
GP Dr	13	13.1
RN Nurse	42	42.4
RM	9	9.1
Paramedical	14	14.1
Total	99	100.0

Table 4:3 Respondent by qualification 1

Source: Primary data using IBM SPSS Statistics 20

4.3. CPD Participation

In term of CPD Participation, the survey shows that all respondent was participated to the continuous professional development.

4.3.1. CPD Participation in years

The Table 4.4. below shows the CPD Participation of respondent in years where the majority is between one to six years of participation. The Table 4.5 shows that the mean and standard deviation are respectively 4.15 and 4.922.

CPD Participation in years

CPD Participation in years	Frequency	Percent
1	26	26.0
2	17	17.0
3	18	18.0
4	5	5.0
5	16	16.0
6	5	5.0
7	2	2.0
8	3	3.0
9	1	1.0
10	3	3.0
15	1	1.0
17	1	1.0
24	1	1.0
38	1	1.0
Total	100	100.0

Table 4.4 CPD Participation 1

Mean: 4.15, Std. Deviation: 4.922

Source: Primary data using IBM SPSS Statistics 20

4.3.2. Relationship between Age category and CPD participation in years

The Table 4.5 shows the relationship between age category of the participants and the CPD's participation in years.

Relationship between Age category and CPD participation in years

Age category	CPD participation in years													Total
	1	2	3	4	5	6	7	8	9	10	15	17	24	
20-25	0	0	0	0	1	0	0	0	0	0	0	0	0	1
26-30	8	8	2	0	2	0	0	0	0	0	0	0	0	20
30-35	9	3	4	1	4	0	0	0	0	1	0	0	0	22
36-40	5	4	4	2	3	2	1	1	0	0	1	0	0	23
40-45	4	1	7	2	4	3	0	1	0	2	0	0	0	24
45-50	0	1	0	0	1	0	1	1	0	0	0	0	0	4
51-55	0	0	1	0	1	0	0	0	1	0	0	1	1	6
Total	26	17	18	5	16	5	2	3	1	3	1	1	1	100

Table 4.5 Relationship Age and CPD 1

Chi-square: 125.427, Sig. 0.001

Source: Primary data using IBM SPSS Statistics 20

The Chi-square and Significance are respectively 125.427 and 0.001. The relationship is significative.

4.3.3. CPD Importance

The Table 4.6 shows that the majority of respondent (98%) chose yes on the importance of CPD.

CPD Importance

CPD Importance	Frequency	Valid Percent
Yes	97	98.0
No	2	2.0
Total	99	100.0

Table 4.6 CPD Importance 1

Source: Primary data using IBM SPSS Statistics 20

4.3.4. The most important advantages when participating in CPD

The most advantages when participating in CPD where reveled by respondent as shown in the Table 4.7 and Fig.4.1. where QDA Miner Lite is used. The most advantage reveled are enhance knowledge (30.0%), being updated (21.7%), improve skills (12.2%), sharing knowledge and skills (9.4%), learning in working place and teaching (5.0%), practice-based medicine (4.4%), interacting with others (3.3%) and sharing experience (3.3%).

The Distribution of CPD Advantages (Codes)

Category	Code	Description	Count	% Codes	Cases	% Cases
Knowledge	enhance knowledge		54	30.0%	54	54.0%
working\updates	being updated		39	21.7%	39	39.0%
Skills	improve skills		22	12.2%	22	22.0%
Knowledge	sharing knowledge and skills		17	9.4%	17	17.0%
working	learning in working place, teaching		9	5.0%	9	9.0%
medicine	practice evidence based medecine		8	4.4%	8	8.0%
specialities	interacting with others		6	3.3%	6	6.0%
experience	Sharing experience		6	3.3%	6	6.0%
Job	improve job performance, quality of service		4	2.2%	4	4.0%
accreditation	improve accreditation, getting license		2	1.1%	2	2.0%
care	patient care		2	1.1%	2	2.0%
work	guide daily work		2	1.1%	2	2.0%
profession	profession development		2	1.1%	2	2.0%
Job	credibility, confidence		2	1.1%	2	2.0%
findings	to be aware on new findings, doing research		2	1.1%	2	2.0%
discussion	case discussion		1	0.6%	1	1.0%
understanding	improve level of understanding		1	0.6%	1	1.0%
coaching	improve self-coaching		1	0.6%	1	1.0%

Table 4.7 CPD Advantages 1

Source: Primary data using QDA Miner Lite

The Figure of CPD Advantages in figure

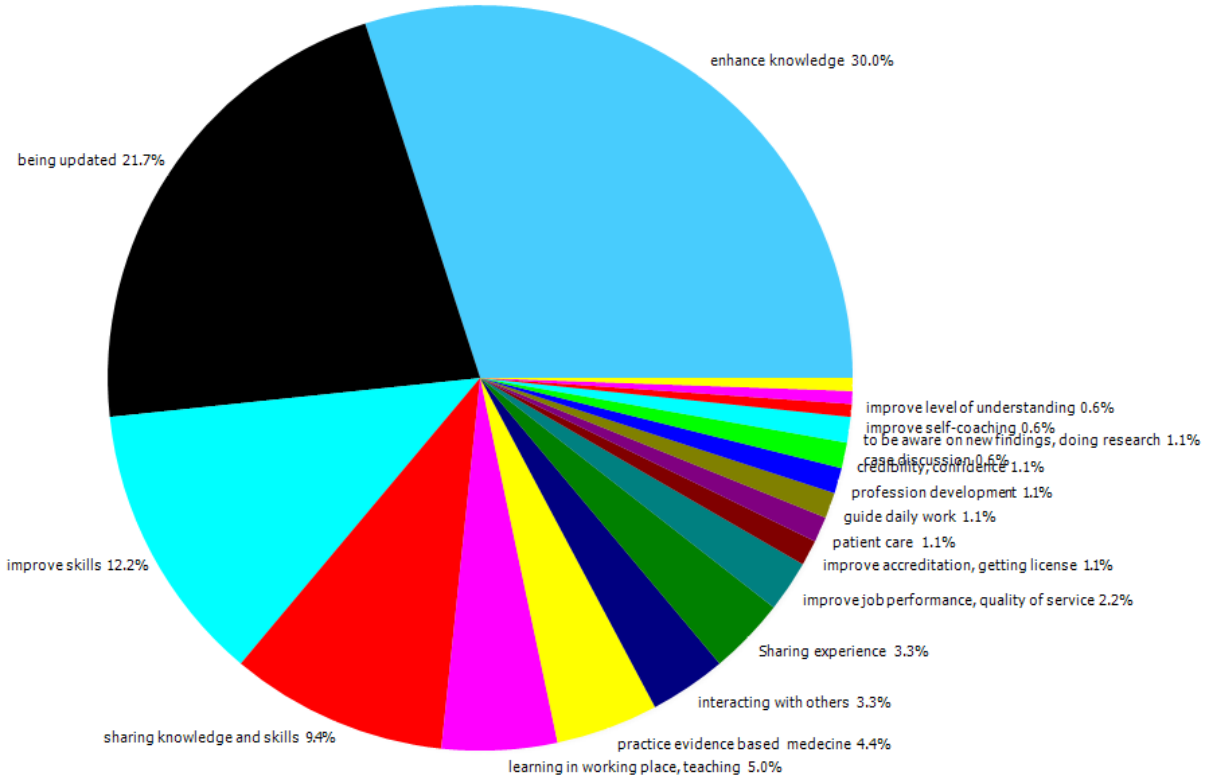

Fig 4.1 CPD Advantages 1

Source: Primary data using QDA Miner Lite

4.3.5. The most challenges encountered during CPDs sessions

The Table 4.8 and Fig.4.2 show the most challenges encountered during CPDs sessions as follows: short time sessions (37.1), small room (25.7%), unavailability every time due to shortage of staff (6.7%), language barrier (4.8%), and topic not relevant to participants (4.8%)

The Distribution of the most challenges encountered during CPDs sessions

Category	Code	Description	Count	% Codes	Cases	% Cases
time	short time sessions		39	37.1%	39	39.0%
room	small room		27	25.7%	27	27.0%
availability	unavailability every time due to shortage of staff		7	6.7%	7	7.0%
presentation	language barrier		5	4.8%	5	5.0%
presentation	topics not relevant to participants		5	4.8%	5	5.0%
presentation	quickness of presentation		3	2.9%	3	3.0%
presentation	presentations are not shared		3	2.9%	3	3.0%
technology	sound problem		2	1.9%	2	2.0%
room	few sits		2	1.9%	2	2.0%
presentation	specialists don't attend		1	1.0%	1	1.0%
presentation	presenter not fluent		1	1.0%	1	1.0%
presentation	no established program		1	1.0%	1	1.0%
presentation	poor motivation		1	1.0%	1	1.0%
presentation	when someone uses unclear word		1	1.0%	1	1.0%
presentation	misunderstanding on approaches in particular cases		1	1.0%	1	1.0%
presentation	not well prepared		1	1.0%	1	1.0%
presentation	innovation and research limited		1	1.0%	1	1.0%
presentation	absence of presenter at the last minutes		1	1.0%	1	1.0%
presentation	different level of knowledge		1	1.0%	1	1.0%
agenda	Confusing agenda with other works		1	1.0%	1	1.0%
communication	late communication		1	1.0%	1	1.0%

Table 4:8 CPD Challenges 1

Source: Primary data using QDA Miner Lite

Fig 4.2. The Figure of the most challenges encountered during CPDs sessions

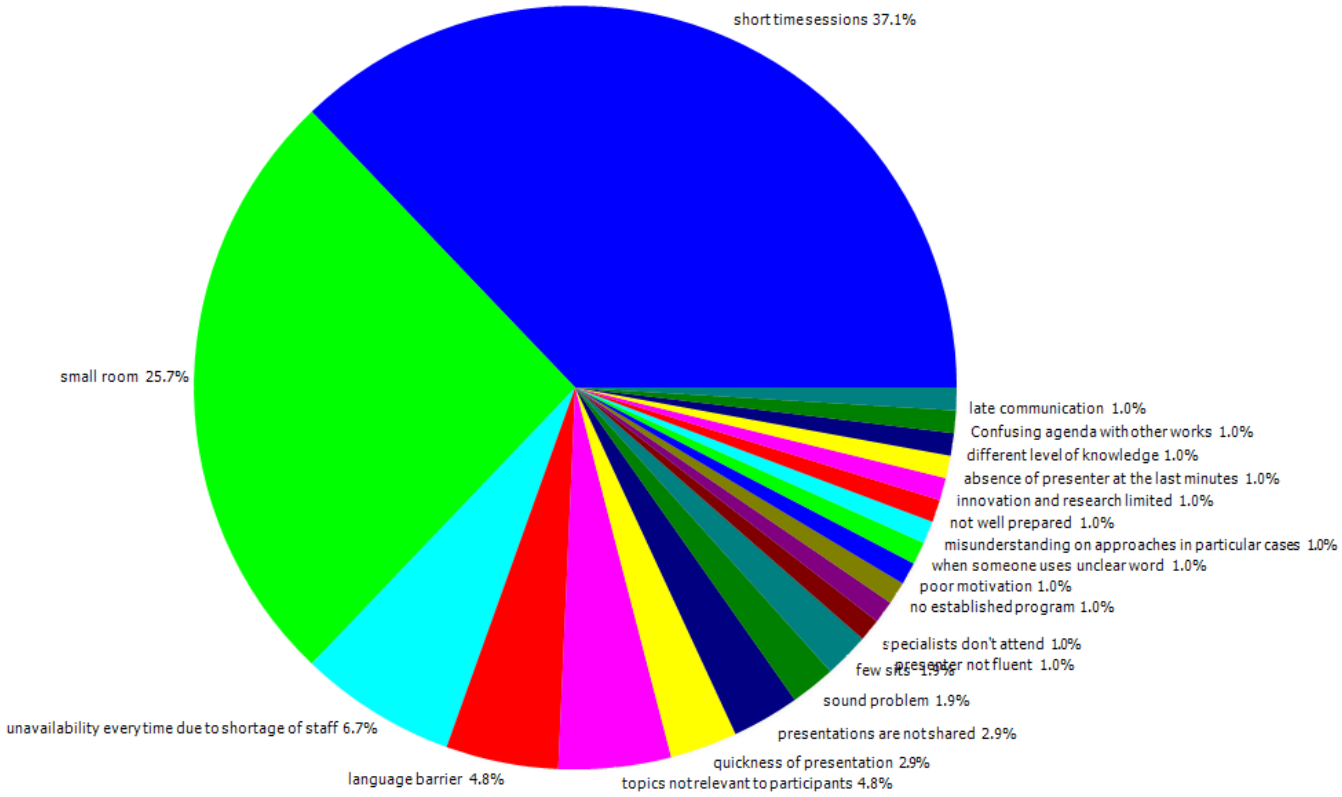

Fig 4.2 Challenges during CPD Session 1

Source: Primary data using QDA Miner Lite

4.4. CPD Teleconferencing Participation

The Table 4.9 shows that the majority of respondent (58.6%) participated in CPD Teleconferencing.

Table 4.9. Distribution of CPD Teleconferencing

CPD Teleconferencing participation	Frequency	Percent
Yes	58	58.6
No	41	41.4
Total	99	100.0

Table 4:9 CPD Teleconferencing 1

Source: Primary data using IBM SPSS Statistics 20

4.4.1. CPD Teleconferencing in years

The Table 4.10. below shows the distribution of CPD Teleconferencing in years, where the majority of respondent (39.7%) has one year of participation. The Table 4.10 shows the mean and standard deviation which are respectfully 2.72 and 2.59.

Table 4.10. Distribution of CPD Teleconferencing in years

CPD Teleconferencing in years	Frequency	Percent
1	23	39.7
2	13	22.4
3	10	17.2
4	4	6.9
5	3	5.2
6	1	1.7
7	1	1.7
10	2	3.4
15	1	1.7
Total	58	100.0

Table 4.10 CPD Teleconference in years 1

Mean: 2.72, Std. Deviation: 2.594

Source: Primary data using IBM SPSS Statistics 20

4.4.2. Relationship between Age category and CPD Teleconferencing in years

The Table 4.11. bellow, shows the relationship between Age category and CPD Teleconference in years. The Chi-square and Significance are respectively 58.608 and 0.029. The relationship is significative

Cross Tabulation of Age category and CPD Teleconferencing in years

Age category	CPD teleconferencing in years									Total
	1	2	3	4	5	6	7	10	15	
26-30	4	2	1	1	0	0	0	0	0	8
30-35	5	2	0	1	1	0	0	0	0	9
36-40	5	6	2	0	2	0	0	0	0	15
40-45	8	3	2	2	0	1	0	1	0	17
45-50	0	0	2	0	0	0	1	0	0	3
51-55	1	0	3	0	0	0	0	1	1	6
Total	23	13	10	4	3	1	1	2	1	58

Table 4.11 Cross Tabulation between age category and CPD Teleconference 1

Chi-square: 58.608, Sig. 0.029

Source: Primary data using IBM SPSS Statistics 20

4.4.3. Importance of CPD Teleconferencing

The Table 4.12 bellow shows that the majority of respondent (82.4%) chose yes on the importance when participating in Teleconferencing CPD.

Table 4.12. Distribution of Importance of Teleconferencing CPD

Importance of Teleconferencing CPD	Frequency	Percent
Yes	70	82.4
No	15	17.6
Total	85	100.0

Table 4:12 Importance of CPD Teleconferencing 1

Source: Primary data using IBM SPSS Statistics 20

4.4.4. The most Important advantages of Teleconference CPD

The Table 4.13 and Fig4.3 show the coding frequency of most important advantages of CPD teleconferencing as bellow mentioned: sharing knowledge with others who are far (26.8%), easy access to presentation at long distance (13.4%), improvement of knowledge (12.4%), distance learning (7.2%), financial benefits (7.2%), being updated (5.2%), skills improvement (5.2%) and knowledge to many people (4.1%).

The Distribution of Advantages of CPD Teleconferencing

Category	Code	Description	Count	% Codes	Cases	% Cases
knowledge	sharing knowledge with others who are far		26	26.8%	26	26.0%
communication	easy access to presentation at long distance		13	13.4%	13	13.0%
knowledge	improvement of knowledge		12	12.4%	12	12.0%
cost	finacial benefits		7	7.2%	7	7.0%
communication	gaining time		7	7.2%	7	7.0%
distance	distance learning		7	7.2%	6	6.0%
knowledge	being updated		5	5.2%	5	5.0%
skills	skills improvement		5	5.2%	5	5.0%
knowledge	knowledge to many people		4	4.1%	4	4.0%
distance	able to interact with medical professionals from different sites		3	3.1%	3	3.0%
presentation	no need of physical lecturer		2	2.1%	2	2.0%
participant	increase number of participants		2	2.1%	2	2.0%
knowledge	keep peace with current standards		1	1.0%	1	1.0%
communication	connecting colleagues from upcountry hospitals		1	1.0%	1	1.0%
distance	eliminating distance barrier		1	1.0%	1	1.0%
participant	motivation of participants		1	1.0%	1	1.0%

Table 4.13: Advantages of CPD Teleconferencing 1

Source: Primary data using QDA Miner Lite

The Figure of Advantages of CPD Teleconferencing

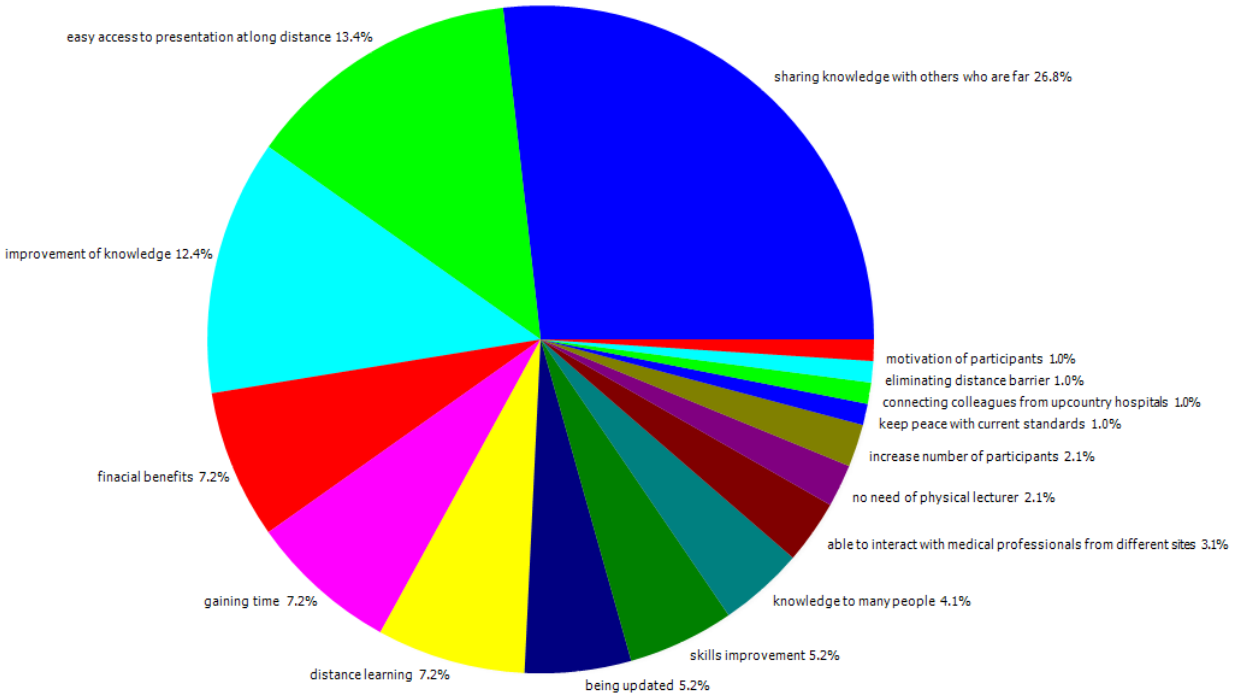

Fig 4.3 Advantages of CPD Teleconferencing 1

Source: Primary data using QDA Miner Lite

4.4.5. The most Challenges encountered during Teleconference CPD

The Table 4.14 and Fig.4.4 show the coding frequency of most challenges encountered during Teleconference CPDs. There are network issues sometimes (56.7%), time limitation (10.4%), lack of skills (9.0%), small room (6.0%), and sound problem (4.5%).

The Distribution of Challenges of CPD Teleconferencing

Category	Code	Description	Count	% Codes	Cases	% Cases
network	network issues sometimes		38	56.7%	38	38.0%
time	time limitaion		7	10.4%	7	7.0%
skills	lack of skills		6	9.0%	6	6.0%
room	small room		4	6.0%	4	4.0%
audio-visual facility	sound problem		3	4.5%	3	3.0%
audio-visual facility	all health facilities do not have		2	3.0%	2	2.0%
audio-visual facility	noisy that interrupt hearing		2	3.0%	2	2.0%
language	language barrier		2	3.0%	2	2.0%
audio-visual facility	audio-visual facility sometimes fails		1	1.5%	1	1.0%
audio-visual facility	no clear images some times		1	1.5%	1	1.0%
audio-visual facility	not often exploited		1	1.5%	1	1.0%

Table 4.14 Challenges of CPD Teleconferencing 1

Source: Primary data using QDA Miner Lite

The Figure of Challenges of CPD Teleconferencing

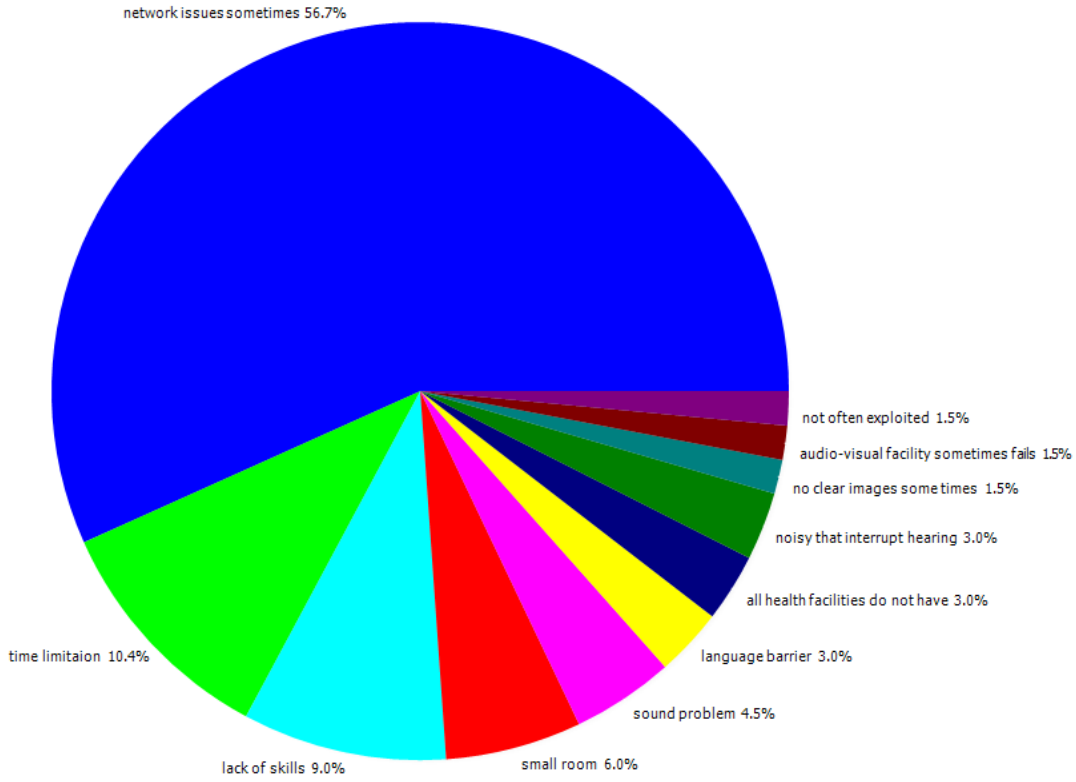

Fig 4.4 Challenges of CPD Teleconferencing 1

Source: Primary data using QDA Miner Lite

4.4.6. Impact of Teleconference use during CPD

The Table 4.15 bellow shows that the majority of respondent (94.4%) chose yes on the impact of Teleconferencing use during CPDs.

Distribution of Impact on Teleconferencing use during CPD

Impact on Teleconferencing use during CPD	Frequency	Percent
Yes	85	94.4
No	5	5.6
Total	90	100.0

Table 4.15 Impact of CPD Teleconferencing use 1

Source: Primary data using IBM SPSS Statistics 20

4.4.7. List of Impact when Teleconference used during CPD

The Table 4.16 and Fig.4.5 show the most impact of teleconference use during CDPs as given by respondent. Quality care improvement (18.9%), knowledge improvement (14.7%), sharing updates on management of diseases (13.7%), sharing skills and knowledge (9.5%), improve outcome of patient's conditions (8.4%), mass education (7.4%), skills improvement (7.4%), reducing cost (5.3%), and positive impact (4.2%).

The Distribution of Impact when CPD Teleconferencing use

Category	Code	Description	Count	% Codes	Cases	% Cases
healthcare	quality care improvement		18	18.9%	18	18.0%
Knowledge	knowledge improvement		14	14.7%	14	14.0%
updates	sharing updates on management of disease		13	13.7%	13	13.0%
Knowledge	sharing skills and knowledge		9	9.5%	8	8.0%
healthcare	improuve outcome of patients conditions		8	8.4%	8	8.0%
skills	skills improvement		7	7.4%	7	7.0%
Knowledge	mass education		7	7.4%	7	7.0%
cost	reducing cost		5	5.3%	5	5.0%
healthcare	positive impact		4	4.2%	4	4.0%
behavior	improved version of traditional conduct		3	3.2%	3	3.0%
Knowledge	improve medical training		2	2.1%	2	2.0%
Knowledge	confidence for professionals to know where to get additional knowledge		2	2.1%	2	2.0%
updates	helps to learn by sharing ideas from others		2	2.1%	2	2.0%
updates	Easy communication within time		1	1.1%	1	1.0%

Table 4.16 List of impact during CPD Teleconferencing 1

Source: Primary data using QDA Miner Lite

The Figure of Impact during CPD Teleconferencing

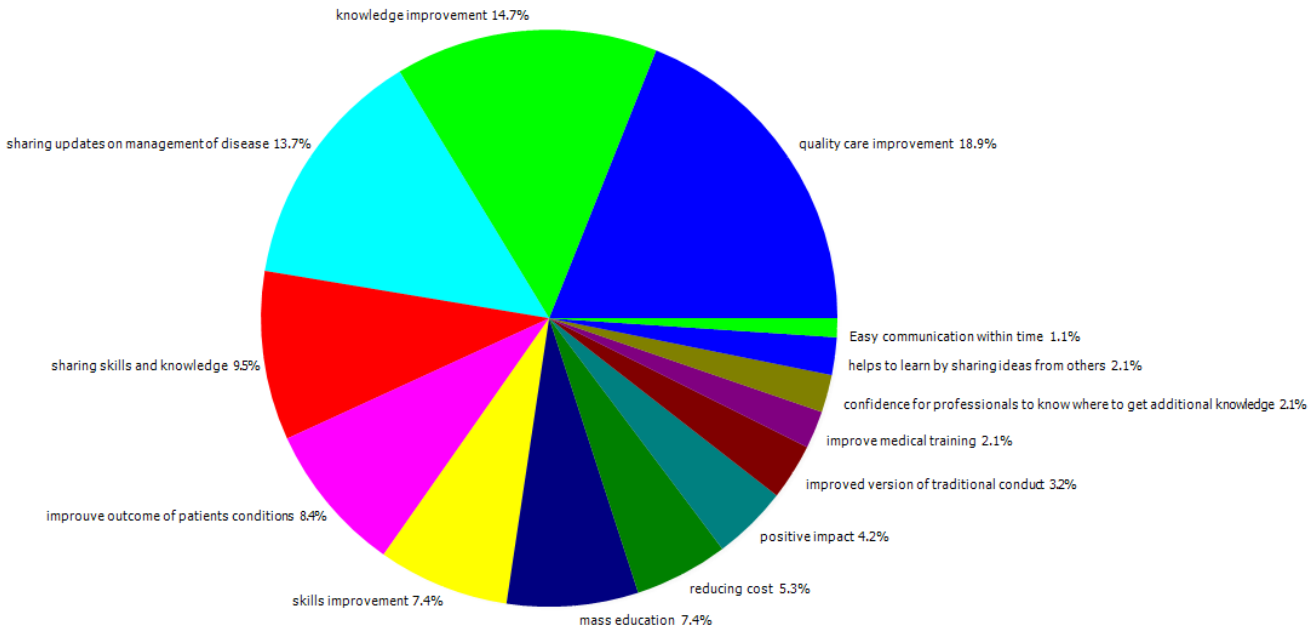

Fig 4.5 List of Impact during CPD Teleconferencing 1

Source: Primary data using QDA Miner Lite

CHAPTER 5: DISCUSSION OF FINDINGS

5.1. Introduction

The chapter 5 discuss the findings of research study. The research was focused on three major topics which are the level of CPD participation; factors that encourage health professionals to participate in CPDs teleconferencing; and the impact of CPDs through teleconferencing.

5.1.1. The level of CPD's participation

The findings of this study show that respondent had attended the continuous professional development, where the majority (98%) of them chose yes on the advantage of CPDs. The table 4.5, shows the CPD participation in years where the mean and standard deviation are respectively 4.15 and 4.922. The study showed that with CPD, most of respondent enhance their knowledge, are updated, are improving their skills, and are continuously learning in working place. The same results were found in the annual report of Rwanda Ministry of Health (MoH, 2012).

The most advantage reveled are the enhance of knowledge (30.0%), being updated (21.7%), improve skills (12.2%), sharing knowledge and skills (9.4%), learning in working place and teaching (5.0%), practice-based medicine (4.4%), interacting with others (3.3%) and sharing experience (3.3%).

5.1.2. Advantages influencing CPD Teleconferencing

The findings of this study show that respondent had attended the CPD teleconferencing, where the majority of respondent (59.6%) participated. The most advantages influencing the participation in CPD Teleconferencing are sharing knowledge (26.8%), easy access to presentation (13.4%), improvement of knowledge (12.4%), distance learning (7.2%), financial benefits (7.2%), being updated (5.2%), skills improvement (5.2%) and knowledge to many people (4.1%).

In the same line with Luanrattana, Teleconferencing overcomes time, improves the efficiency of training, allows simultaneous interactive teachings, no distance barrier and cost-effective (Luanrattana, 2011). According to Panagiotakopoulos et al, the advantages of teleconferencing are including Time saving, Reduced transportations, Expansion of educators' knowledge in new technologies, Creation of added value in distance learning, No distance barrier (Panagiotakopoulos et al., 2016).

5.1.3. Impact when implementing CPD Teleconferencing

The findings of this study show that there are most impacts of implementing CPD Teleconferencing such as Quality care improvement (18.9%), knowledge improvement (14.7%), sharing updates on management of diseases (13.7%), sharing skills and knowledge (9.5%), improve outcome of patient's conditions (8.4%), mass education (7.4%), skills improvement (7.4%), reducing cost (5.3%), and positive impact (4.2%).

According to Helda Pinzon-Perez et al, cost savings associated with travel, hotel accommodations, conference registration, and other expenses are evident when using teleconference methodologies. Teleconferences offer a way for health educators to promote the multi-directional exchange of lesson learned, technical expertise , strategies and policies, help reduce health disparities, may serve also as medium to improve health literacy (Helda Pinzon-Perez et al., 2015).

CHAPTER6: CONCLUSION AND RECOMMENDATIONS

6.1. Introduction

The chapter 6 presents the conclusion and recommendations of the research study. The recommendation was designed to be implemented by the Ministry of Health and Referral hospitals for effective Continuing Professional Development using Teleconference.

6.2. Conclusion

The main purpose of the research study was to propose Teleconference use as solution to problems hindering Continuous Professional Development sessions in Referral and Teaching hospitals in Rwanda. This chapter concludes the findings.

This research focused on proposing the use of teleconference as the new medium during CPD sessions. A group of RMH staffs have been questioned over several CPDs and teleconference related advantages and challenges. The literature presented advantages of teleconference use as educational medium and pointed its impacts in health settings. The advantages and impacts of teleconference have been considered as reference points for questionnaire formulation. The research study was conducted in Rwanda Military Hospital one of the three Referral and Teaching Hospitals in Rwanda, where we collected opinions of hundred (100) health professionals through semi-structured interviews. The analysis was done, and their feedback led us to several outcomes. This research study concluded that the teleconference can be used as new medium during CPD sessions offering a good learning environment that enhance the knowledge of participants, improve knowledge and skills of participants, eliminates distance barriers and increases interaction between presenters and CPD participants. Teleconference offers positive impacts. Furthermore, it helps to improve the quality of healthcare, improve knowledge, sharing updates, knowledge and skills, improve outcome of patient's conditions, mass education, skills improvement and reduce cost. The challenges encountered during teleconference use are closely connected with technical problems affecting its effectiveness. Such technical problems are network issues sometimes, time limitation during CPD presentation, lack of skills on teleconference use, small room, and sound problem. Those challenges have a negative impact during CPD sessions. Considering the overall evaluation of results, the advantages outmatch the

challenges in quality perspective. Generally, the respondents have a convergence on the use of teleconference during continuous professional development sessions under certain conditions.

6.3 Recommendations

Ministry of Health:

1. Mobilization and awareness on the use of teleconference as new medium during Continuous Professional Development sessions. This to start by Referral and Teaching Hospitals in Rwanda. This will serve as model to referral and district hospitals.
2. Advocacy on the stability of internet connection in Rwandan Health settings.
3. Equip health settings with adequate sound proof and teleconference equipment.
4. Training on teleconference use.

Referral and Teaching Hospitals:

1. Avail conference room with enough space to receive participants.
2. Awareness on time management, relevant topic to participants, and language to be used during CPDs.

Area for further studies:

The Teleconference use in the catchment area of Teaching and Referral Hospitals in Rwanda.

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APPENDICES

Appendix 1: Questionnaire in English

UNIVESRSITY OF RWANDA

RESEARCH STUDY QUESTIONNAIRE

Participant ID number: _____

SECTION 1: Demographic Data

1. What is your gender? Female □ Male □
2. What is your age? 20-25 □ 26-30 □ 30-35 □ 36-40 □ 40-45 □ 45-50 □ 51-55 □ 56 and above □
3. What is your qualification? Professor □ Specialist Doctor □ GP Doctor □ RN Nurse □ RM □ Paramedical □

SECTION 2: CPD Participation

4. Did you participate in CPDs? Yes □ No □
5. If Yes, how many years have you been participating in CPDs? _____
6. Did you see any importance when participating in CPDs? Yes □ No □
7. If yes, what are the most important advantages? ……
   ……
   ……
   ……
8. What are challenges encountered during CPDs sessions? ……
   ……..……..
   ……

SECTION 3: Teleconferencing Participation

9. Did you participate in CPD Teleconferencing? Yes □ No □
10. If Yes, how many years have you been participating in Teleconference CPDs? _____

11. Did you see any importance when participating in Teleconference CPDs? Yes □ No □
12. If yes, what are the most important advantages? ……
    ……
    ……
    ……
13. What are challenges encountered during Teleconference CPDs sessions?
    ……
    ……
    ……

SECTION 4: Impact estimation of Teleconference use during CPDs

14. Is there any impact on healthcare due to teleconference CPDs? Yes □ No □
15. If yes, what are the impact of teleconference use in health settings?
    ……
    ……
    ……
    ……

Thanks!

Appendix 2: Questionnaire in French

UNIVERSITE DU RWANDA

QUESTIONNAIRE D'ETUDE DE RECHERCHE

Numéro d'identification du participant : _____

SECTION 1: Données démographiques

1. Quel est votre sexe? Feminin □ Masculin □

2. Quelle est votre age? 20-25 □ 26-30 □ 30-35 □ 36-40 □ 40-45 □ 45-50 □ 51-55 □

56 and above□

3. Quelle est votre profession? Professeur □ Doctor Specialiste □ GP Docteur □ RN Infirmier/e □ Sage-femme □ Paramedicale □

SECTION 2: Participation au CPD

4. Avez-vous participé dans les CPDs? Oui □ Non □
5. Si c'est oui, depuis combien d'années avez-vous participé dans les CPD? _____
6. Y a t-elle une impotance de participer dans les CPD**?** Oui □ Non □
7. Si c'est oui quels sont les plus important avantages? ……
   ……
   ……
   ……
8. Quels challenges rencontrés durant les sessions de CPD ? ……..
   ……
   ……

SECTION 3: Participation au Teleconference

9. Avez-vous participé dans les Teleconferences CPDs? Oui □ Non □
10. Si c'est oui, depuis combien d'années avez-vous participé dans les Teleconferences CPD? __
11. Y a t-elle une importance de participer dans les Teleconferences CPD? Oui □ Non □
12. Si c'est oui quels sont les plus important avantages de Teleconference? ……
    ……
    ……. ……..
    ..……
13. Quels challenges rencontrés durant les sessions de Téléconférence ? ……
    ……
    ……

SECTION 4: Estimation de l'impacte de Teleconference dans les CPDs

14. Y a-t-elle une impacte aux soins de santé a cause de l'utilisation des teleconferences lors des CPDs? Oui □ Non □
15. Si oui quelle est l'impacte de l'utilisation des teleconferences dans les infrastructures de santé?
    …… ……
    …… ……
    …… …… …
    …… …… …

Merci

Appendix 3: Consent form in English

INFORMED CONSENT

1. Information sheet

I am **NZABAHIMANA Frederic**, student in University of Rwanda / College of Medicine and Health Sciences. I am doing research on Teleconference use as a solution to continuous professional development in referral hospitals in Rwanda. This information sheet and consent from is prepared to explain the study you are being asked to participate. Please listen carefully and ask any questions about the study before you agree to participate. You may ask questions at any time after joining the study.

The purpose

The purpose of this research is to know more about the use of teleconference as a solution to continuous professional development in referral hospitals in Rwanda. This is not to evaluate or criticize you, the results of the study will be very help full to point areas that need improvement in order to achieve the required quality of health care. It will also serve as a facilitator for subsequent studies in the country.

Procedure

We invite you to take part in this study. If you are willing to participate in this study, you need to understand and give us your written consent. Then after, you will be given the questionnaire by the data collector to fill your response. You do not need to write your name to the questionnaire and all your response and the results obtained will be kept confidential by using coding system where no one will have access to your response.

Risk/ discomfort

By participating in this research, you may feel that it has some discomfort especially on wasting time about 30min to one hour. We hope you will participate in this study for the sake of the benefit. There is no risk in participating in this project.

Benefits

Participants in this study will receive no direct benefit from the study and they are voluntarily participating; there will be no inducement. However, the outcomes of the study will be indirectly beneficial in improving the quality of neonatal pain management practices.

Incentives

You will not be provided any incentive or payment to take part in this project.

Confidentiality

The information collected from this research study will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but with a code number assigned to it, and it will not be revealed to anyone except the investigators and will be kept locked with a key.

Right to refuse or withdrawal

You have full right for participating in this research and the full right to withdraw from this study at any time you wish, without losing any of your right.

Person to contact

If you have any questions you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact any of the following:

1. Researcher: NZABAHIMANA Frederic, Tel: 0783002568, Email: fnzabahimana@gmail.com
2. Supervisor: Dr. UWITONZE Alfred, Tel: 0788549588, Courriel: alfruwitonze@gmail.com
3. Co-supervisor: NIYITEGEKA Charité, Tel: 0788873103, Courriel: niyicharite@gmail.com

This proposal has been reviewed and approved by UR/CMHS/IRB, which is a committee whose task is to make sure that research participants are protected from harm. If you wish to find about more about the IRB, contact the address below:

1. Chairperson: 0788490522

2. Deputy of Chairperson: 0783340040

2. Certificate of Consent

I have been invited to participate in research on the use of teleconference in continuous professional development in referral hospitals. I understand the purpose of the study and I have been informed that there is no risk to participate in the study. I am aware that there may be no benefit to me personally and that I will not receive any incentive to participate in the study. I have been provided with the name of a researcher who can be easily contacted using the number and address I was given for that person. I have read the foregoing information. I have had the opportunity to ask questions about it and any questions that I have asked and have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research and understand that I have the right to withdraw from the research at any time.

Name of Participant……...

Signature of Participant …….

Date……

Appendix 4: Consent form in French

CONSENTEMENT ECLAIRE

1. Feuille d'information

Je m'appelle NZABAHIMANA Frederic, étudiant à l'Université du Rwanda / Faculté de Médecine et des Sciences de la Santé. Je fais la recherche sur l'usage de la téléconférence comme solution aux problèmes de formation professionnelle continue dans les hôpitaux de référence au Rwanda. La présente fiche d'information et le consentement éclairé sont préparés pour vous expliquer l'étude à laquelle vous êtes invité à participer. Veuillez écouter attentivement et poser des questions sur l'étude avant d'accepter de participer. Vous pouvez poser des questions à tout moment après votre participation à l'étude.

Le but

Le but de cette recherche est d'en savoir plus sur l'usage de la téléconférence comme solution aux problèmes de formation professionnelle continue dans les hôpitaux de référence au Rwanda. Ce n'est pas pour vous évaluer ou critiquer, les résultats de l'étude seront très utiles pour les zones ciblées qui doivent être améliorées afin d'atteindre la qualité requise des professionnels de santé. Il servira également de facilitateur pour des études ultérieures dans le pays.

Procédure

Nous vous invitons à participer à cette étude. Si vous êtes prêt à participer, vous devez comprendre et nous donner votre consentement écrit. Ensuite, vous recevrez le questionnaire par le collecteur de données pour remplir vos réponses. Vous n'avez pas besoin d'écrire votre nom au questionnaire. Vos réponses et les résultats obtenus seront confidentiellement gardés en utilisant le système de codage où personne n'aura pas accès à vos réponses.

Risque / inconfort

En participant à cette recherche, vous pouvez sentir qu'il a un certain inconfort surtout en perdant du temps environ 30min à une heure. Nous espérons que vous participerez à cette étude pour le bénéfice. Il n'y a aucun risque à participer à ce projet.

Avantages

Les participants à cette étude ne recevront aucun avantage direct de l'étude et ils participeront volontairement ; Il n'y aura pas d'incitation. Cependant, les résultats de l'étude seront indirectement bénéfiques dans l'amélioration de la qualité des formations professionnelles de santé.

Incitations

Vous ne recevrez aucune incitation ou paiement pour participer à ce projet.

Confidentialité

Les renseignements recueillis dans le cadre de cette étude seront tenus confidentiels et les renseignements qui vous seront recueillis seront conservés dans un fichier, sans votre nom, mais avec un numéro de code qui lui sera attribué et ne seront divulgués à personne, sauf Les enquêteurs et sera gardé enfermé avec une clé.

Droit de refus ou de retrait

Vous avez pleinement le droit de participer à cette recherche. Vous avez également le plein droit de vous retirer de cette étude à tout moment que vous souhaitez, sans perdre aucun de vos droits.

Personne à contacter

Si vous avez des questions, vous pouvez les poser maintenant ou plus tard, même après le début de l'étude. Si vous désirez poser des questions plus tard, vous pouvez communiquer avec l'une des personnes suivantes :

1. Chercheur : Nzabahimana Frederic, Tél : 0783002568, Courriel : fnzabahimana@gmail.com

2. Superviseur : Dr. UWITONZE Alfred, Tél : 0788549588, Courriel : alfruwitonze@gmail.com

3. Co-superviseur: NIYITEGEKA Charité, Tel: 0788873103, Courriel: niyicharite@gmail.com

Cet avant-projet de la recherche a été examinée et approuvée par UR / CMHS / IRB, un comité dont la tâche est de veiller à ce que les participants à la recherche soient protégés contre tout préjudice. Si vous souhaitez en savoir plus sur l'IRB, veuillez communiquer avec l'adresse ci-dessous :

1. Président : 0788490522
2. Vice- President: 0783340040

2. Certificat de consentement

J'ai été invité à participer à la recherche sur l'usage de la téléconférence comme solution aux problèmes de formation professionnelle continue dans les hôpitaux de référence. Je comprends le but de l'étude et j'ai été informé qu'il n'y a aucun risque de participer à l'étude. Je suis conscient qu'il n'y a peut-être aucun avantage pour moi personnellement et que je ne recevrai aucune incitation à participer à l'étude. On m'a fourni le nom d'un chercheur qui peut être facilement contacté en utilisant le numéro et l'adresse que j'ai reçus pour cette personne. J'ai lu les informations qui précèdent, ou on me l'a lu. J'ai eu l'occasion de poser des questions à ce sujet et toutes les questions que j'ai posées ont été répondues à ma satisfaction. Je consens volontairement à participer en tant que participant à cette recherche et de comprendre que j'ai le droit de se retirer de la recherche à tout moment.

Nom du participant ....

Signature du participant .....

Date……

Appendix 5: Review Approval Notice

REPUBLIC OF RWANDA
RWANDA MILITARY HOSPITAL
Website: www.rwandamilitaryhospital.rw
P.O. Box: 3377 Kigali, Tel: (+250)252586420, Hotline: 4060
E-mail: info@rwandamilitaryhospital.rw

August 19, 2019 **Ref.: RMH IRB/049/2019**

REVIEW APPROVAL NOTICE

Dear **NZABAHIMANA Frederic**
University of Rwanda

Your Research Project: **"Teleconference as a Solution to Continuous Professional Development in Referral Hospitals in Rwanda: Case of Rwanda Military Hospital".**

With respect to your application for ethical approval to conduct the above stated study at Rwanda Military Hospital, We are pleased to confirm that the RMH/Institutional Review Board (IRB) has approved your study. This approval lasts for a period of **12 months** from the date of this notice, and after which, you will be required to seek another approval if the study is not yet completed.

You are welcome to seek other support or report any other study related matter to the Research office at Rwanda Military Hospital during the period of approval.

You will be required to **submit the progress report** and any major changes made in the proposal during the implementation stage. In addition, you are required to **present the results** of your study to the RMH/IRB before publication.

Sincerely,

Prof. Alex M. Buteera
Colonel
Chairperson Institutional Review Board, RMH

Email: Info@rwandamilitaryhospital.rw
Tel: 0252586420
P.o Box: 3377RWANDA MILITARY HOSPITAL