Exploring the perspectives of health professionals in a rural district hospital in Achham, Nepal on the role of daily continuing medical education (CME)

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ABSTRACT

Introduction: A rural district hospital in Achham district of Nepal has daily continuing medical education (CME) sessions. These sessions are attended by health professionals from different departments providing healthcare services. This study aims to explore the perspectives of health professionals in a rural district hospital in Achham of Nepal on the role of daily CME on the quality of clinical care and on their professional development in order to find the impact of daily CME.

Method: A qualitative study was conducted in a rural district hospital in Achham, Nepal. Semi-structured interviews were conducted with 10 participants who were health professionals, aged 20-60 years old and recruited through a convenience sampling method in 2020. The data were analyzed using thematic content analysis (TCA).

Result: All the participants shared the importance, strengths, and challenges of daily CME sessions and recommended to improve the CME sessions. All the participants had clear perceptions of positive impact of daily CME to refresh their knowledge, create a learning environment, improve presentation and speaking skills, learn clinical protocols, improve their professional development, share ideas to improve patient care and create a platform to share quality improvement steps. The diverse educational background of health professionals, CME curriculum, and time allocation of physicians for CME sessions remain challenges of daily CME. The participants recommended adding more topics in the CME curriculum and revise CME facilitation methods.

Conclusion: District hospitals in rural Nepal can conduct daily CME sessions to upgrade the clinical knowledge and skills of health professionals and improve clinical services. Further studies are required to establish robust evidence about the impact of daily CME sessions.

Keywords: continuing medical education (CME), health professionals, rural hospital

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INTRODUCTION

Structured Continuing Medical Education (CME) sessions are common at academic medical centers and urban hospitals in developed countries, but there is limited literature around effective CME in rural and developing regions.[1] CME activities can create an environment of lifelong academic learning to upgrade knowledge, personal and professional development, and can have a huge impact on knowledge, behavior, attitude and skills of health care workers.[2] CME can improve the confidence of general practitioners (GPs) working in rural and remote areas.[3]

There is a shortage of doctors in rural areas in Nepal.[4] CME can ensure transfer of clinical knowledge and skills from doctors to mid-level providers and nurses in order to provide efficient healthcare services in rural Nepal. In most remote and rural areas of Nepal, doctors work in isolation with a low number of healthcare workers and lack structured CME activities.[5] Nepal's rural health system faces challenges of retaining skilled health professionals. CME can be one of many factors which can encourage health professionals, including doctors, to stay and serve in rural and remote areas.[5] CME can also be a factor that attracts doctors to work in rural areas.[6]

Bayalpata Hospital is a 50 bed, government district level hospital located in the rural Achham district of Nepal, operated by a non-profit healthcare organization, Nyaya Health Nepal (NHN), in a public private partnership with Nepal's ministry of health and population and it is linked to communities via community health workers.[7] Achham is a remote, and impoverished district with a population of 260,000, and has an extensive history of civil conflict.[8] It is one of the district level hospitals in Far West Province of Nepal.[9] As of February 2020, the hospital was staffed by two general practitioners (GPs), two GP residents, five staff physicians (SPs), 16 health assistants (HAs), 12 community medical assistants (CMAs), 28 nurses and other administrative and logistics staff. The hospital serves on average 300-400 patients a day, providing comprehensive primary healthcare services which include maternal and child health, mental health services, communicable and non-communicable diseases and primary trauma care .[10] The hospital has daily continuing medical education for the doctors, nurses and mid-level healthcare workers. The daily CME focuses on the guideline-based management of diseases which have high occurrence in the local region and has been described previously.[10] CME is structured within the healthcare system of the hospital and is promoted for doctors, nurses and healthcare workers.[11] Daily CME sessions are organized at the hospital.[1] Weekly morbidity and mortality conferences as the quality improvement (QI) initiatives are part of daily CME.[12] The curriculum of the daily CME is based on the local burden of diseases encountered in the department of emergency, in-patient, out-patient and surgery.[1] It is valuable to learn the perspectives of health professionals about daily CME in rural hospitals of Nepal.[13]

METHOD

A qualitative study of sample size 10 was conducted at Bayalpata Hospital in rural Achham district of Nepal from February 2020 to August 2020 for six months with the following aim and objectives. The aim and objectives of the study were:

- To review the literature on the importance of CME on the quality of patient care and professional development of health professionals in Nepal and other similar countries
- To collect data on the perspectives of health professionals using semi-structured in-depth interviews with the aim of achieving data saturation.
- To make recommendations relating to CME on patient care

Definition of Health Professionals: In this study, we used the terms health professionals to refer to health care workers (mid-level health workers and nurses) and physicians who might be in need of continuous academic support especially in rural and remote areas.

The study was conducted at Bayalpata Hospital. Open-ended semi-structured questionnaires were used to take interviews with health professionals meeting the inclusion criteria. The participants of the study were from the population of health professionals working at the hospital meeting the inclusion criteria and those who provided informed consent. A Convenient sampling method was used for the study. Purposive sampling was considered as an alternative method. A total of ten participants gave consent for interviews and were taken.

The inclusion and exclusion criteria used were as follows:

Inclusion criteria:

- Health professionals of both genders aged between 20 - 60 years who have attended CME

sessions at the district hospital in Achham for more than 2 years
- Participants who can give and can sign informed consent
- Participants who can understand and speak English

Exclusion criteria:
- People aged 20 or less.
- Those with less than 2 years of work experience, close colleagues or friends

Ethical approval for the study was taken from Nepal Health Research Council (NHRC) and the University of Liverpool's Masters of Public Health (MPH) Virtual Programme Research Ethics Committee. Each participant was de-identified using participant codes (for example P1 for first participant) and only de-identified information was used for data analysis and publication of the results.

Semi-structured in-depth interviews using an interview guide were used as a data collection method. Pilot testing was done with 2 participants who met the inclusion criteria. Two pilot interviews were conducted following the interview guide and no issues were discovered. The pilot interviews and their data were included in the study. The interview questions were related to the participant's CME experience, their recommendations for making CME better, role of CME in their clinical practice and participation of health professionals during CME. Each interview was conducted in a room with both audio and visual privacy to maintain confidentiality and anonymity and digitally recorded for proper transcription. The interview was taken in English, making all participants comfortable, transcribed and coded.

The collected data were analyzed using Thematic Content Analysis (TCA), as it would help for the identification and analysis of common themes generated from different participants. This was because it aimed to present key elements of participants' experiences, accounts and provided a brief summary of diversity and similarities.[14] Following themes developed and were helpful for further analysis.

Table 1. Themes and Sub-themes

Themes	Sub-themes
1. Knowledge about daily continuing medical education (CME)	1.1 Participants of daily CME 1.2 Knowledge about daily CME in rural hospital of Nepal 1.3 Functions of daily CME
2. Experience of daily CME	2.1 Past experience about daily CME 2.2 Schedule of the CME
3. Importance of daily CME on clinical practice	3.1 Importance of CME to health professionals 3.2 Clinical care 3.3 Rural hospital and CME sessions
4. Health professional's recommendations for CME	4.1 CME curriculum 4.2 Facilitation of CME sessions 4.3 Recognition of daily CME
5. Challenges of daily CME	5.1 Background of health professionals 5.2 CME Curriculum

RESULT

After taking interviews, producing transcripts and after the thematic content analysis, five themes and subthemes were generated and are described below (Table 1).

Theme 1. Knowledge about daily continuing medical education (CME)

1.1 Participants of daily CME

All participants stressed that the attendance of daily CME is by diverse health professionals including doctors, nurses, mid-level providers and professionals from other departments like laboratory, pharmacy and store to improve clinical services at the hospital.

P2 shared: CME is a platform for learning and sharing knowledge. This ensures that all medical personnel are continually expanding and updating their knowledge. This is crucial in a field like ours where every clinician needs to have adequate and up-to-date knowledge.

1.2 Knowledge about daily CME in rural hospital in Nepal

All the participants were not familiar with daily CME in rural hospitals of Nepal prior to joining the hospital for their work. They did not know daily CME would exist in a rural hospital in Nepal.

P7 shared: I was not familiar with CME because there used to be no CME at my previous organization…

1.3 Functions of daily CME

P6 shared: *It helps me to refresh my knowledge and keep me updated for my daily work.*

P6 and P7 stated quality improvement of healthcare services as one of the functions of daily CME. P6 & P9 shared that daily CME helps inter-professional collaboration to provide better clinical services. P5 & P3 emphasized that daily CME brings diverse health professionals together for quality care at the hospital.

P4 shared: *The daily CME was about more common diseases and their management at the hospital.*

The core functions of CME sessions are refreshing knowledge (P9, P7, P5, P3 & P2) and keeping health professionals updated (P3 and P2), sharing own experiences (P3), updating national guidelines and clinical protocols (P3 & P6), introduction of hospital related protocol (P3), improving overall health system (P3), learning new things (P3, P4, P5 & P6), upgrading professionalism of health professionals (P3 & P6), improving quality of care of patients (P1, P4, P5 & P10) and providing evidence-based clinical care (P8).

P7 shared: *I think it is relevant for people who are in the administration and management to decide properly.*

Theme 2. Experience of daily CME

2.1 Past experience about daily CME

P10 shared: *There was no system of CME in my previous ……. Hospital.*

One participant did not know the full form of CME. Another participant was not familiar with CME and shared as "*I was not familiar with CME because there used to be no CME at my previous organization. (P7)"*

2.2 Schedule of the CME

All the participants were familiar with the schedule of the CME. The CME has a mixture of long case presentations, diseases and their management related power point presentations and weekly morbidity and mortality conferences.

P6 shared:…. *The most recent schedule is 6 CMEs in a week at our hospital according to our current curriculum. Sunday/Monday/Tuesday 3 days are for the lecture classes by Doctors and Wednesday is CMA long case presentation, Thursday is HA long case presentation, Friday is morbidity and mortality conference by doctors' team.*

Theme 3. Importance of daily CME on clinical practice

3.1 Importance of CME to health professionals

P2 shared that daily CME sessions are important for mid-level health providers as they evaluate the majority of patients in rural hospitals of Nepal. P3 shared that daily CME helps to improve presentation skills, public speaking skills and enhance knowledge of health professionals.

P4 shared: *….I think CME sessions are very important at any hospital because it helps learners or practitioners to learn and discover various ways to improve patient's care and help in the development of new skills, new techniques in the required field and it also keeps them up-to-date about the new changes…*

All participants shared daily CME sessions are helpful for the professional development of health professionals.

P1 shared: *..So as I said like aaan it refreshes us like the everyone right from the mid-level providers to the doctors to the consultants..*

3.2 Clinical care

All the participants had clear and specific roles of daily CME sessions on clinical care of patients. Participant shared quality care to patients and how to counsel patients (P1), sharing local protocols (P2), improving all the healthcare services at a hospital (P3, P6 and P7), updating staff about change in national clinical protocols (P4), information sharing like availability of medicines in pharmacy and diagnostics facilities (P4), CME session as a platform to provide constructive feedbacks and launching hospital based protocol (P5), efficient inter-professional collaboration (P7), case discussion (P8), patient-centered clinical care and CME motivating health professionals (P9) and rational use of drugs and laboratory investigations (P10) as the importance of daily CME sessions in clinical care.

P6 shared: "The hospital has efficient inter-professional collaboration which I think is because of daily CME sessions."

P10 shared: *It focuses on the rational usage of drugs leading to decreased expenses of pharmacy, laboratory services. This helps in providing high-quality care at limited resources at our hospital.*
All except one participant (P8) have been applying major aspects of CME in their clinical practice. P8 had been updating digital platforms (Mobile Apps) with knowledge gained from CME sessions.

P4 shared: *I also learned ethical principles from one of the CME sessions and I really liked all the principles.*

3.3 Rural hospital and CME sessions
P1 and P5 shared that CME is not available in most of the rural hospitals of Nepal. P1 had the perception that CME helps rural hospitals to help mid-level healthcare workers to evaluate the majority of patients at the hospital.

P5 shared: "Some of the CME sessions are our own evidence from electronic medical records and are unique."

P3, P6 and P7 said that CME sessions are easily manageable with available resources. P2 had the perception that CME did not require much resources.

P8 shared: *The other valuable strength of the CME session is dissemination of information to large groups in a short period of time.*

Theme 4. Health Professional's recommendations for CME
4.1 CME curriculum
P1, P4 and P6 urged that CME sessions need to be evidence-based to guide clinical practice and to make participants aware about the local burden of diseases. P3, P5 and P10 specifically recommended additions in the CME curriculum. They recommended adding practical skill based sessions, nursing management and nursing topics and clinical simulation and role play, respectively while asking for specific recommendations.

4.2 Facilitation of CME sessions
Participants recommended inviting nationally and internationally recognized speakers or champions of health (P2) or professional presenters from different specialties (P3) to facilitate the CME sessions. P5 had a very peculiar perception of the use of Nepali language while taking CME sessions. Many participants recommended to use multiple different audio visual aids (P4), not to use name while asking questions during the CME sessions in such a way to pinpoint the person (P4 & P5), bring energy (P4 and P6), use of interesting way to take CME classes (P4), encourage voluntary participation (P5), change of teaching and learning method (P8), engage participant (P8), involve all the health professionals in the CME sessions (P9), encourage active learning (P10), strategic scheduling (P10) and use of different methods like role play, clinical simulation, brainstorming, asking questions, considering enough time for taking notes (P10) to improve CME sessions.

P9 shared: **"***I recommended it to continue in organization by involving all the health profession on it and in my view we need to cover the topic that are recently updated.*"

4.3 Recognition of daily CME
All the participants had the perception that the daily CME at the hospital could be recognized at local, national and global levels. P2 shared about CME credits and CME accreditation as mechanisms to get recognition. P3 & P7 shared the need for frequent CME assessment. P4 urged that outcomes of CME sessions are important for recognition. P5 had a clear perception of advertisement for the recognition of CME. P6 had quite different views on recognition of CME as quoted below.

P6 shared: *"Locally the daily CME is well recognized as many health professionals would like to attend the CMA and learn for their own professional development. For the national and global levels, I think there needs to be more study about CME and more publications."*

P10 shared that supporting local health post, primary health care centers and district hospitals with resources for CME sessions to start would help for more recognition.

Theme 5. Challenges of daily CME
5.1 Background of health professionals
The educational background of each health professional differs in rural hospitals of Nepal. P2, P3, P6 & P7 had the perception that participants have different educational backgrounds and job responsibilities and they are at various stages of their clinical practice. These different levels of clinical responsibilities and different educational backgrounds make it challenging to make the daily CME session equally effective for each and every participant. P2 shared that interaction among a

large number of participants is difficult and challenging. P4 had the perception that clinician's time may be more effective for patient care rather than CME sessions. P4 & P8 had the perception that it is quite challenging for clinicians to utilize their time for patient care versus time for daily CME sessions in resource limited settings.

5.2 CME curriculum

P1 shared that it is practically not possible to update everyone participating as there are lot of participants, CME time and duty time do not match for health professionals, simplifying the contents of the CME curriculum for mid-level health care workers and there needs to be inclusion of evidence based CME sessions in the current CME curriculum. P3 and P5 had the perception that engaging all the participants for an hour effectively could be a huge challenge. P3 also shared that staff turnover could make the same CME curriculum challenging for the organization.

P9 shared: *"I do not see any weakness of the CME because it is a useful class for all the health professionals but we need to divide topics for the month which include all the practice use in all department and allocate a person for a month to present."*

DISCUSSION

The diverse educational backgrounds of participants which include doctors, nurses, mid-level healthcare workers, laboratory technicians, radiographers, pharmacists, psycho-social counselors shared significant importance of daily CME with a focus on interprofessional collaboration. Driel, et al highlighted the importance of interprofessional education in CME which has benefits for patients.[15] Curran et al (2010) described CME as professional support for rural physicians for their recruitment and retention.[16] CME is found to be supportive and encouraging for physicians working in remote and rural areas of Nepal.[5] Driel et al emphasized patient's care improves with inter-professional education which can conducted a FGD (focus group discussion) in Belgium to study the perceptions of general practitioner (GP) in palliative care and concluded that workplace inter-professional learning of GPs and nurses is better than undergraduate and CME learning to provide palliative care.[17] Daily CME can become a platform for team building for quality clinical care.

All the participants shared that majority of rural hospitals in Nepal lack a daily CME system. It was found that the daily CME of the hospital evolved over the period of time, from small group discussions to laptop only presentations to discussion using a projector. This study found daily CME is valuable in sharing national guidelines and protocols. Khanal, et al. found poor adherence to national guidelines by primary healthcare providers while studying the effect of academic detailing programmes on childhood diarrhea management in Banke district of Nepal.[18] Gauchan, et al. found that CME curriculum can be targeted to mid-level providers and nurses based on needs assessment of the community where the hospital is located.[10] Daily CME provides an opportunity for rural hospitals to have a CME system and can become helpful to strengthen national guidelines to deliver homogenous and quality clinical care to patients even in remote and rural areas of Nepal.

The study found that daily CME helps to improve presentation skills, public speaking skills, and enhance knowledge of health professionals. Setia et al. shared that improvement of patient care and outcomes of clinical care are the objectives of CME and it ensures improvement of knowledge and skills of clinicians.[19] The study found that the daily CME is helpful for mid-level providers, nurses and doctors to provide better clinical care to patients. Daily CME helped health professionals to share clinical protocols, protocols for rational use of medicines and provide constructive feedback for better clinical care. It was found that daily CME provides a platform to share valuable information like availability of medicines and diagnostics. Grad et al. highlighted the importance of the CME module in encouraging evidence based medicine.[20] One of the benefits of CME in remote and rural areas has to be better patient care as highlighted by the World Health Organization (2010) in addition to its support for recruitment and retention.[21]

Evidence based medicine is the heart of modern clinical care. Participants of this study recommended adding evidence-based practice, practical skill-based sessions, use of Nepali language, nursing sessions and clinical simulation role plays. There seems to be a demand for professional presenters from different specialties to facilitate the CME sessions. Bahador, Pazooki & Kabir studied and recommended increasing the capacity of CME programmes for greater participation of audiences and improving CME credit.[22] One of the recommendations is to increase focus on interprofessional education to improve clinical care in health care.[23] Public health professionals urged that CME for health

professionals is necessary in all healthcare systems globally and there needs to be an ethical obligation for CME to improve care for patients.[24] The design of the CME sessions are necessary as found in this study.

Daily CME can have challenges in spite of significant impact on patient care such as accessibility to CME sessions, diverse educational backgrounds of participants, varying clinical responsibilities and large number of participants and utilization of clinician's time for patient care than CME sessions. Large numbers of participants could limit interactions during the CME sessions. Accessibility of CME sessions is a challenge for rural physicians in Canada.[16] It is the same challenge in rural areas of Nepal. Naeem & Bhatti found by using cross sectional survey that the rural primary physicians in the Multan district of Pakistan have significantly less access to resources which provide continuous and updated clinical information.[25] Voort et al found that lack of adequate training to provide healthcare services is also a challenge of family physicians in Kenya.[26] This challenge can be true for the health professionals in Nepal. Grad et al (2014) have stated the importance of evidence-based medicine and this is a challenge for rural and remote areas of Nepal as generation of quality evidence is a difficult task in such places.[20] Bowman shared the trend of CME to be more interactive in his commentary article and emphasized that the quality of CME matters and shared that there can be challenges in rural areas and CME sessions can help facilitate efficient rural clinical practice.[27]

According to the World Bank (2020) 80 percent of people in Nepal live in rural and remote areas.[28] Bebbington & Unerman (2018) emphasized that all goals of Sustainable Development Goals, including goal number 4 for quality education, promote life-long learning.[29] This is especially true for health professionals as the field of clinical medicine is ever changing and they have to learn continuously in order to provide high quality healthcare services. There is a lack of structured CME in rural and remote areas of Nepal and health professionals, including doctors, have to work in isolation in such areas.[30] There are few scientific studies on CME for doctors in rural areas of Nepal, and there are none for CME for other health professionals including mid-level healthcare workers and nurses. In rural and remote areas, in order for people to access healthcare workers, the World Health Organization (2010) recommended four key interventions and education was one of them.[21] There is a need to design and study the implications of structured CME for diverse health professionals who provide healthcare services in rural hospitals of Nepal. This study can be considered as the foundational research on daily CME and its impact on both health professionals and quality of clinical care for patients demanding for further study designs. Basnet et al. urged to promote CME among Nepali doctors and health assistants based on cases from out-patient and in-patient departments.[11] Structured CME sessions for health professionals might improve the health of the population in rural communities and need further scientific study including implementation research and designs to gather more evidence. There is a need to document the impact of CME sessions on the overall rural healthcare system.

CONCLUSION

This qualitative study was instrumental in generating evidence from semi-structured in-depth interviews from health professionals working in a rural district level hospital in Nepal about the impact of daily CME on their professional development and healthcare services. Their perspectives on daily CME can guide to its further improvement and are helpful to advocate for structured CME in all the rural hospitals of Nepal. All the participants of the study shared that daily CME sessions have significant influence on their professional development and are helpful in improving clinical care of patients in the hospital. Majority of the aspects of daily CME can be applied in other rural hospitals of Nepal as recommended by the participants of the study. Based on the findings of this study further research can be designed for robust CME sessions for diverse health professionals working at the same hospital which can have relevance in Nepal, as well as other low and middle income countries (LMICs) globally.

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