Midwifery 116 (2023) 103547

Contents lists available at ScienceDirect

Midwifery

journal homepage: www.elsevier.com/locate/midw

Diverse pre-service **midwifery** education pathways in Cambodia and Malawi: A qualitative study utilising a **midwifery** education pathway conceptual framework

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ARTICLE INFO

Article history:
Received 5 August 2022
Revised 4 November 2022
Accepted 7 November 2022

Keywords:
Midwife education
Maternal and newborn health
Human resources for health
Malawi
Cambodia

ABSTRACT

Objectives: Educated and skilled midwives are required to improve maternal and newborn health and reduce stillbirths. There are three main approaches to the pre-service education of midwives: direct entry, post-nursing and integrated programmes combining nursing and midwifery. Within these, there can be multiple programmes of differing lengths and qualifications, with many countries offering numerous pathways. This study explores the history, rationale, benefits and disadvantages of multiple pre-service midwifery education in Malawi and Cambodia. The objectives are to investigate the differences in education, roles and deployment as well as how key informants perceive that the various pathways influence workforce, health care, and wider health systems outcomes in each country.
Design: Qualitative data were collected during semi-structured interviews and analysed using a pre-developed conceptual framework for understanding the development and outcomes of midwifery education programmes. The framework was created before data collection.
Setting: The setting is one Asian and one African country: Cambodia and Malawi.
Participants: Twenty-one key informants with knowledge of maternal health care at the national level from different Government and non-governmental backgrounds.
Results: Approaches to midwifery education have historical origins. Different pathways have developed iteratively and are influenced by a need to fill vacancies, raise standards and professionalise midwifery. Cambodia has mostly focused on direct-entry midwifery while Malawi has a strong emphasis on dual-qualified nurse-midwives. Informants reported that associate midwifery cadres were often trained in a more limited set of competencies, but in reality were often required to carry out similar roles to professional midwives, often without supervision. While some respondents welcomed the flexibility offered by multiple cadres, a lack of coordination and harmonisation was reported in both countries.
Key conclusions: The development of midwifery education in Cambodia and Malawi is complex and somewhat fragmented. While some midwifery cadres have been trained to fulfil a more limited role with fewer competencies, in practice they often have to perform a more comprehensive range of competencies.

Abbreviations: CMA, Community Midwifery Assistant; NMT, Nurse- midwife technician; ICM, International Confederation of Midwives; INGO, International non-governmental organisation; MMR, Maternal Mortality Ratio; MOH, Ministry of Health; WHO, World Health Organisation; BSc, Bachelor of Science.

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https://doi.org/10.1016/j.midw.2022.103547

Implications for practice: Education of midwives in the full range of globally established competencies, and leadership and coordination between Ministries of Health, midwife educators and professional bodies are all needed to ensure midwives can have the greatest impact on maternal and newborn health and wellbeing.

Background

Skilled midwives are essential in reducing maternal and newborn mortality and improving access to quality care across the continuum of antenatal, birth and postpartum periods. A substantial increase in coverage of midwife-delivered interventions globally could avert 41% of maternal deaths, 39% of neonatal deaths, and 26% of stillbirths, equating to 2.2 million deaths averted per year by 2035 (Nove et al., 2021). For this to be achieved, midwives must have the competencies to deliver quality care within a health care system that supports their scope of practice. The International Confederation of Midwives (ICM) defines a midwife not just by their role, but by their education and the competencies they have developed (International Confederation of Midwives [no date]).

There are three main approaches to midwifery education: direct entry, where students enter without prior health qualifications; post-nursing, where the student has already obtained a nursing qualification; and integrated, where students study for dual qualifications in nursing and midwifery. ICM recommends a minimum duration of 36 months for direct entry programmes and 18 months for post-nursing programmes. The *State of the World's Midwifery* 2021 report (SoWMy 2021) highlighted that many countries have multiple midwifery education pathways which vary markedly in the level of qualification, duration, accreditation and assessment (UNFPA et al., 2021). The report called for further research to explore how these different pathways function within a wider health system, and the advantages and disadvantages of a diverse midwifery workforce.

This study explores the history, rationale, benefits and disadvantages of multiple pre-service midwifery education pathways in Cambodia and Malawi. It aims to investigate the differences in education, roles, and deployment of graduates from the different pathways, while identifying how respondents' perceptions of workforce, health care and wider health systems outcomes are influenced.

Methods

Study design

A qualitative approach was used by applying a bespoke Midwifery Education Pathway conceptual framework. Cambodia and Malawi were chosen because they have multiple midwifery education pathways. Approval was obtained from the University of Southampton (ERGO 69,309.A1) as well as through the ethics procedures in the Ministries of Health (MOH) in Malawi and Cambodia.

Development of the conceptual framework

Our framework draws on two existing frameworks: Fujita et al. (Fujita et al., 2011) and the WHO Human Resources for Health Action Framework (World Health Organization, 2011). It identifies that history, socio-economic contexts (including donor policies), and broader health policies influence the supply and demand for midwives and the availability of financial resources to support the midwifery workforce. The framework recognises that these factors aid understanding, and that they influence policies, strategies and attitudes. For this reason, broader contextual factors were explored during the study and are described in the results section rather than in the background section.

Our framework recognises outcomes in three categories: the midwifery workforce (career trajectories and the broader development of the profession); healthcare outcomes and the effective coverage (accessibility, acceptability, affordability, availability and quality) of maternal and newborn health care; and wider health systems outcomes (e.g. cost-effectiveness and efficiency).

Country selection

Data collected by ICM for the SoWMy 2021 report (Direct Relief 2021) indicate that many countries offer more than one midwife education pathway. Of these, 19 countries offer one or more programmes that meets the ICM recommended duration as well as one or more that does not. From this group of 19 countries, Malawi and Cambodia were selected because both are low-income countries offering direct-entry and post-nursing midwife education programmes, with 19 and 14 institutions providing some form of midwifery training in Cambodia and Malawi respectively. Both have achieved major declines in maternal and neonatal mortality (World Bank, no date) and have relatively high levels of skilled birth attendance[1] (World Bank, 2022): In both countries the majority of births are attended by nurses or midwives (74% in Cambodia and 67% in Malawi: DHS Statcompiler, 2022). The maternal mortality ratio (MMR) remains very high in Malawi at 349 maternal deaths per 100,000 live births. While it is lower at 160 per 100,000 for Cambodia, this is still well over the 2030 global target of fewer than 70 deaths per 100,000 (World Bank 2020). The two countries are at different stages in terms of addressing maternal health. There are numerous reasons for this, e.g. variations in timely access and quality of maternal and newborn care (Leslie et al., 2016) and the impact of HIV and malaria (Colbourn et al., 2013) in Malawi. It was anticipated that the selection of two countries which are similar in some ways but experiencing different mortality rates would provide useful information about how the existence of different cadres of midwives might affect progress on improvements to maternal and newborn health.

Study participants

Key informants were purposively sampled in each country including representatives from:

- Government/MOH and key non-governmental service providers
- Other policy organisations, e.g., United Nations institutions
- Major international non-governmental organisations (INGOs) involved in midwifery development and education,
- Midwife educators and managers, and

[1] Skilled attendance is defined in this indicator as the proportion of births attended by skilled health personnel (doctors, nurses or midwives) trained in providing lifesaving obstetric care, including giving the necessary supervision, care and advice to women during pregnancy, childbirth and the post-partum period; to conduct childbirth on their own; and to care for newborns.

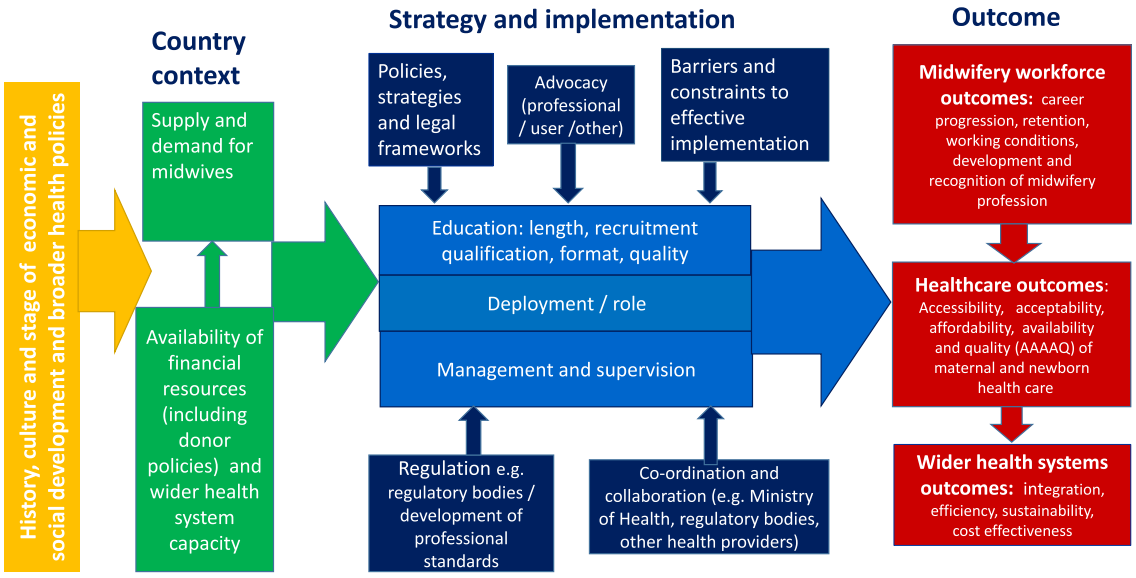

Fig. 1. Conceptual framework for understanding the development and outcomes of midwifery education programmes.

- Professional and regulatory bodies for midwifery and other health professions.

An initial list of potential informants was identified in each country and then refined through discussion with national experts. This list contained 10 informants per country (20 in total). The United Nations Population Fund (UNFPA) country office contacted each person on the list by telephone or email to request their participation, and all agreed. Overall, 10 were midwifery educators or managers (public, private for-profit and private not-for-profit sectors), five were representatives of United Nations (UN) institutions or INGOs, two were from MOH and four were from regulatory bodies. The final number of respondents was 21 as one interview included two key informants.

Data collection

Interviews were undertaken face to face or online by three female authors with context-specific experience and interviewing skills (SV, MB and DL) and conducted in Khmer in Cambodia and English in Malawi. A few of the participants were known to the interviewers before the interviews, especially in Malawi, but there was no overt unequal power dynamics related to financial or supervisory responsibilities. A participant information sheet was provided in English (Malawi) and Khmer (Cambodia), which explained the nature and purpose of the study, and explained the voluntary nature of participation. Interviews lasted 30–60 min. The interview used a semi-structured tool (Appendix 1) piloted in each country for suitability. Written and verbal consent (recorded as part of the interview) was obtained. The interviews were supplemented by a rapid review of published and grey literature including national policies and guidelines. These more objective and factual data were triangulated and integrated with the data from the interviews in the findings.

Data analysis

Interviews were audio-recorded and transcribed (and translated where necessary into English) before being analysed (by SN, MB, DL and SV) using a thematic approach with findings mapped to the conceptual framework (Fig. 1). Data from the two countries were compared, with similarities, differences and overarching themes drawn out. Theoretical saturation was considered to have been achieved as no new themes or ideas were emerging in the later interviews. We utilized the Consolidated Criteria for Reporting Qualitative Studies (COREQ) checklist for guidance (see Appendix 2) in order to adhere to recognized standards for qualitative research (Booth et al., 2014).

Findings

The history of midwifery education in Cambodia and Malawi

As respondents may not have a particularly detailed understanding of midwifery history in their countries, factual information was gathered through existing peer-reviewed and grey literature but was discussed and augmented in the interviews. As history was defined in the conceptual framework as a key factor underpinning programme development this information was included in the findings rather than the background section. The midwife education system in both countries is rooted in history (Table 1), and a number of respondents in both countries reflected on how the historical evolution of midwifery in their countries has influenced the current training approaches.

In Cambodia, the system evolved after the fall of the Khmer Rouge in 1979, when an extreme shortage of health workers led to the introduction of a short training programme for “primary midwives.” (Fujita et al., 2013). Over the following decades, midwifery became increasingly professionalised with longer and more advanced education programmes (although this process was not linear and suffered several setbacks), including direct entry Bachelor of Science (BSc) and associate degree programmes in the last 20 years. Although a post-nursing qualification was introduced, the focus has been almost exclusively on direct entry programmes.

Malawi, in contrast, has a longer history of formal midwifery education (Bradley, 2018). From the 1950s, multi-purpose health workers (later known as nursing and midwifery technicians – NMTs) attended the majority of births. The education of professional midwives was introduced in the 1970s, but midwifery education was either integrated with nursing education or post-nursing, with a focus on nurse-midwives until 2016 when a direct entry degree was introduced. In 2007, a new cadre, the Community Midwifery Assistant (CMA), was introduced to provide health promotion and be a link with health facilities in rural areas.

Respondents in both countries spoke consistently of two distinct groups of “higher-level” and “lower-level” qualifications, al-

Table 1
Timeline for midwifery education in Cambodia and Malawi (Fujita et al., 2013; Godlonton and Okeke, 2016; Bradley, 2018; Ros et al., 2019).

Year	Cambodia	Malawi
1920s		*Late 1920s* Small scale and uncoordinated moves to develop midwifery education mostly through mission hospitals with most only offering very basic skills.
1950s	*1950* Start of three-year direct entry midwifery training for small numbers of students.	*1956* More standardised enroled nurse-midwife programme introduced, which later became the nurse-midwifery technical qualification. *1966* The Nursing and Midwifery Council was established with a role to regulate the nursing and midwifery profession, set standards, accredit education institutions and programmes.
1970s	*1979* Fall of Khmer Rouge Regime. Severe lack of health care staff. Provincial training centres were set up to prepare midwives using short 4–6 month programmes, initially with no standardised curriculum. These became known as "primary midwives," and the objective was for them to work in health centres.	*Late 1970s* Professionalisation of midwifery with the introduction of the direct entry BSc nursing and midwifery and post-nursing certificate and MSc programmes. Until this point all programmes either required or led to dual qualifications in nursing and midwifery.
1980s	*Early 1980s* Direct entry "secondary midwifery" programmes established, mostly designed for hospital roles. *1989* Primary midwife training stopped, but a bridging programme was introduced to allow primary midwives to upskill to secondary midwives.	
1990s	*1994* All midwifery education suspended as part of a Government strategy to rationalise health personnel. *1994* Cambodia Midwives Association introduced to support and develop the profession.	*1997* The Association of Midwives in Malawi was established to provide leadership in midwifery and advance and safeguard interest and welfare of midwives in Malawi.
2000s	*2004* Continuing high MMR led to measures to professionalise midwifery, with a direct-entry three-year associate degree introduce. *2006* Cambodian Midwifery Council established to promote high standards of professional midwifery practice through registration and accreditation.	*2007* Presidential Decree that women should not give birth with Traditional Birth Attendants but should have access to skilled health care staff. A new cadre of Community Midwifery Assistant (CMA) was introduced, which offered an 18 month programme. CMAs were intended to act as a link between community and health system, promote health and encourage use of health clinics for delivery.
2010s	*2012* Four year Bachelor's degree programme introduced. *2013* Primary nurse education ended, with a continued focus on professional education programmes.	*2016* The first registered direct entry programme for solely midwifery (BSc Direct Entry Midwifery) was introduced.

though the terms and phrases they used varied. For this paper, we refer to "professional midwives", which includes the BSc, Associate degree and "3 + 1" post-nursing programme in Cambodia, and the three BSc programmes and university certificate in Malawi. Graduates of other programmes are referred to as "associate midwives", which include in Malawi the NMT and CMA programmes, and the now-discontinued primary midwife programme in Cambodia.

The Malawian Nurses and Midwives Council estimates that the country has 13,000 midwives of which 5000 are in the professional category (Personal communication with interviewer, 2022). However, a census of the number of midwives practising in 2017 found that just 3420 of the professionals were practising, and estimated Malawi needed 20,217 additional midwives (White Ribbon Alliance, 2017). Cambodian public workforce figures suggest there are around 2500 professional midwives and 4500 associate midwives working in the public sector (Cambodian Health Congress, 2021). Recent UNFPA reports estimated that the workforce could meet 83% of population needs in Cambodia and 45% in Malawi, confirming staffing gaps in both countries, especially Malawi (UNFPA et al., 2021; United Nations Population Fund East and Southern Africa Regional Office, 2022).

Cambodia has three pathways (two direct-entry and one post-nursing), all of which lead to professional qualifications (Tables 2 and 3). The numbers qualifying via the post-nursing route are very small in comparison to the direct-entry programmes. The associate pathway ceased in 2013 (although they are still heavily represented in the current workforce). Malawi has six pathways, four of which lead to a professional qualification. One of these is direct entry, and numbers remain small (the first cohort graduated in 2019) so the majority of the midwifery workforce are nurse-midwives qualified through either an integrated or post-nursing programme. Malawi also has associate professional midwifery education programmes, one of which provides a dual qualification with nursing. Both countries require midwives to renew their registration regularly but do not require hands-on midwifery practice to do so.

In both countries, there was general agreement that the competencies included in the curriculum for professional qualifications were essentially very similar, except with a greater focus on management and research in the BSc programmes. Cambodia is currently reviewing the curriculum for all qualifications and aligning content with ICM competencies. The extent to which the programmes reflected ICM competencies was less clear in Malawi, but a recent report found the BSc direct entry programme was the only one in East and Southern Africa which aligned with ICM's competencies (United Nations Population Fund East and Southern Africa Regional Office, 2022).

Opinions on the advantages of dual nurse-midwifery qualifications and midwifery-only programmes differed between the two countries. In Cambodia, there was recognition that a one-year post-nursing programme could not expose students to the same level and experience in midwifery as the direct entry options, and concerns were raised that they did not meet the minimum duration recommended by ICM: As one respondent from a policy and donor organisation admitted:

"For midwifery, at the global level, they have to study for 18 months for the full midwifery skills. While ours, we add only one year [for midwifery skills]." Policy/donor organisation, Cambodia (1/3)

In Malawi, while the focus on midwifery skills in the new direct-entry BSc programme was acknowledged by one respondent, the flexibility and breadth of skills provided by dual qualification were highlighted, and the two skillsets were seen as integrated and complementary. A participant from an INGO and professional organization stated:

"I think Malawi is afraid to have only a nurse who is not a midwife or a midwife who is not a nurse because of the shortages. Because remember when you are at a hospital as a midwife, you can go

Table 2
Current midwifery education pathways in Cambodia.

	Professional midwifery qualifications			
	BSc direct entry midwifery (BSM)	Associate degree midwifery (ADM)	Post nursing midwifery certificate (3 + 1) (BNM)	Bridging (ADM to BSM) = BBM
Programme duration	4 years	3 years	1 year	1.5–2 years
Year programme started	2019	2008	2007	2019
Criteria for admission	Selected from high school (high school certificate)	Selected from high school (high school certificate)	Nursing qualification	Midwife qualification

Table 3
Current midwifery education pathways in Malawi.

	Professional midwifery qualifications				Associate professional midwifery qualifications	
Malawi	BSc midwifery direct entry	BSc nursing and midwifery	BSc postbasic midwifery	University certificate in midwifery	Nurse midwifery technician (NMT)	Community midwifery assistant: direct entry (CMA)
Programme duration	4 years	4 years	2 years	1 year	3 years	1 year 6 months
Year programme started	2016	1979	1979	1979	1956 as enroled NM and upgraded to NMT	2013
Criteria for admission	Malawi Certificate of Education and selected by University Council		Diploma in Nursing and Midwifery, Diploma in Nursing or Certified Midwife, 2 years' clinical experience	Diploma in Nursing or BSc in Nursing	Malawi Certificate of Education	

between the labour ward and the general ward but so to me this is some way or some type of exploitation, but this is the challenge that the ministry has." INGO / professional organisation, Malawi (2/7)

In both countries, the number and level of competencies taught to the associate cadres were fewer and more limited than for the professional cadres. For example, associates were expected to attend uncomplicated births only, although their skills were upgraded in emergency obstetric care by in-service training.

In terms of education quality, a lack of highly educated teachers was mentioned in Cambodia. This was particularly the case for the new BSc programme. In many cases, students were taught by staff with lower qualifications than the programme they were teaching, particularly as there were no postgraduate programmes in midwifery. This was not an issue in Malawi, which had opportunities to study at the postgraduate level for midwives.

Policy, strategy and implementation

Recruitment and deployment

Respondents in both countries reported a midwife shortage. In Cambodia, there was less consensus over actual numbers: several respondents thought there were enough graduates, but inequitable geographical distribution. In Malawi, the reported shortage was also concentrated in rural areas, but with few professional midwives working in primary health centres even in urban areas.

Newly graduated midwives in Cambodia are required to pass a further exam before being authorised to work in the public sector. A significant number each year fail the exam and tend to work in the private sector. Provincial Health Departments request midwives based on a nationally agreed protocol, and specify the type of midwife (e.g. BSc or associate degree). They rarely get all the midwives they request, particularly in rural areas.

Recruitment of Malawian midwife graduates was mostly by the MOH but also through the Christian Health Association of Malawi (CHAM) and local governments who recruited midwives for primary health care level in a decentralised process. There was some criticism of the lack of co-ordination between the MOH and education institutions in both countries over the production and deployment of graduates.

In Cambodia there is no real differentiation between the two professional-level qualifications (BSc and associate degree) in terms of deployment and responsibilities, although there is a difference in pay. There is less demand for the professional nurse-midwives, who often return to their former nursing jobs after qualification and are required to pass a further examination to apply for midwife jobs. Associate professional midwives are supposed to be supported by professional colleagues, but in practice they are often the only available health worker in a rural health centre (although often with many years of practical experience).

In Malawi, professional midwives are supposed to work in both health centres and hospitals, but in practice they almost exclusively work in hospitals and urban health centres. Most health centres outside cities are staffed entirely by associate professionals. CMAs were intended to work exclusively in the community and only attend births if there was no other option, but the infrastructure has not been set up to support them in this role and so they are deployed to health centres, and in some cases, district hospitals. One participant described just such a scenario:

"Unfortunately the programme was not very well thought out because after qualified this midwife was not given any amenities like a delivery pack … to keep in the village. Little was any thought about where she was going to conduct these deliveries… So when they qualified, they ended up at the health centres. So, in most of the health centres now … you will find that there are community midwives in the labour ward supported by the NMTs. But because of our shortages you find these people in the labour ward alone." INGO / Professional organisation, Malawi (2/7)

Roles and responsibilities within the workplace

In Cambodia, professional midwives are meant to attend most births (including complicated cases) with the support of associate professionals. However, associate professionals are often alone, es-

pecially in rural areas, and provide all care for women and their newborns. The tasks performed depend on the availability of staff:

"When we go to work … we won't just follow our capacity limit. If our workplace lacks human resources, we will also have to be flexible." Midwifery manager/educator, Cambodia (1/4)

In many hospitals in Malawi, professional midwives spend little time in client-facing roles and are mostly engaged in administration. It was acknowledged in both countries that most direct contact with clients was carried out by the associate professionals:

"When you look at these lower cadres yes, they are the ones maintaining the health system - I am sorry to say." Midwifery manager/educator, Malawi (2/6)

Division of roles and the notion of teamwork were not always clear. For example, in Malawi it was not well accepted for associate professionals to call on their professional colleagues for assistance:

"If you practice like that, they take you to be lazy [because you call the senior person to review the patient] the senior person would say "why do you like calling others?"." Midwifery manager/educator, Malawi (2/8)

In Malawi, the deployment of professional midwives from the direct-entry BSc programme was problematic. Managers liked the flexibility of nurse-midwives and would often rotate them to other departments. It has proved more difficult to place the new BSc midwifery graduates as they cannot perform a broader nursing role in addition to midwifery. Several respondents mentioned that many nurse-midwives did not practise as midwives, which deprioritises midwifery:

"Maybe the concentration was too much on nursing, they thought that by training someone on both nursing and midwifery is going to have an impact, positive impact on midwifery but from my observation it has negative impact because midwifery is seen as a last thing. And not many people like midwifery so even if they are trained in both, they find way to sneak or do away with midwifery." Midwifery manager / educator Malawi

Supervisory and management structures tended to be the same for the different cadres, although there was an implicit assumption in Cambodia and a more formal agreement in Malawi that the professionals should take a supportive and supervisory role for the associate professionals. Again, the degree to which this happened depended on the individual workplace. As a respondent from Malawi explained:

"So, in this case, there is almost a hierarchy to say, a registered midwife with a bachelor's degree, registered midwife with a diploma, and then NMT. NMT reports to the one with a diploma, and the one with diploma reports to one with a bachelor's degree." Midwifery manager / educator Malawi (2/8)

Outcomes

Midwifery workforce outcomes

In terms of career progression, in Cambodia little difference was perceived between professional midwives with a BSc and those with an associate degree.

"They all work the same. The same, they can help in delivery." INGO / professional organisation Cambodia 1/3)

The only way for an associate midwife to progress is through one of the bridging programmes offered to upgrade their skills. It was suggested a professional nurse-midwife may have less opportunity for progression than a single qualification professional midwife.

In Malawi, professional midwives often leave the public sector and work for non-governmental organisations or move abroad. Retention is far greater amongst associate professionals, who have fewer alternatives for employment:

"There are some who are moving out the system, they would join the NGOs or they might even join CHAM [Christian Health Association of Malawi]. *Wherever they think they will get the green pasture. We have lost so many only that we don't have figures."* Government / Ministry of Health, Malawi (2/1)

Professional midwives who did stay in the public sector often wanted to move to management, but as the role normally was as a Nursing Officer covering areas of care beyond just maternal and newborn care, their options were limited. amongst the associate cadres, NMTs can take a bridging course to become professional midwives, but this option is not available for CMAs.

In both countries, the multiple pathways were not perceived to affect midwifery as a profession either positively or negatively. The general perception was that the different cadres all had their place and gave opportunities for a wide range of individuals with different backgrounds and qualifications to practise at different levels. While several respondents in Malawi recognised that ideally, all midwives should be professional midwives, no one thought this was currently feasible either in terms of supply of staff or financial resources.

Healthcare and broader health systems outcomes

Most respondents in both countries felt that all cadres provided an adequate standard of care and fulfilled the criteria set down by World Health Organisation (WHO) for a skilled birth attendant (World Health Organisation (WHO), 2018). A few felt that some of the associate professional cadres did not achieve this, particularly the Malawian CMAs. In Cambodia, a few respondents criticised the duration and content of the associate professional education programme but still felt that associate midwives performed well as they gained practical experience on the job and in-service training. There were no formal evaluations in either country of the competencies of the different cadres and the quality of care they provided.

Respondents in both countries agreed that the vast majority of the population would not know the difference between the cadres and would have no preference or concerns. One of the Malawian respondents observed that many rural women would be particularly well-disposed towards associate professionals, who provided care to women in areas which had previously had no service.

The multiple pathways confused informants, who were often unaware of, or unclear about, the programmes that existed. In Cambodia there were also concerns that it was complicated and time-consuming to ensure consistency in curricula across the different programmes. In Malawi, while the post-nursing qualification was seen as a benefit, several pointed out it was not cost-effective as many of the graduates never practised midwifery. It also made it difficult to assess gaps in the midwifery workforce, as many with qualifications were working outside midwifery. The different qualifications were seen as an advantage by several respondents as it meant that different cadres could be deployed within specific settings:

"… as a policy maker, the advantage is that you can deploy them [nurse-midwives] accordingly. Because like the CMA you would deploy them to the communities, for the nurse-midwives they would go to the health centres, even now some who are at high levels, they are being deployed to the rural hospitals. You can deploy them according to different levels." Government / Ministry of Health, Malawi (2/9)

Discussion

The development of midwifery is strongly influenced by history in both countries. In Cambodia, catastrophic conflict in the 1970s resulted in acute and severe midwife shortages and an attempt to develop and deploy new cadres quickly to fill the void. In Malawi, midwifery has been more closely entwined with nursing with initial influence from the UK system due to the country's colonial past. The development of midwifery education in both countries

has been iterative, with policies and approaches changing over the years based on changing ideology, advice and evidence. A key finding and similarity is the tension between the desire to strengthen and develop the profession through enhanced pre-service education and the immediate need to fill staffing gaps as quickly and cost-effectively as possible.

Reliance on associate professional midwives, but divergence moving forward

Both Cambodia and Malawi depend heavily on associate midwives to provide care to women and newborns, particularly in rural areas where they are often the only available provider. However, Cambodia has now stopped training associate midwives and is focussing more on quality and professionalism than on headcount, whereas Malawi has introduced a new associate qualification which, while not initially intended to cover the full range of maternal and newborn health care, tends to do so in many areas.

A key theme in both countries was the difficulty in encouraging professional midwives (especially BSc midwives) to work in rural areas. In Cambodia, there was a gender element to the issue, where women did not want to work away from their families (similar to other research that highlighted safety in rural areas: Abe et al., 2021). Despite no longer educating associate professional midwives, Cambodia is still reliant on them even though many are approaching retirement. Filling these gaps with professional midwives may prove challenging.

Recruitment and retention of health workers in rural areas in many countries is a widespread challenge. The development of specific cadres that are recruited from rural areas and then deployed back to their home villages is a well-used approach (Speakman et al., 2014). However, training is often short (as is the case in Cambodia and Malawi) and in many countries, rural dwellers have limited schooling opportunities, leading to concerns about quality. A recent systematic review identified interventions such as identification of rural candidates, location of training facilities in rural areas, and supporting existing rural employees to upgrade their qualifications as being associated with higher retention. Flexible approaches have also been used in high-income contexts where students can access part of their programme online with experience gained in local facilities with blocks of training in larger centres (Patterson et al., 2015). There is a concomitant need to invest in transport infrastructure to support referrals as well as ensure rural midwives have the resources they need to practise effectively.

National policies often delineate separate roles for the different cadres, but in reality, associate cadres take on greater responsibilities than intended due to staff shortages. In both countries, there was an underlying assumption that for associate midwives pre-service education was just the beginning, and they could develop further skills and competencies from experience, in-service training, or bridging courses. This assumes that these staff are deployed to a workplace where they get the support and guidance of more experienced colleagues as well as access to ongoing training and professional development opportunities. This is not always the case, with many associate midwives deployed to work without support or supervision in both Cambodia and Malawi. The concept underpinning associate cadres is that they can attend straightforward births or perform simpler tasks on their own while referring more complex cases to higher levels of care. This only works if a full team and a functional referral system are in place. In addition, while bridging courses are widely available, many midwives are not able to access them due to distance, cost or family responsibilities. It is therefore essential that all midwives have been educated in the full range of ICM competencies before deployment to practice safely. In Cambodia in particular improvement of midwifery training is dependant on the need to develop the academic skills and practice of midwives with training responsibilities through postgraduate and ongoing in-service education opportunities.

Midwives as a distinct occupational group versus nurse-midwives

One of the other key differences between the two countries is the approach to education, that is, direct entry in Cambodia and an integrated and post-nursing approach in Malawi. Integrated approaches are not supported by ICM (International Confederation of Midwives, 2021) as they consider the development of midwifery competencies will be compromised. Direct entry into midwifery provides a more focused education which also helps promote the development of a strong and autonomous midwifery profession (Sandall et al., 2002). On the other hand, post-nursing and integrated programmes may offer workforce flexibility. There is little evidence in the existing literature about how outcomes differ between approaches: one study suggested direct-entry and post-nursing midwives had higher levels of confidence compared to integrated nurse-midwives which supports the ICM's stance, but no evaluation data was available on competence (Lindgren et al., 2021).

Processes within health systems often make it difficult to have multiple approaches Moves toward direct entry midwifery qualifications are becoming more common globally (Sandall et al., 2002), but the Malawian experience demonstrates that changing from one strategy to another requires more than simply developing new educational programmes: wider health systems are aligned with specific approaches to midwifery education, so any change needs wider adaptation, consultation and coordination of health service and human resource management.

The need for leadership, management and collaboration in midwifery development

Moving forward in the development of midwifery education requires strong leadership and a clear vision for the future. The role of professional associations, which have a focus on the development of the profession, is key. There needs to be coordination between the MOH and other health care providers (including private and not-for-profit) and regulatory bodies in terms of planning needs and deployment. Employing midwives at senior levels, including within the MOH, is also key to ensuring professional needs are recognised.

Strengths and limitations of the study

Our study has successfully illustrated the complexities of midwifery training and both their drivers and outcomes. Drawing on a range of key informants with different backgrounds has enabled these to be explored from different perspectives and provided nuanced analysis. Our framework proved an appropriate tool on which to structure our analysis and may be useful for other researchers who wish to explore the complexities of midwifery training pathways in other settings. Ideally it would also be beneficial to incorporate the views of the midwives themselves as well as service users. We had hoped to included representatives from maternity service-user advocacy groups, but this had in practice not proved possible. It must also be remembered that the findings cannot be generalised across countries, and a more extensive research agenda that explores the potential benefits and disadvantages of multiple midwifery pathways from a broad perspective within a range of settings could be valuable in understanding how best to maximise the impact of midwifery training programmes.

Conclusion

This study highlights the complexity of midwifery education pathways in two countries, Malawi and Cambodia, and the factors that influenced their development and continuation. History plays a role in the development of midwifery education in all countries but is also clear that it is an iterative process driven by often competing factors such as, on the one hand, a desire to professionalise and strengthen the profession and on the other resource and staffing shortages and constraints. Both countries we examined, from different continents and with different historical, cultural, and governmental systems, have made significant progress in developing and professionalising midwife education, but face challenges in ensuring that all births are attended by suitably educated, supported and supervised midwifery staff, particularly in rural areas. We recommend that countries focus on ensuring all midwives are equipped with all ICM competencies to provide high-quality care.

Funding source

This work was funded by a grant from the New Venture Fund (reference NVF-NGDF-NOV10_Subgrant-014,350–2021–05–01).

Authors' contributions

All authors conceptualised the research idea. DL, MB and SV carried out, transcribed and translated the interviews. SN analysed the data and wrote the first draft. All authors offered substantive comments on this and subsequent drafts.

Declaration of Competing Interests

Andrea Nove reports financial support was provided by New Venture Fund.

Acknowledgements

Carey McCarthy (Technical Officer, Nursing and Midwifery at the World Health Organization) made helpful comments on an early draft of this paper. Pros Nguon and Grace Hiwa from the UNFPA country offices in Cambodia and Malawi provided valuable support with identifying and contacting key informants. We also thank the key informants themselves for giving up time to be interviewed. Martin Boyce of Novametrics provided valuable support with contract management.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.midw.2022.103547.

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