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Exploring workload of midwives and nurses in performing health service activities at health centers in Cambodia

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ABSTRACT

Introduction

In Cambodia, proper management of the health workforce is one of the major challenges faced by the current health system, particularly the uneven distribution of nurses and midwives at the health center level. This study aimed to explore the current workload of health staff and the skill mix needed at the health center.

Methods

We used the data from the study of the Workload Indicators of Staffing Needs (WISN) for health centers in Cambodia, 2019 and 2020. There were 24 public health centers in six provinces with a total of 214 staff, both health staff and non-health staff. The WISN tool was employed to calculate the workload and the staff requirement for health centers.

Results

Across health centers, midwives and nurses spent 43% and 20% of their working hours, respectively, performing core health service activities, while other 57% and 80% of their working time were used for support activities. These included meetings, reporting, training, supervisions, data management, outreach/community activities, finance & administrative tasks, and so on.

Conclusions

Nurses and midwives are mostly occupied with support activities rather than actual core health service activities. Therefore, there is a need for diverse public health skills at the health center level to support this such as management, planning, administrative, finance and community outreach, etc. Therefore, the public health workforces should be employed to improve work efficiency and consequently giving time to nurses and midwives using their technical skills to improve the performance of the primary health at the grassroots level.

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Introduction

Globally, the shortage of the health workforce has been one of the major challenges in achieving Sustainable Development Goals (SDGs) [1]. This problem has reached a critical stage in the South-East Asia Region countries in limiting access to health care services [2]. According to the global strategy on Human Resources for Health (HRH) workforce 2030, the estimated global shortage of skilled health workers will be around 18 million by 2030 [3]. In 2013, the needs-based shortage of health care workers was estimated to be about 17.4 million, of which almost 2.6 million were doctors, approximately 9 million were nurses and midwives, and the remainder represents all

other health worker cadres. In Thailand, the nurses will be a critical shortage of the health workforce by 2026 [4]. The shortage in absolute terms is highest in South-East Asia due to the large populations of countries in this region, particularly health workforces related to skill-mix and retention [5].

The health workforce is one of the requirements to achieve Universal Health Coverage (UHC) [6] in which has been adopted by all countries to ensure effective coverage of primary health care services while reducing the financial hardship of the population. While each country has a different approach to achieving UHC, strengthening the health workforce is crucially important if the country wants to be successful in achieving UHC [7]. In addition, there is one-third of the world's population lacks access to health care because of gaps in the health workforce, especially at the health center level, the driving force of the primary health care [8]. According to World Health Organization (WHO), *primary health care is a whole-society approach to health and aims to attain the highest possible level and distribution of health and well-being by providing an accessible and wide range of services, including health promotion; disease prevention, treatment and rehabilitation; and palliative care* [9]. Improving the primary health care services is affected by the numerous health workforce challenges including shortages, capacity, and skills needed. Poor health workforce planning has been strongly associated with a lack of access to quality health care [10]. Currently, Cambodia's health system is organized into three levels including central, provincial, and operational district levels which can be classified into three service systems including primary, secondary, and tertiary health care. Within the system, primary health care plays a crucial role in integrated personal health care, public health function and ongoing referrals to hospital services. In the past, a range of health services has been hampered by a health workforce shortage and maldistribution.

In Cambodia, nurses and midwives together comprise 70% of the public sector health workforce which mainly work at the health center level [11]. To reach the universal coverage of quality health services, there is a need for the right number of health workforce with the right skills in the right place. Therefore, this study aimed to explore the current workload of health staff on health service activities and the skill mix needed at the health center.

Methods

This study used the data from the study of the Workload Indicators of Staffing Needs (WISN) for Health Centers in Cambodia, 2019 and 2020. The WISN is the WHO facility-based method for human resource management and planning. It allows assessing workload to determine staff requirements for health service delivery [12].

Annual working hours and non-annual working hours were determined using available government standard working calendar assuming a five-day, eight-hour a day working week **(Table 1)**. Then, these data were inputted into WISN.

Table 1: Available annual working time and non-working time

Description	Week/Day/Hour
Working hours per day	8 hours
Working day per week	5 days
Working weeks per year	42.2 weeks
Working days per year	211 days
Total number of working hours per year	**1,688 hours**
Annual leave	15 days
Public holidays	27 days
Sick leave	5 days
Special no notice leaves	2 days
Non-working weeks	9.8 weeks
Non-working days per year	49 days
Total number of non-working hours per year	**392 hours**

WISN tool was employed to collect data on all activities related to the health services delivery at the health center in 2019 and 2020 from 24 public health facilities (HCs) in 6 provinces including Oddar Meanchey, Koh Kong, Battambang, Svay Rieng, Kampot, and Ratanakiri. Four HCs were purposively selected from each province based on the HC's highest and lowest scores of H-EQIP (Health Equity and Quality Improvement Program). A total of 214 staff, both health staff (i.e. nurses, midwives, doctors, and lab technicians) and non-health staff (i.e. guard, cleaners) participated in the study through key informant interviews, in-depth interviews, observation, focus group discussion, and document review.

Then, the data were entered into the WISN program to calculate the staffing need for each HC. We accumulated the information from the WISN and grouped data into two types of required information includes services standards and allowance standards. A services standard is an activity standard for health service activities. An allowance standard is an activity standard for support activities and additional activities.

Finally, the data were imported into the Stata V16 for simple descriptive analysis on the working time of the health staff on the health services activities and by HC size. The size of HC was categorized according to the Minimum Package of Activities (MPA) operational guideline [13] as the following:

- Small HC is a health center with a catchment population of less than or equal to 8,000 people.
- Medium HC is a health center with a catchment population between 8,000 to 12,000 people.
- Large HC is a health center with a catchment population of over or equal to 12,000 people.

Results

Based on the available annual working hours, there was a difference between nurse and midwife on the average of working hours on the health services activities. Overall, nurses spent about 20% of their working hours on health service activities (ex: OPD, IPD, emergency, small surgery, and vaccination while 80% of their working hours such as spent on support activities such as administration, finance, management, community outreach etc. Midwives spent 43% of their working hours on health service activities and 57% of their working time on support activities **(Table 2)**.

Furthermore, stratified by HC size, nurses at the smaller HC spent even less than 20% of their working hours on health service activities while midwives spent between 32% and 44% of their working hours on service activities across different HC sizes **(Figure 1)**.

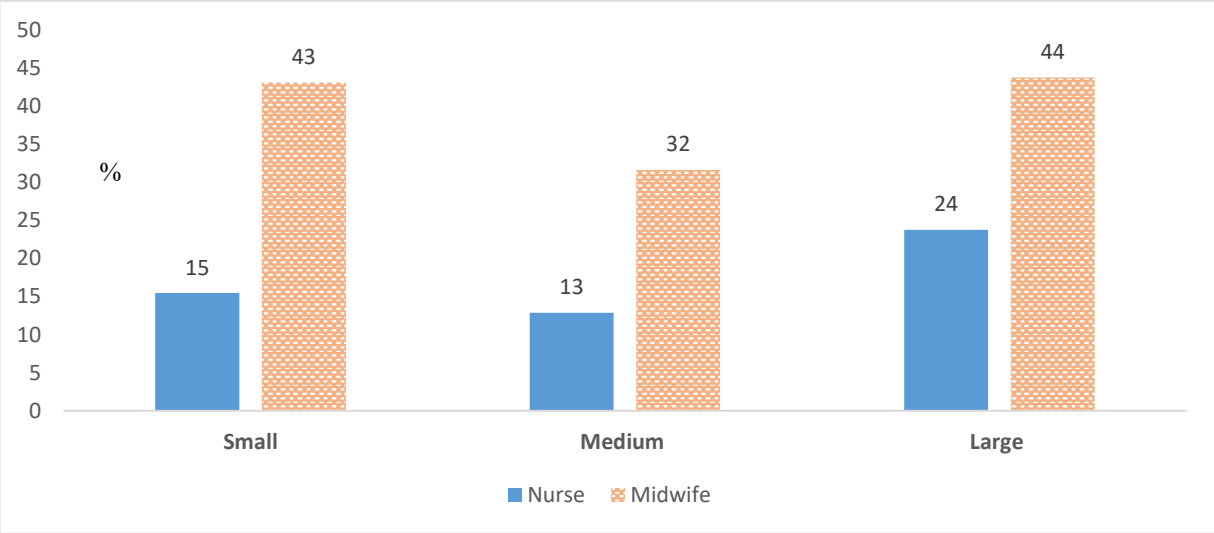
Discussion

Overall, the findings indicated that the health centers are suffering from the high workload with the supporting activities, particularly nurses regardless of the HC sizes. It is expected that the nurses would spend most of their service times providing nursing care. In contrast, nurses and midwives are mostly occupied with support activities rather than actual health service activities, which was similar to the study in Bangladesh [1]. Nurses' maximum time of 80% is spent on, meeting, training, supervising, data management, community outreach activities, finance, administrative, resulting in less productive and efficient primary health care activities they should work on. The findings found similar workloads patterns among the nurse and midwives across the different health centers. The unequal workload mainly links to the differing patient load, due to the geographical location, number of catchment population, and epidemiological characteristics, at different HCs. Workload pressure may occur from the shortage of skill mix of the health workforce, maldistribution, and the necessary skills needed [14]. Moreover, a few staff were not present at their health facilities for various reasons including continuing education, maternity leave, and deputation to another health facility, health post. All of these to some extents have affected the HC performance resulting in compromised service quality [10].

Table 2: List of main health services and supporting activities at the HC (Nurse and midwife)

Main health services activities	
1.	Out-patient department (OPD), in-patient department
2.	Emergency, small surgery, vaccination
3.	Antenatal care (ANC), delivery, postnatal care (PNC), family planning, nutrition & IMCI
Main supporting activities	
1.	Administration & finance
2.	Training on family planning, nutrition & IMCI, health information system, infectious disease tracking system, social accountability, malaria program, tuberculosis program, vaccination, treatment of hepatitis C
3.	Workshop and conference
4.	Community outreach on vaccination, family planning, malaria program, TB program
5.	**Reporting** - Report midwifery including ANC, PNC, family planning, delivery, nutrition and IMCI, OPD report, medicine and vaccine report, financial report, NCD report - Others report
6.	**Meeting** - Meeting with OD, referral hospital, provincial hospital department and outside the province - Monthly meeting with the commune, district, and provincial governance - Monthly meeting with Village Health Supporting Group (VHSG) and Village Malaria Worker (VMW), bi-monthly HCMC meeting - Social accountability meeting - Monthly staff meeting, meeting with partners - Annual midwifery meeting
7.	**Supervision** - Quarterly supervision and coaching from the operational district - Supervision other health centers
8.	**Health information system & data management** - Entry information to HC1 and to tablets
9.	**Medicine and materials** - Make a list of inventories (Medicine and materials)
10.	**Other activities** - Sterile materials - Clean the health center - 24- hour services - Join the public forum ect.

Figure 1: Percentage of working time on health service activities by the size of the HC



Conclusions

The findings indicated that nurses and midwives had been performing tasks that were not matched with their technical skills. Most of the available annual working hours were spent on support activities rather than health service activities. Mostly, these support activities are relevant to public health skills. Therefore, to increase the work performance of nurses and midwives' technical skills, support activities should be minimized by replacing them with public health skills at the HC level to improve the efficiency and effectiveness of the Cambodia health workforce.

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