Achieving universal coverage: Understanding barriers to rural placement for final year midwifery students

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ABSTRACT

Objective: The objective of this study is to understand the barriers final year midwifery students face when deciding to practice in a rural, deprived area.

Design: A cross-sectional study design using a computer based structured survey.

Setting: 15 of the 16 publicly funded midwifery colleges across all ten regions in Ghana.

Participants: A national sample of final-year midwifery students from publically funded midwifery colleges in Ghana.

Measurements: Basic frequencies and percentages were calculated for the variables cited as the top three factors motivating participants to study midwifery stratified by student type (post-basic versus diploma) and program location (urban, peri-urban, and rural). Odds ratios were calculated using separate logistic regression models to analyze the relationship between students’ experience with rural communities and how it affected their willingness to work in a rural area following graduation.

Findings: Eight hundred and fifty-six midwifery students (\(N = 856\)) completed a computerised survey for a response rate of 91.8%. The top motivation to study midwifery was ‘a desire to help others’. Over half (55%) of participants reported they will ‘definitely work’ (11%) or ‘were likely to work’ (44%) in a deprived area. When examined by student type and location of school, the top reason cited by participants was ‘to serve humanity’. Those born in a rural area, currently living in a rural area, or under obligation to return to a rural or peri-urban area had greater odds of being willing to work in a deprived area after graduation.

Key conclusions: Findings from our study are unique in that they examine the distinct motivational factors from a national sample of midwifery students about to join the workforce. Regardless of the type of student or the location of the school, midwifery students in Ghana were highly motivated by altruistic values. Strategies to address the rural shortage of midwifery providers in Ghana is presented.

Implication for practice: Understanding the factors that motivate midwifery students to work in rural, deprived areas will help develop effective policy interventions affecting practice.

Introduction

To achieve universal access to care, an enormous scale up of the health workforce is needed in the coming decades. The needs-based shortage of health care workers in 2013 was estimated at approximately 17.4 million globally, with the largest gap in the nursing and midwifery workforce, estimated at 9 million. While steps have been taken to decrease the global health workforce shortage, this shortage is estimated to remain as high as 14 million by 2030, barely narrowing the gap (WHO, 2016a).

The overall goal of the Global Strategy on Human Resources for Health: Workforce 2030 (WHO, 2016a) focuses on ensuring availability and universal access to high quality health workforce through effective policies at national, regional, and global levels. In 2017, we continue to face ongoing challenges in health workforce needs – particularly in the distribution of health care workers and how this
aligns with populations needs. Significant maldistribution exists between the needs, demands, and supply of health care workers (WHO, 2016a). There is a stark imbalance between urban, metropolitan areas and rural, deprived areas that tend to be underserved, which contribute to inequitable access to health care providers. This strong urban bias is a major constraint to achieving universal health coverage in low- and middle-income countries.

Midwifery workforce

The midwifery workforce is at the center of the agenda for achieving universal health coverage (WHO, 2016b). Only 4 of the 73 ‘countdown countries’, those countries that account for more than 95% of maternal, newborn, and child deaths worldwide (UNICEF, World Health Organization, 2015), have a midwifery workforce able to meet the universal need for sexual, reproductive, maternal, and newborn health care needs (UNFPA, 2014). It has been shown that the midwifery scope of practice has the potential to avert 83% of all stillbirths, maternal, and neonatal deaths (Ten Hoope-Bender et al., 2014). Midwives can provide 87% of essential care for women and newborns when they are educated and regulated to the international standards set by the International Confederation of Midwives (Homer et al., 2014).

Ghanaian context

Ghana has an estimated population of over 28 million with 49.9% of the population living in rural areas (United Nations, 2017). Poverty levels are four times higher in rural areas (37.9%) than in urban areas (10.6%) (Cooke et al., 2016). Over a quarter of the population in Ghana (26%) are women of reproductive age. It is estimated that to achieve universal access to sexual, reproductive, maternal, and newborn care services in Ghana the midwifery workforce must be prepared to cover 83.8 million ANC visits, 16 M births, and 64.1 M postnatal visits between 2012–2030 (UNFPA, 2014).

Midwives are critical providers to achieve universal health coverage and reduce health care disparities among the poorest, most marginalised women in Ghana. Maldistribution of the midwifery workforce is a major constraint to expanding delivery of essential health services in Ghana. As we move into the post-2015 era of sustainable development, with new goals to reduce the inequities of preventable maternal and newborn deaths, it is vitally important we ensure equitable access to skilled birth attendants. The coverage of midwives and their appropriate distribution in locations where women can access their care is essential.

Ghana has made great strides in increasing the number of midwives educated each year. The Ministry of Health greatly expanded the number of training institutions for midwifery between 2001 and 2006, adding at least one midwifery training college in each of the ten districts (Ghana Ministry of Health, 2011). Although progress has been made, Ghana currently has one-third of the projected need for full-time obstetrical health workers with a trajectory to meet only 81% of the targeted 15,000 maternal-newborn health workers needed by 2013 (UNFPA, 2014).

The rural/urban divide further impacts access to both basic and comprehensive obstetrical care. Midwives attend over half of all births in Ghana but there are stark differences between rural and urban areas. Only 59% of births occurring in rural areas are attended by a skilled provider versus 91% of births in urban areas within Ghana (GSS, 2014). This maldistribution contributes to poorer access and higher rates of maternal mortality in rural regions of the country. The aim of this study was to further understand the barriers newly graduated midwives face when deciding where to practice post-graduation with the final goal of assisting the government in developing policies to address the severe maldistribution of healthcare workers in Ghana.

Methods

We conducted a computer-based, structured survey with final-year midwifery students to: 1) determine the factors that originally motivated final-year midwifery students to study midwifery; 2) identify the reasons they were likely or unlikely to work in a rural, deprived area following graduation; 3) identify differences between post-basic (students entering a two-year midwifery training program with previous community-health nursing training and 3rd year diploma students (students entering midwifery directly following secondary school for a three-year program of study) and; 4) identify differences between students studying at schools located in urban, peri-urban, and rural settings. For purposes of this study we defined rural, deprived areas as those distant from large cities (greater than 5000 population) with few social amenities such as secondary schools, roads, piped water. The research was approved by the Committee on Human Research, Publications, and Ethics at Kwant Nkrmah University of Science and Technology, the Ghana Health Service Ethics Review Committee, the University of Michigan Institutional Review Board, and Brown University Institutional Review Board.

Setting and sample

This cross-sectional study used a national sample from 15 of the 16 publicly funded midwifery colleges across the ten regions in Ghana that had a final-year class at the time of data collection. School rosters identified 932 students as final year in the 15 schools.

Data collection

Using a survey piloted with two midwifery schools in Ghana (Lori et al., 2012), 50 questions on demographics, motivation for midwifery study, and future career plans were asked of participants as part of a larger survey that also examined exposure to disrespectful patient care (Moyer et al., 2016) and willingness to provided abortion care (Rominski-Danielson et al., 2016). Students were made aware of the study and offered participation through announcements in class. Informed consent was obtained prior to participation in the study. The survey took approximately 45–60 minutes to complete and students were given a nominal incentive equal to approximately 2USD for their time. The surveys were pre-loaded onto computers within each of the 15 participating schools’ computer labs. All data were collected and stored anonymously. Participants were informed they could stop the survey at any time or refuse to answer any questions.

Data analysis

All data were cleaned and imported into SAS 9.4 (Cary, NC) for analysis. Frequencies and descriptive statistics were calculated. Basic frequencies and percentages were then calculated for the descriptive variables cited by participants as the top three factors motivating participants to study midwifery stratified by student type (diploma versus post-basic) and by enrolment in an urban (> 5000 population of area), peri-urban (adjacent to an urban area), or rural (< 5000 population of area) midwifery school. Missing data from individual questions were excluded from the analysis.

Participants were instructed to choose one primary, secondary, and tertiary response to questions examining motivation and reasons they are likely or unlikely to work in a rural area following graduation. To compare across participants, responses were reverse-coded as follows: the primary reason was coded to 3; the secondary choice remained at 2; and the tertiary choice was coded to 1. The motivating factors were then compared across participants. Odds ratios were calculated using separate logistic regression models to analyze the relationship between students’ experience with rural communities and how it affected their
williness to work in a rural area following graduation.

**Findings**

Eight hundred and fifty-six midwifery students (N = 856) completed a self-administered computerised survey conducted in the computer lab of each respective school for a response rate of 91.8%. Included in our sample were final 3rd year diploma students (n = 735) and final year post-basic students (n = 107). Five schools were classified as urban, four as peri-urban, and six were rural based on the above criteria.

There was a significant difference in mean age between post-basic students (31.7 yrs) and diploma students (24.0 yrs). The majority of participants from this national survey were born in an urban or peri-urban area (76.1%). Over half (53.3%) lived in a rural area after age 5 with the mean and standard deviation 8.7 (7.4) years. There were significant differences in demographics between the two groups of post-basic and diploma students (see Table 1).

Participants were asked to rank the top three reasons (primary, secondary, tertiary) originally motivating them to study midwifery with the primary reason being the most important. For both the post-basic and diploma students, the top motivation to study midwifery was a ‘desire to help others’ (49.0% and 60.2% respectively). ‘Desire to help others’ also ranked as the primary choice for students when the data were stratified by urban (58.6%), peri-urban (64.0%), and rural (55.2%). As noted in Table 2, ‘give back to home and country’ and ‘interest in health’ followed close behind in all groups.

Participants were then asked how likely they are to work in a rural, deprived area after graduation. Over half (55%) of participants reported they will ‘definitely work’ (11%) or ‘were likely to work’ (44%) in a deprived area. Those participants (n = 475) were then asked for the top three reasons they are likely to work in a rural, deprived area following graduation. Responses were grouped according to four main categories corresponding to those used in the Cochran systematic review (Grobler et al., 2009) and identified in the report on increasing access to health workers in remote and rural locations by the World Health Organization (2010). The four categories are: (1) educational or regulatory; (2) professional and personal support; (3) financial incentives; and (4) other (includes language barrier, being advised against rural work by others, and lack of travel opportunities). When examined by student type and by location of school, the top reason cited by participants was ‘to serve humanity’ (80.3% post-basic and 64.4% diploma students; 59.1% urban, 67.7% peri-urban, and 71.5% rural), followed by ‘work is more exciting/challenging’ and ‘more opportunities to gain clinical experience’ (Table 3).

We next asked the participants who identified they would ‘definitely not work’ (13.7%) or are ‘unlikely to work’ (22.6%) in a deprived area (n = 331) for their top three reasons. Responses were again grouped by the four main categories used in the previous question and examined by student type and location. Post-basic students ranked ‘poor quality of education for children’ as their primary (30.2%) and secondary (25.6%) choices and ‘poor quality of clinical facilities’ (16.3%) as their tertiary choice; whereas diploma students or post-basic midwifery students ranked ‘poor quality of clinical facilities’ as the primary (23.9%) and secondary (15.8%) reasons they would not want to work in a deprived area followed by ‘difficult to continue their education’ (15.8%) as the third reason.

Next, we examined the same data by school location. Students from urban schools ranked ‘poor quality of clinical facilities’ as the number one reason (24.8%) they were unlikely to work in a rural, deprived area following graduation, with ‘difficult to return to further education’ as the second (17.1%) and third (12.8%) choices. Students in peri-urban areas also chose ‘poor quality of clinical facilities’ as the primary reason (22.9%) they did not want to work in a deprived area, with ‘poor quality of education for children’ and ‘lack of social amenities’ tied for the tertiary reason; and ‘difficulty to return to school’ as the tertiary reason. ‘Poor quality of clinical facilities’ and ‘poor education for children’ (20% each) were identified equally as the primary and secondary reasons students from rural schools were unlikely to work in a rural area following graduation. Finally, ‘difficult to return to further education’ and ‘lack of social amenities’ tied for the tertiary reason (14.6% each) (Table 4).

To examine students’ experience with rural communities and how it affected their williness to work in a rural area following graduation we performed logistic regression with odds ratios for the 475 students (55%) reporting they were likely or somewhat likely to work in a deprived area following graduation. Those born in a rural area, currently living in a rural area, or under obligation to return to a rural or peri-urban area all had greater odds of being willing to work in a deprived area after graduation. The one group least likely to work in a deprived area after graduation were those who reported living in a rural area after age 5 for a year or more (Table 5).
Discussion

The literature is replete with studies examining the barriers that impact the recruitment and retention of healthcare workers to rural areas creating stark geographical imbalances. Often cited barriers include lack of infrastructure and equipment, poor working conditions, lack of supervision, lack of career advancement, poor job satisfaction, poor accommodations, poor communication, lack of amenities for self and family, and poor schools for children (Alhassan et al., 2013; Adegoke et al., 2015; Dawson et al., 2015).

While previous studies have examined job satisfaction of nurses and midwives in relation to retention to rural area postings (Jayasuriya et al., 2012; Adegoke et al., 2015), our findings are unique in that they examine the distinct motivational factors of midwifery students about to join the workforce by program type (post-basic versus diploma) and by program location (urban, peri-urban, and rural).

A strength of our study was the ability to target a national sample of educational programs, for example through directed recruitment. A strength of our study was the ability to target a national sample of midwifery education programs. We examined the distinct motivational factors of midwifery students about to join the workforce by program type (post-basic versus diploma) and by program location (urban, peri-urban, and rural).

In response to: ‘Rank the top three reasons you were motivated to study midwifery’
P = ranked first
S = ranked second
T = ranked third

Table 2
Factors originally motivating participants to study midwifery by program of study and program location (N = 856).

<table>
<thead>
<tr>
<th>Factors</th>
<th>Post-basic (n = 107)</th>
<th>Diploma (n = 735)</th>
<th>Urban (n = 258)</th>
<th>Peri-urban (n = 247)</th>
<th>Rural (n = 344)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P S T</td>
<td>P S T</td>
<td>P S T</td>
<td>P S T</td>
<td>P S T</td>
</tr>
<tr>
<td></td>
<td>% % %</td>
<td>% % %</td>
<td>% % %</td>
<td>% % %</td>
<td>% % %</td>
</tr>
<tr>
<td>Give back to home/country</td>
<td>30.0 19.2 12.5</td>
<td>17.5 23.4 12.8</td>
<td>16.7 24.7 14.7</td>
<td>18.5 20.2 12.5</td>
<td>21.8 23.6 11.4</td>
</tr>
<tr>
<td>Desire to help others</td>
<td>49.0 37.5 4.8</td>
<td>60.0 23.1 5.8</td>
<td>58.6 23.1 6.0</td>
<td>64.0 24.0 6.4</td>
<td>55.2 27.0 4.9</td>
</tr>
<tr>
<td>Opportunity to travel and work abroad</td>
<td>0.0 4.8 3.9</td>
<td>0.3 1.4 5.2</td>
<td>0.4 2.4 7.2</td>
<td>0.4 1.3 3.0</td>
<td>0.0 1.8 4.9</td>
</tr>
<tr>
<td>Use new cutting edge technologies</td>
<td>0.0 1.0 3.9</td>
<td>0.0 0.1 0.9</td>
<td>0.0 0.0 0.0</td>
<td>0.0 0.9 3.0</td>
<td>0.0 0.0 0.9</td>
</tr>
<tr>
<td>Research opportunities</td>
<td>0.0 1.0 1.9</td>
<td>0.1 1.4 3.0</td>
<td>0.0 0.8 2.8</td>
<td>0.4 2.2 3.0</td>
<td>0.0 1.2 2.8</td>
</tr>
<tr>
<td>Job security/lifestyle</td>
<td>0.0 8.7 14.4</td>
<td>2.1 8.7 15.9</td>
<td>2.0 8.8 19.5</td>
<td>1.7 7.3 14.6</td>
<td>1.8 9.8 13.8</td>
</tr>
<tr>
<td>Parents idea</td>
<td>0.0 1.0 1.0</td>
<td>0.3 0.7 1.8</td>
<td>0.4 0.8 1.2</td>
<td>0.4 0.0 2.6</td>
<td>0.0 1.2 1.5</td>
</tr>
<tr>
<td>Inspired by a role model</td>
<td>0.0 6.7 19.2</td>
<td>4.1 14.7 18.6</td>
<td>5.6 16.3 16.7</td>
<td>3.0 13.3 20.2</td>
<td>2.5 11.7 19.0</td>
</tr>
<tr>
<td>Income</td>
<td>1.0 1.0 1.0</td>
<td>0.4 0.9 1.8</td>
<td>0.8 0.4 1.2</td>
<td>0.4 1.3 1.7</td>
<td>0.3 0.9 2.2</td>
</tr>
<tr>
<td>Social status/prestige</td>
<td>0.0 1.0 5.8</td>
<td>0.4 1.6 6.1</td>
<td>0.8 0.8 7.2</td>
<td>0.0 1.7 5.2</td>
<td>0.3 1.8 5.8</td>
</tr>
<tr>
<td>Interest in health</td>
<td>17.3 17.3 28.9</td>
<td>13.8 20.7 23.0</td>
<td>14.3 18.3 19.5</td>
<td>9.9 25.8 25.3</td>
<td>17.2 18.1 25.8</td>
</tr>
</tbody>
</table>

In response to: ‘What are the top three reasons you are likely to work in a deprived area following graduation?’
P = ranked first
S = ranked second
T = ranked third

Table 3
Top three reasons likely to work in a rural, deprived area following graduation by program of study and program location (N = 475).

<table>
<thead>
<tr>
<th>Factors</th>
<th>Post Basic (n = 63)</th>
<th>Diploma (n = 404)</th>
<th>Urban (n = 148)</th>
<th>Peri-urban (n = 121)</th>
<th>Rural (n = 206)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education or Regulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deprived service increases my chances of going for further studies</td>
<td>1.4 5.6 16.9</td>
<td>2.5 9.4 14.3</td>
<td>1.3 11.7</td>
<td>18.8 3.8 9.8</td>
<td>14.3 2.2 6.6</td>
</tr>
<tr>
<td>Professional and personal support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling of connection and appreciation from community</td>
<td>0.0 2.8 5.6</td>
<td>1.1 4.3 4.5</td>
<td>0.0 4.6</td>
<td>5.2 1.5 5.3</td>
<td>4.5 1.3 3.1</td>
</tr>
<tr>
<td>More cooperation from the community</td>
<td>1.4 16.9 4.2</td>
<td>1.3 8.1</td>
<td>10.5 13.6 6.5</td>
<td>9.7 3.8 12.0 9.8</td>
<td>0.0 9.2 9.7</td>
</tr>
<tr>
<td>Work is more exciting/challenging</td>
<td>1.4 22.5 22.2</td>
<td>4.5 15.7</td>
<td>18.8 6.5 16.9</td>
<td>18.2 3.0 12.8 18.1</td>
<td>3.1 18.4 21.1</td>
</tr>
<tr>
<td>More opportunities to gain clinical experience</td>
<td>8.5 33.8 28.2</td>
<td>18.3 35.1</td>
<td>17.2 22.7</td>
<td>31.8 18.8 12.8 39.1</td>
<td>21.1 15.4 34.7 17.1</td>
</tr>
<tr>
<td>Financial incentives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A deprived area community has supported me financially during my training</td>
<td>2.8 0.0 2.8</td>
<td>2.9 0.5 3.3</td>
<td>0.0 0.7</td>
<td>2.3 0.8 0.0</td>
<td>3.1 0.4 2.2</td>
</tr>
<tr>
<td>Deprived area incentive</td>
<td>2.8 4.2 0.0</td>
<td>0.9 1.8 1.8</td>
<td>2.6 1.5 0.0</td>
<td>0.8 0.4 3.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Cost of living in the city is very high and I can live more comfortably in a deprived area</td>
<td>0.0 1.4 5.6</td>
<td>1.8 6.0</td>
<td>17.2 2.6</td>
<td>7.8 11.7 2.3 4.5</td>
<td>15.0 0.4 4.4 18.4</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To serve humanity</td>
<td>80.3 4.2 4.2</td>
<td>64.4 13.9 8.3</td>
<td>59.1 15.6</td>
<td>84.7 9.8 8.3</td>
<td>71.5 12.3 6.6</td>
</tr>
<tr>
<td>I come from a rural area and feel at home there</td>
<td>0.0 8.5 7.0</td>
<td>1.3 4.7 4.3</td>
<td>0.7 2.0 3.3 1.5 6.0</td>
<td>6.0 1.3 7.0 4.8</td>
<td></td>
</tr>
</tbody>
</table>

In response to: ‘What are the top three reasons you are likely to work in a deprived area following graduation?’
P = ranked first
S = ranked second
T = ranked third

Missing data excluded from analysis.
In response to: (Adegoke et al., 2015) and India (Peters et al., 2010). (Alhassan et al., 2013) as well as other studies conducted in Nigeria. This is supported in a study conducted in Ghana.

Participants as a major reason they were deterred from working in a rural, deprived area. This is confirmed in a study conducted in Ghana.

Rather, poor quality of facilities was unanimously chosen by our respondents as the primary reason they are unlikely to work in a rural, deprived area following graduation. Our results also suggest that midwifery students in Ghana were highly motivated by altruistic factors as the secondary motivation, coupled with on-going progress to strengthen health system infrastructure and a time-sensitive contract to return midwives to an area where they could continue their education could be used as a strategy to address the rural shortage of midwifery providers in Ghana.

When examined by school type, all participants ranked ‘poor quality of clinical facilities’ as the primary reason they are unlikely to work in a rural area followed by ‘difficulty to return to school’ as the secondary rank for urban school students and the tertiary rank of peri-urban and rural students.

While a recent study conducted of health workers posted to district hospitals in Ghana, largely made up of nurses, identified financial incentives as a motivation (Adzei and Atinga, 2012). The lack of financial incentive did not appear to be a barrier to rural practice for midwives.

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Table 4
Top three reasons unlikely to work in a rural, deprived area following graduation by program of study and program location (n = 331).

<table>
<thead>
<tr>
<th>Factors</th>
<th>Education or Regulation</th>
<th>Professional and personal support</th>
<th>Financial incentives</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post Basic (n = 36)</td>
<td>Diploma (n = 271)</td>
<td>Urban (n = 121)</td>
<td>Peri-urban (n = 109)</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Lack of training opportunities</td>
<td>14.0</td>
<td>7.0</td>
<td>11.6</td>
<td>16.3</td>
</tr>
<tr>
<td>Poor quality of clinical facilities</td>
<td>11.6</td>
<td>11.6</td>
<td>16.3</td>
<td>15.8</td>
</tr>
<tr>
<td>Poor quality of housing</td>
<td>0.0</td>
<td>4.7</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Lack of opportunity to meet a partner</td>
<td>2.3</td>
<td>0.0</td>
<td>3.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Little employment opportunity for partner</td>
<td>0.0</td>
<td>11.6</td>
<td>0.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Insufficient professional support &amp; mentorship</td>
<td>0.0</td>
<td>2.3</td>
<td>2.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Lack of social amenities</td>
<td>2.3</td>
<td>11.6</td>
<td>14.0</td>
<td>12.1</td>
</tr>
<tr>
<td>Limited career progression</td>
<td>2.3</td>
<td>7.0</td>
<td>2.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Insufficient financial incentives</td>
<td>9.3</td>
<td>2.3</td>
<td>2.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Lack of travel opportunities</td>
<td>2.3</td>
<td>2.3</td>
<td>4.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Language barrier</td>
<td>11.6</td>
<td>0.0</td>
<td>2.3</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Policy implications

Ghana and other low-resource countries depend on a midwifery workforce to meet reproductive, maternal, and newborn health care needs. Understanding the factors that motivate midwifery students to work in rural, deprived areas will help develop evidence-based policy interventions. Thirty-three of the 73 (45%) countdown countries (countries with the highest reported mortality rates) report vigorous attempts to improve the retention of health workers in rural and remote settings including the introduction of a bonding system – guaranteeing graduates a government funded position upon graduation and/or an incentive program (UNFPA, 2014).

Motivational factors and barriers identified in this study can be addressed in strategies to increase the probability of graduating midwives to work in rural areas. Poor quality of health facility infrastructure, poor quality of education for children, and difficulty to return to school to further one’s education were some of the most important factors deterring final year midwifery students in Ghana from posting to a rural, deprived area following graduation. Our results also suggest that midwifery students in Ghana were highly motivated by altruistic values including the desire to serve humanity and to help others. This unselfish motivation, coupled with on-going progress to strengthen health system infrastructure and a time-sensitive contract to return midwives to an area where they could continue their education could be used as a strategy to address the rural shortage of midwifery providers in Ghana.

Conclusion

The current global health workforce is estimated at over 43 million with nurses and midwives making up the largest portion of this at nearly 21 million (WHO, 2016). WHO recently set a global target to halve the disparity in health worker distribution between urban and rural areas by 2030. To realise this goal, governments must understand the motivating factors that support recruitment and retention of health workers to rural, deprived areas. In Ghana, rural communities depend
heavily on midwives for healthcare. Our findings provide a better understanding of the motivations for rural work. A data-driven approach to the factors that influence midwifery students’ willingness to work in rural areas will assist governments in development of effective policy interventions to increase access in rural areas.

Ethical statement

Conflict of Interest

None.

Ethical Approval

The research was approved by the Committee on Human Research, Publications, and Ethics at Kwame Nkrumah University of Science and Technology, the Ghana Health Service Ethics Review Committee, the University of Michigan Institutional Review Board, and Brown University Institutional Review Board.

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Clinical Trial Registry

Not applicable.

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