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Title: Midwives Distribution, Urban Status and Provision of Midwifery Services to the Rural Dwellers in Sierra Leone

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Introduction: Sierra Leone has one of the highest maternal mortality estimates in the world with a ratio of 1,165 deaths per 100,000 live births and a life time risk of maternal deaths of 1 in 21, as indicated in the recent Demographic Health Survey (2013). Hypothetically suggested factors include poor accessibility and low utilisation of skilled birth attendance, limited access and quality of Emergency Obstetric Care, low contraceptive prevalence as well as human resource challenges including uneven distribution of midwives.

Objective: This study examines the distribution of midwives and its effects on provision of midwifery service in rural settings of Sierra Leone.

Methods: A quantitative study was conducted between May and June 2014 in all the 14 Districts of Sierra Leone using a bio-data form, questionnaire and observational checklist to obtain data. A non-exhaustive list of facilities where midwives can be found was retrieved from the Directorates of Nursing and Human Resources for Health of the Ministry of Health and Sanitation (MoHS).

Purposive sampling was used to recruit participants. Data collectors were selected using simple random method (blind picking) from a national list of district Monitoring and Evaluation officers located at Directorate of Policy and Planning, MoHS and underwent a one day training prior to fieldwork. The training focused on use of the data collection tool, interviewing technique, counselling skills and ethical principles. Ethical approval was sought from the MoHS and a letter of introduction was provided to each data collector to enable him or her to gain access to various authorities at the district and facility level.

The bio-data form and questionnaires were purposively administered to all midwives reached to obtain a large amount of data and achieve coverage. The midwife questionnaire was coded using coding sheets designed specifically to enhance anonymity and confidentiality of midwives. Data was analysed using Statistical Package for Social Science (SPSS) version

20.0. Basic descriptive statistics included calculation of proportions, frequency distribution, measure of central tendency and dispersion.

Results: This mapping exercise captured 298 midwives of which 40% (118) were located in Western region, with 110 (36.9%) in Freetown City alone (Western Urban Area) serving a total population of 1,015,829. Such figures roughly equate to one (1) midwife to 9,200 people (to the nearest hundred). The remaining 60% (180 midwives) were primarily clustered in urban towns in the remaining 13 districts (including Western Rural Areas) with a total population of 5,174, 451 people, and suggesting one (1) midwife to every 28,746 people. The rural and remote areas or districts still lack midwives, with only eight (8) midwives found in Western Rural Areas to a population of 257,807. This roughly equates to (1) midwife to every 32,200 people. The same number of midwives (8) serves the entire districts of Bonthe (164,345 populations, 1 midwife to 20,500 populations) and Tonkolili (423,914 populations, 1 midwife is to 53,000 populations).
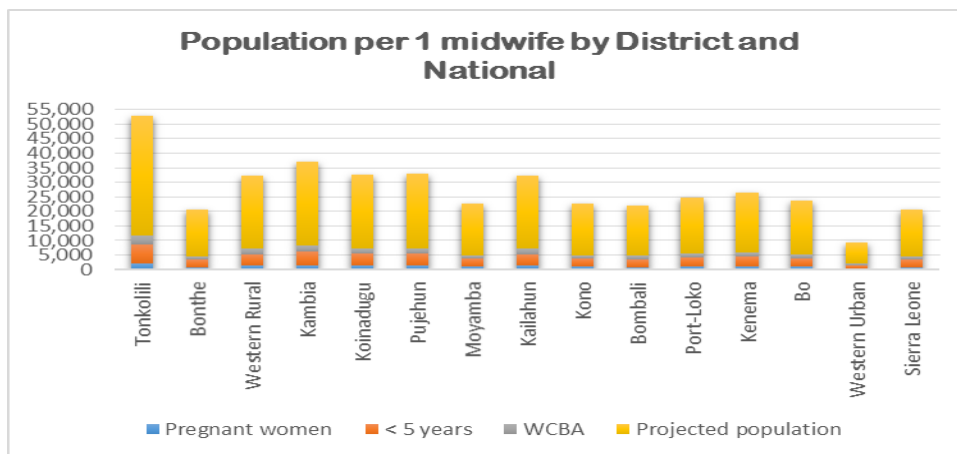
Of the four regions (Eastern, Western, Northern and Southern), Eastern region has the lowest number of midwives, 52 (17.5%), of which a majority are in their late fifties and single or separated/divorced compared to a vast majority of midwives in Western region who are married (72.3%) and in their thirties and forties (60.9%).
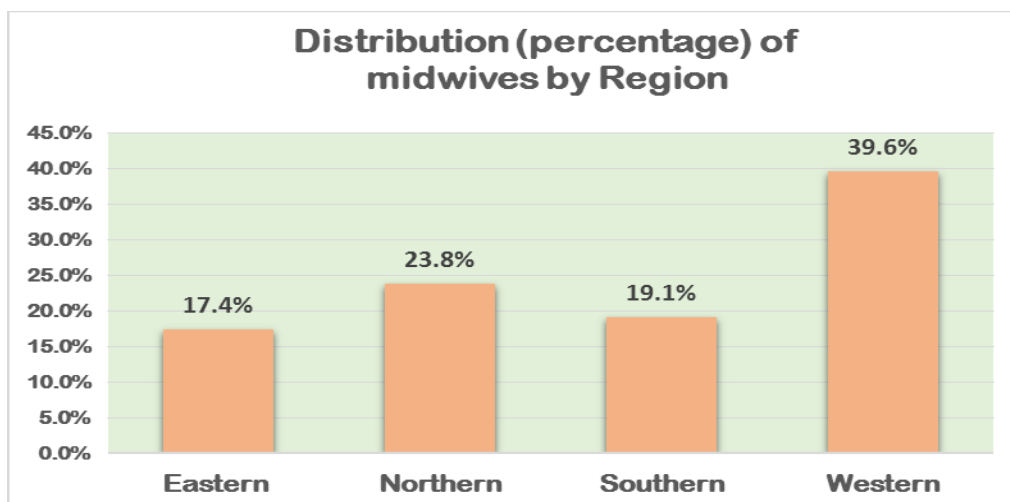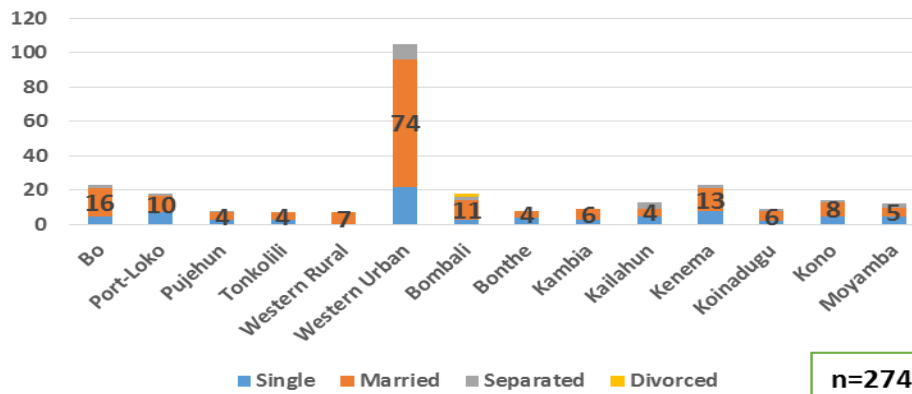
Age distribution of Midwives
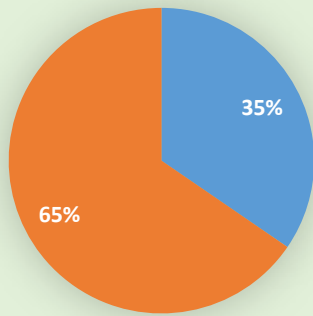
Age range	Number of midwives	Age %
25-29y	7	**2.2%**
30-39y	38	**13.0%**
40-49y	139	**46.7%**
50-59y	104	**34.8%**
60+y	10	**3.3%**

Age range	Number of midwives	Age %
Below 45 years	103	**34.4%**
45 years and above	195	**65.6%**
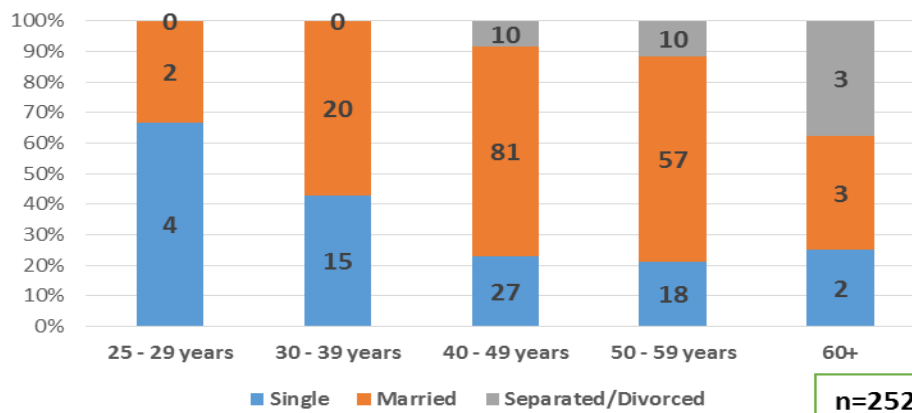
About 50% of midwives in Western Area (region) had 1 or 2 children. This emphasized that midwives in Western Area having one or two children (53) tripled that in Northern region (18) and Southern region (17) while those having 5-8 children were lowest in Southern region.
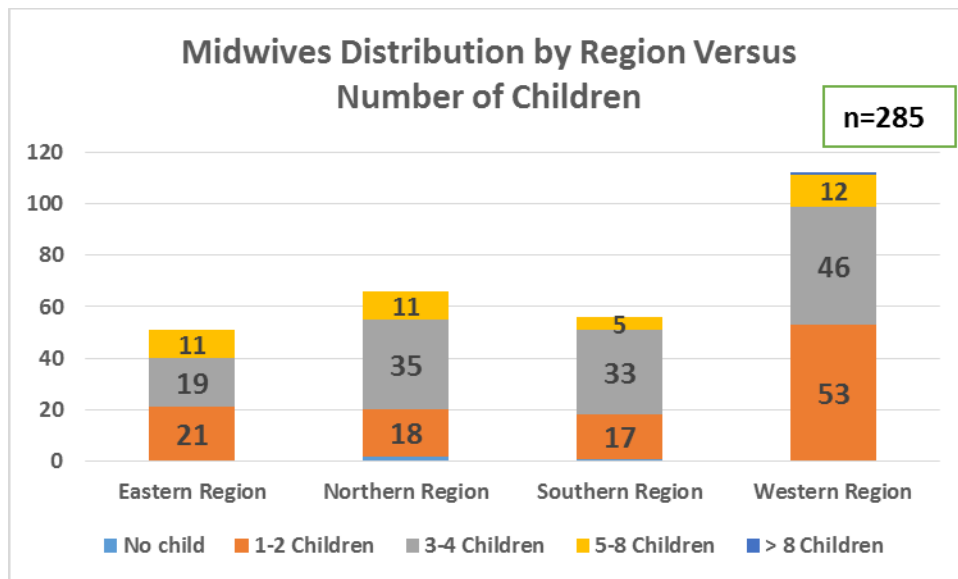
Majority of the midwives (40.0%) in the Eastern region requested reassignment, mostly Western region. This was compared to 11.0% of those currently supporting Western region, who sought postings which would reunite them with their family or would involve placement in a large health facility.

Conclusion: The study showed that married midwives preferred to stay in urban settings, especially areas where they could reside with their spouses. Midwives with few children ≤2 (one or two) also preferred urban settings. While more midwives are needed to stay in rural settings, the demand for posting in non-rural settings is still high. Such demand may continue if focused interventions targeted to address this issue are not implemented.

Implications to policy and research

Government and its development partners need to review and update the criteria for selection into midwifery, focusing on recruiting younger candidates from rural areas and as well as providing them with an incentive-based motivational package and an enabling environment in order to support retention in rural/hard-to-reach communities.