Work-related stress among midwives in central Uganda: a key comparison between rural-urban and private-public midwives: A cross-sectional study

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Work-related stress among midwives in Central Uganda. A key comparison between rural-urban and private-public midwives: A Cross-sectional Study

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Abstract

**Background:** Midwives in Uganda face challenges that predispose them to vulnerability and traumatic work-related stress which may impact the provision of quality midwifery care and the well-being of midwives. This study aimed at exploring the prevalence and sources of work-related stress and comparing the differences in the experiences of stress among rural or urban midwives and private or public midwives in health facilities in central Uganda.

**Methods:** A descriptive cross-sectional study design was utilized. The 57-item Expanded Nursing Stress Scale (ENSS) was used to collect data from 208 midwives working in urban and rural (both public and private) health facilities within central Uganda. Descriptive statistics were used to analyse the data. Mean scores were computed for all nine subscales of the ENSS including death and dying; conflict with physicians; inadequate preparation; problems with peers; problems with supervisors; workload; treatment uncertainties; patients and their families; and discrimination.

**Results:** About 108 (51.9%) and 69 (33.2%) of all participants had a total stress score that indicated extremely stressful and frequently stressful working conditions respectively. The total mean score was 3.44 ± SD 0.86. The major stress subscales were patient and family (3.74 ± 0.860) and workload (3.56 ± 0.84). There was a significant difference among midwives working in rural versus urban settings for the subscale items related to death and dying $\chi^2 =14.6$, p <0.05, conflict with physicians $\chi^2 = 10.68$, p <0.05, problems with supervisors $\chi^2 =11.9$ p <0.05, and treatment uncertainties $\chi^2 = 21.07$, p .001.

**Conclusion:** Practicing midwives in central Uganda experience high levels of stress. The most common stressors relate to patients and their families, workload, problems with supervisors, conflict with physicians, and uncertainty with treatments.

**Keywords:** Stress, working conditions, Midwives, Uganda

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Introduction

Stress is a common phenomenon among healthcare workers and may be more pronounced among midwives and nurses in low-income countries such as Uganda with a very low nurse/midwife-to-patient ratio. The scope of midwifery practice stretches from preventive care, promotion of normal labour and birth, detection of complications, assisting or performing emergency care measures, and counselling of expectant or pregnant women, their families, and the community. Unlike obstetricians, the scope of midwifery lies in the management of situations related to “normal pregnancy” (1).

In Uganda, midwives are at the helm for the provision and coordination of maternity services given the small number of qualified obstetricians. In almost all cases, midwives are the only providers of antenatal care services in the country, especially in public, rural and peri-urban settings. According to the Uganda health delivery system in public health facilities, midwives are the sole providers of maternity health services (antenatal, normal childbirth, and postnatal care) at health centre IIs (Parish level primary health care Unit), health centre IIIs (sub-county unit) and health centre IVs (county-level unit). Within district hospitals, regional referral hospitals, and national referral hospitals, midwives remain the main providers of mainstream maternity care (normal pregnancy and childbirth) and young child wellness care. Considering the critical roles that midwives play by being “with women”, their demands may predispose midwives to traumatic work-related stress, given the sensitive and empathic relationship midwives develop with women in their care.

Midwives are expected to offer high-quality services in all situations, including those that are complex and difficult (2) and to adhere to professional ethics, values, human rights, and standards of practice (3). Additionally, midwives are expected to be respectful, non-judgmental, and to act in a culturally appropriate manner. Despite emphasis on the psychological aspects of care during midwifery training, there is growing evidence of disrespectful maternity care in Uganda (4-6). Most studies that have reported disrespectful maternity care have reflected the perspectives of mothers and their families. To date, little attention has been given to this disrespect from the perspectives of the midwives. Midwives in Uganda have to contend with; sub-optimal living and working conditions, heavy workloads due to staff shortages, lack of good professional status, unsafe working conditions, abuse, poor pay, and salary delays among other issues (7). These challenges may contribute to work-related stress, moral distress¹ and compassion fatigue² (8). Such stress may not only impact the quality of care that midwives render but may affect the overall health and wellbeing of midwives, their job satisfaction and determine their willingness to continue in midwifery as a career (7-11).

¹ Moral distress occurs when a nurse knows the morally correct action to take but is constrained in some way from taking this action.
² Indifference to charitable appeals on behalf of those who are suffering, experienced as a result of the frequency or number of such appeals.
While woman-centred care is a fundamental part of midwifery practice, (12), insufficient attention has been given to the importance of work-related distress, sources of stress, and magnitude of work-related stress among midwives in Uganda. Therefore, this research study aimed at exploring the sources and levels of work-related stress among midwives in Uganda and compared the differences in the experiences of such stress among midwives working in rural and urban areas or those working in private and public health facilities in central Uganda. This study provided insight into the issues that affect midwives’ performance from the perspectives of midwives themselves.

Methods and Study design, settings, and Population

This study employed a descriptive cross-sectional approach in five health facilities in Central Uganda, four public facilities and one facility from the private sector. We recruited actively practising midwives from the four public health facilities and members of the Uganda private midwives’ association as private midwifery practitioners. Different study settings were selected to gain more holistic perspectives on work-related stress among midwives working in rural versus urban and public versus private health facilities.

Midwives from public health facilities were from Kawempe National Referral Hospital located in Kampala city, Kiboga District Hospital, Bukomero Health Centre IV, and Lwamata Health Centre IV. Kawempe National Referral Hospital is a 170-bed capacity tertiary care hospital providing mainly maternity and neonatal care. The hospital is located in the western part of Kampala, the capital city of Uganda, with a population of approximately 3.4 million people (13). Kiboga Hospital is a 210-bed capacity district hospital located in Kiboga district 122 kilometres from Kampala. Lwamata and Bukomero Health Centre IV are sub-county medical centres also located in Kiboga district. All three health facilities in Kiboga District serve mainly rural farming communities. The private midwives included in the study were members of the Uganda Private Midwives Association (UPMA). Midwives, who are members of the UPMA, have chosen to work independently, running their midwifery practices as a business.

Sample size and recruitment

We aimed at recruiting 220 midwives across all sites using a total population sampling technique. However, after informed consent was sought, a number of midwives declined to participate. Therefore, we continued to recruit consecutively until a total of 208 participants were recruited. These consisted of 28 participants from Kawempe, 38 from Kiboga Hospital, 77 from UPMA, and 65 from Lwamata and Bukomero Health Centre IV in Kiboga. The inclusion criteria involved licensed midwives and nurse-midwives who had practiced midwifery for at least 2 years, were current active midwifery health personnel, and worked in a clinical area enrolled in the study. This technique ensured that we
included experienced midwives who had presumably been exposed to a wide array of clinical and professional work-related issues. Midwives who were active in practice and worked for at least two years but were on any form of leave or did not consent to participate in the study and worked as volunteers at the time of data collection were excluded from the study. Each of the study sites was represented in the final sample.

Data collection methods and tools

Following authorization to collect data from the facility administration, the researchers (OH, GE) visited each health facility, one at a time. The roster for all midwives who had agreed to participate was obtained and a mutually acceptable time was agreed to complete the questionnaire. Following informed consent, each participant completed the questionnaire and returned it to the researcher who was present. In total, 215 midwives were approached from all the five facilities and signed consent, 208 completed questionnaires were returned yielding a response rate of 96.7%.

Data was collected using a validated questionnaire, the Expanded Nurse Stress Scale (ENSS) (Appendix 1). We obtained permission to use and adapt the questionnaire to our study setting. The Expanded Nursing Stress Scale (ENSS) questionnaire by French, Lenton, Walters, and Eyles (14) was developed from the Classic Nursing Stress questionnaire by Gray-Toft & Anderson (15). The ENSS was validated among a random sample of 2,280 nurses working in different unit settings within Ontario, Canada. The tool contains 57 Likert items each on a five-point Likert scale which measure the frequency and levels of the known major sources of stress nursing care situations, with a reported internal consistency of α = .96. The Likert scale for each of the 57 items is ranked from lowest to highest: does not apply (0), never stressful (1), occasionally stressful (2), frequently stressful (3), and extremely stressful (4). Participants were asked to rate their levels of stress for each Likert scale item using the assigned numerical score. The response ‘does not apply (0)’ indicated that the participant has never experienced that situation and therefore was scored zero in the final computation for that item.

According to French et al. (14), the 57 ENSS items after data collection can be grouped into nine subscales including death and dying, conflict with physicians, inadequate preparation, problems relating to peers, problems relating to supervisors, workload, uncertainty concerning treatment, patients and their families, and discrimination. The items aligned with each of the subscales are indicated in Box 1.
Box 1: Likert item grouping for the subscales of the ENSS (12).

1. Death and Dying – 7 items: 1, 9, 17, 27, 37, 47 and 53
2. Conflict with physicians – 5 items; 2, 10, 28, 38, and 48
3. Inadequate preparation – 3 items: 3, 11, and 19
4. Problems with peers – 6 items: 4, 12, 20, 21, 22 and 50
5. Problems with supervisors - 7 items: 5, 30, 31, 40, 46, 49, and 54
6. Workload – 9 items; 13, 23, 32, 41, 42, 45, 51, 55, and 57
7. Uncertainty concerning treatment – 9 items; 6, 14, 18, 24, 29, 33, 36, 39 and 43
8. Patients and their families – 8 items; 7, 15, 25, 34, 35, 44, 52, and 56

To capture information for participant characteristics, we included a section for demographic information of participants which included age group, cadre, and place of work (public or private). These elements were intended to enable analysis by age, place of work (public or private) and location (urban or rural) settings. Additionally, because some of the items in the original ENSS tool depicted nurses, we changed the question statement to indicate a midwifery situation. For example, a Likert item “Difficulty in working with a particular nurse (or nurses)” was modified and adapted to “Difficulty in working with a particular midwife (or midwives).”

To get a total score for each participant, we summed the scores for each of the 57 items on the scale. To obtain the mean total score for all the participants, we summed the total scores for all the participants and then computed the mean.

Data Analysis

Data were coded and analysed using SPSS™ (Statistical Package for Social Sciences) Version 20 by IBM Statistics and presented using descriptive statistics. For data interpretation, guidance from the developers of the ENSS was sought. Their guidance for the analysis was operationalized by our team as follows:

For analysis of responses to individual Likert items, we computed frequencies of participant responses in the form of percentages for each of the score categories (i.e., does not apply (0), never stressful (1), occasionally stressful (2), frequently stressful (3), extremely stressful (4)). (See table 1). The higher the frequency (percentage) of responses to a category, the higher the level of stress for participants for that Likert item.

To compute the mean total stress score, we added together the scores of each participant on all 57 items and then computed the mean total score for all participants. Additionally, nine subscales
were merged and the items in each subscale (see Box 1). To measure scores on specific subscales, the appropriate items on that subscale were added together for each of the participants and then computed the mean subscale score. In the case of the “death and dying” subscale, for example, we totalled each participant’s score on items within the subscale (1, 9, 17, 27, 37, 47 and 53, see Box 1). The mean would then be obtained for that participant followed by calculation of the mean subscale score for all the participants. Consequently, the higher the mean score relative to the scores on the tool, the higher the level of stress for both the mean total and mean subscale score. Based on guidance from the authors of the tool, an individual must have answered at least three of the six items that comprise the subscale, if a participant attempted less than three items a subscale score was not computed for that individual and “missing” would be assigned for that specific subscale.

To compare differences in responses between midwives working in rural versus urban health facilities and those working in private versus public health facilities, we used a chi-square (95% CI, α = .05) to compare the differences in proportions between the actual and expected stress categories (i.e., does not apply, never stressful, occasionally stressful, frequently stressful, extremely stressful). This was computed for each of the nine subscales.

**Ethical considerations**

Ethical approval was obtained from the Aga Khan University Research Ethics Committee, THETA REC, (T-REC 007/18) (HS562ES.) and the Uganda National Committee for Science and Technology (UNCST). We obtained written permission from each health facility before collecting data from participants. Anonymity and confidentiality were assured at all times. No names or personal details were kept. Data was only accessed by the research team and was stored on a password-protected computer. Completed questionnaires were securely stored in line with good ethical practice. Data will be securely stored for five years after the completion of the study.

**Results**

**Sociodemographic characteristics of participants, (see table 1)**

Over one third (n=73) of participants were aged between 20 -30 years. A quarter of the participants (n=52) were aged between 31 and 40 years. Just under a fifth of participants (n=37) were 41-50 years old, Less participants were aged between 51 and 60 years old (n= 21) and aged over 60 (n=25). Sixty-three per cent of participants (n=131) worked in public health units which included Kawempe, Kiboga Hospital, and two Health Centre IVs. The health units included were equally distributed between rural and urban locations.
**Table 1:** Sociodemographic Characteristics of Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n = 208)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-30</td>
<td>73</td>
<td>35.1</td>
</tr>
<tr>
<td>31-40</td>
<td>52</td>
<td>25.0</td>
</tr>
<tr>
<td>41-50</td>
<td>37</td>
<td>17.8</td>
</tr>
<tr>
<td>51-60</td>
<td>21</td>
<td>10.1</td>
</tr>
<tr>
<td>Over 60</td>
<td>25</td>
<td>12.0</td>
</tr>
<tr>
<td><strong>Type of practice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>131</td>
<td>63</td>
</tr>
<tr>
<td>Private</td>
<td>77</td>
<td>37</td>
</tr>
<tr>
<td><strong>Location of workplace</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>105</td>
<td>50.5</td>
</tr>
<tr>
<td>Rural</td>
<td>103</td>
<td>49.5</td>
</tr>
<tr>
<td><strong>Health unit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kawempe</td>
<td>28</td>
<td>13.5</td>
</tr>
<tr>
<td>Kiboga</td>
<td>38</td>
<td>18.3</td>
</tr>
<tr>
<td>UPMA</td>
<td>77</td>
<td>37.0</td>
</tr>
<tr>
<td>Health centre</td>
<td>65</td>
<td>31.3</td>
</tr>
<tr>
<td><strong>Level of training</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolled midwife</td>
<td>117</td>
<td>56.3</td>
</tr>
<tr>
<td>Enrolled Nurse</td>
<td>14</td>
<td>6.7</td>
</tr>
<tr>
<td>Diploma Midwife</td>
<td>43</td>
<td>20.7</td>
</tr>
<tr>
<td>Diploma Nurse</td>
<td>19</td>
<td>9.1</td>
</tr>
<tr>
<td>Bachelor’s Midwife</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Bachelors’ Nurse</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>Comprehensive Nurse-Midwife</td>
<td>8</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Reliability (internal consistency) of the tool. *See table 1b.*

Cronbach’s coefficient for the 57 items ENSS tool in this study was $\alpha = .94$. The Cronbach’s coefficient for the nine subscales ranged between 0.786 for problems with supervisor’s subscale to $\alpha = 0.58$ for inadequate preparation. Seven out of 9 subscales yielded a Cronbach's coefficient of at least $\alpha = 0.7$ and greater (see table 1B).
Table 1B: Reliability (Internal consistency) of the tool for total and 9 subscales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of Items</th>
<th>Cronbach’s alpha (α)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENSS total</td>
<td>57</td>
<td>0.94</td>
<td>208</td>
</tr>
<tr>
<td><strong>Subscales</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with patients and families</td>
<td>8</td>
<td>0.74</td>
<td>206</td>
</tr>
<tr>
<td>Workload</td>
<td>9</td>
<td>0.73</td>
<td>205</td>
</tr>
<tr>
<td>Uncertainty concerning treatment</td>
<td>9</td>
<td>0.74</td>
<td>208</td>
</tr>
<tr>
<td>Problems with supervisors</td>
<td>7</td>
<td>0.79</td>
<td>208</td>
</tr>
<tr>
<td>Conflict with physicians</td>
<td>5</td>
<td>0.71</td>
<td>207</td>
</tr>
<tr>
<td>Problems with peers</td>
<td>6</td>
<td>0.76</td>
<td>208</td>
</tr>
<tr>
<td>Discrimination</td>
<td>3</td>
<td>0.67</td>
<td>208</td>
</tr>
<tr>
<td>Death and dying</td>
<td>7</td>
<td>0.70</td>
<td>205</td>
</tr>
<tr>
<td>Inadequate Preparation</td>
<td>3</td>
<td>0.58</td>
<td>208</td>
</tr>
</tbody>
</table>

Participants total, and subscale stress frequency based on levels of stress, n=208

Total scores indicated that over half (51.9%) of participants were extremely stressed by their overall working conditions, while 33.2% of participants were frequently stressed. The subscales related to “problems with patients and their families” (54.8%) and workload (49.5%) indicated the highest levels of extreme stress. The inadequate preparation subscale showed the least level of extreme stress among participants.

Most participants reported being frequently stressed on almost all parameters. Items relating to the difficulty in working with nurses of the opposite sex have been reported as the least stressful situations (what percentage>). A small proportion of participants reported being stressed with difficulty in working with a particular midwife (or midwives) in their immediate work setting (15.7%) and in finding difficulty working with a particular midwife (or midwives) outside their immediate work setting (13.9%).

Participants’ Mean Stress Scores for the nine subscales, (see table 2)

The mean total stress score was 3.44. Eight out of nine subscales indicated a mean score of more than three indicating frequent to extreme levels of stress. The highest among the eight subscales was “problems with patients and their families” which included seven items (Mean ± SD, 3.74 ± 0.86) followed by ‘Workload’ (Mean = 3.56, SD = 0.81). Only the subscale for inadequate preparation that comprised of three items showed a mean stress score of below three (Mean ± SD, 2.98 ± 1.44).
Table 2: Participants’ Mean Stress Scores for the nine subscales, n=208

<table>
<thead>
<tr>
<th>Score</th>
<th>Mean X</th>
<th>Standard deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participants’ Mean for Total Score (57 items)</td>
<td>3.44</td>
<td>0.86</td>
<td>19</td>
<td>272</td>
</tr>
<tr>
<td>1. Problems with patients and their families (8 items)</td>
<td>3.74</td>
<td>0.86</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>2. Workload (9 items)</td>
<td>3.56</td>
<td>0.81</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>3. Uncertainty concerning treatment (9 items)</td>
<td>3.43</td>
<td>0.88</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>4. Problems with supervisors (7 items)</td>
<td>3.31</td>
<td>0.83</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>5. Conflict with physicians (5 items)</td>
<td>3.25</td>
<td>1.00</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>6. Problems with peers (6 items)</td>
<td>3.22</td>
<td>0.99</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>7. Discrimination (3 items)</td>
<td>3.20</td>
<td>1.02</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>8. Death and dying (7 items)</td>
<td>3.19</td>
<td>0.89</td>
<td>0</td>
<td>35</td>
</tr>
<tr>
<td>9. Inadequate preparation (3 items)</td>
<td>2.98</td>
<td>1.14</td>
<td>1</td>
<td>15</td>
</tr>
</tbody>
</table>

Participants’ subscales scores depending on the location of work

There was a statistically significant difference between the midwives working in health facilities located in urban areas versus those working in rural settings for the subscales related to Death and dying $\chi^2(5, N=208) = 14.6$, $p = .015$; Conflict with physician $\chi^2(5, N=208) = 10.68$, $p = .050$; Problems with supervisors $\chi^2(5, N=208) = 11.9$, $p = .018$; and Uncertainty with treatment $\chi^2(5, N=208) = 21.07$, $p = .001$. The midwives working in urban settings reported having some level of stress relating to ‘death and dying’, ‘conflict with physician’, and ‘having problems with supervisors’, while those working in rural settings reported “uncertainty with the patient’s treatment” as the most frequent source of stress. The sub-scales for items related to inadequate preparation, problems with peers, workload; problems with patients and their families, and discrimination did not yield any statistically significant difference between the two settings.

Participants’ subscales scores based on the place of work, (N=208, Public (n = 131), Private (n = 77)

Only the sub-scores for ‘uncertainty with treatment’ and ‘death and dying’ showed a statistically significant difference between the midwives working in public health facilities and those working in a private health facility [$\chi^2(5, N=208) = 19.73$, $p = .001$] and [$\chi^2(5, N=208) = 11.02$, $p = .05$] respectively. The sub-scales for conflict with physicians, inadequate preparation, problems with peers, problems with supervisors, workload, problems with...
patients or families, and discrimination did not show any statistically significant differences between the responses for the two groups.

**Discussion**

This is the first known study about work-related stress that focuses solely on midwives in Uganda. Furthermore, the study also compared the differences in the sources and levels of work-related stress among midwives working in rural versus those working in urban health facilities as well as midwives working in private versus those working in public health facilities. Professional midwifery work is demanding and may be associated with several situations, especially among midwives working in resource-limited settings. In this study, we used the ENSS to determine the major sources and levels of work-related stress among midwives working in different health facilities in central Uganda.

Overall, the results from this study indicated a high level of work-related stress among midwives working in central Uganda in all work-related situations that were assessed with a high mean total score. It is important to observe that eight out of the nine subscales showed a mean stress score of above 3, with the only exception being the item of inadequate preparation. The major sources of stress among participants in this study according to the 9 subscales of the ENSS were problems with patients and their families, followed by workload, and uncertainty concerning patient treatments. The sources of least stress included ‘inadequate preparation’ and ‘death and dying’ of mothers and their babies. A comparison in the sources and levels of stress based on the location of place work indicated that midwives working in urban settings reported being more stressed with situations concerning ‘death and dying’, conflict with physicians, and problems with supervisors while those working in rural settings reported being more concerned with uncertainty with patient treatments. Additionally, midwives working in public health facilities reported more stress due to uncertainty with treatment and ‘death and dying’ than their counterparts in private health facilities.

The results of this study are, in part, consistent with the results of a study by Kamal & Al-Dhshan (16) among midwives in public hospitals in Saudi Arabia. Kamal's findings indicated that problems with patients and families and workload was the most frequent source of work-related stress, whereas inadequate preparation was the lowest contributing item. However, Kamal’s study reported relatively lower mean subscale scores than were identified in the current study. Considering the subscale for problems with patients and families, their study reported a mean subscale score of 2.87 (SD ± .77) compared to the current study that determined a mean subscale score of 3.74 (SD ± 0.86). Furthermore, the findings of this study concurs with the results of studies by Bánovčinová (17, 18), among midwives in Slovakia, Mohamedkheir, Amara (19) in Khartoum-Sudan and French et al (14) among nurses in Canada. Although the study populations might be slightly varied in these studies, all the studies reported ‘death and dying’ and ‘conflict with physicians’ as the major sources of stress for their participants and discrimination as the lowest scored subscale. In the current study, ‘death and dying’
dying’ situations were the second least source of stress for the participants. Concerning the place of work (private or public) and location of the place of work (urban or rural), there is a paucity of literature that has evaluated these attributes and how they mediate stress experiences among midwives, so the findings in the current study have potentially made a significant contribution to this knowledge gap.

There are several possible explanations for the findings of our study. This study reports higher mean total and subscale scores of stress for all nine subscales than other studies using the ENSS tool. The participants in our study were predominantly younger (aged 20-30 years) than in previous studies. Other studies suggest age and work experience have an inverse relationship with work-related stress. The younger the midwives, the lower the experience and the higher the levels of stress reported (20, 21). Moreover, most of the participants in our study had basic midwifery training (enrolled midwives or diplomas) and receive very low pay of between $250 - $600 US dollars per month gross pay (22). The level of training and pay has been reported to contribute to poor motivation and thus stress (23, 24). The staffing shortfall in Uganda’s healthcare system and consequent excess workload overwhelms midwives and other healthcare staff. Midwives working alone for both day and night shifts may cause a change in their behaviour. They may become rude or indifferent, leading to a change in attitude and expression which may appear to be precursors for the difficulties with patients and their families (25) which was reported as being the biggest contributor of stress in this study. This workload consequently yields extreme stress, emotional distress, and compassion fatigue syndrome which might manifest as physical and verbal abuse to mothers and rampant cases of neglect (20, 21).

Many studies in nursing and midwifery have reported a large proportion of participants having ‘death and dying’ as one of the top subscales respecting cause of work-related stress (17, 18, 7, 26). In this study, the subscale for ‘death and dying’ was the eighth most stressful work-related stress event. However, the mean score for the participants in our study is much higher than that in most studies that have used a similar ENSS tool to assess stress among midwives and nurses which reported mean scores for ‘death and dying’ ranging between 2 to 2.9 (17, 18, 7, 26). This finding would indicate that, although ‘death and dying’ is not to top contributor to work-related stress, midwives in Uganda find the issues surrounding the death and suffering of a mother or baby very stressful. Considering the maternal mortality rate in Uganda (343 per 100,000 live births in 2018) midwives in Uganda suffer more death-related experiences than those in more developed countries, which may account for the reduced rank relative to other factors.

Inadequate preparation, conflict with physicians, conflict with supervisors, and conflict with peers suggest that midwives in this study experience these stressors to a much higher degree than noted in other studies. Key differences that exist for example among urban midwives reporting death and dying and conflict with physicians might be attributed to Uganda’s referral system and the reduced professional
autonomy among urban working midwives in tertiary hospitals. The healthcare referral system in Uganda entails the transfer of a woman with pregnancy or labour-related complications either from a rural health facility or private practice to a public tertiary health facility normally located in urban areas. The two tertiary health facilities in our study were Kawempe National Referral hospital and Kiboga district hospital. A significant proportion of pregnant women with complicated childbirth, like obstructed labour, are referred from rural health facilities to public urban tertiary care facilities. Nakimuli et al (2016) reported maternal mortality of 4.2 per cent and near-miss complications of childbirth of 22.7 per cent among 3100 pregnant women attending referral and tertiary hospitals in Uganda. This profile of maternal complication could partly explain why urban working midwives experienced more stressors related to ‘death and dying’ (see table 4). The situation surrounding the care of such women might also manifest in conflicts with physicians among urban and public facility-working midwives. In Uganda midwives in more rural health facilities normally have more autonomy regarding the management of normal pregnancy and sometimes they are the sole managers of the maternity units in which they operate. Unlike most urban tertiary referral hospitals, doctors make more decisions about patient management. This scenario is likely to cause conflict between physicians and urban working midwives because of the reduced autonomy and disagreements on the modality of normal birth.

In summary, our research echoed the findings of other studies using the ENSS, although the stress levels reported in our study were much higher. The average age of participants in this study was younger than noted in other studies. Death and dying was stated as the highest stress score in the majority of other studies, although in our study this item featured much lower in the overall ranking, but it was still rated as very stressful.

Limitations

Our study was descriptive, so it did not claim to ascertain cause and effect of the various stressors. Further, we were not able to assess the level of burnout that stress may cause in this sample of participants. Additionally, the study used a limited sample size of 208 participants and did not randomly sample health facilities and participants. This is likely to limit the generalization of the results. However, our results are indicative of a higher level of stress among practising midwives in the facilities that we surveyed and those that are similar in setting in central Uganda. The study was conducted in central Uganda, and we did not have the perspectives of other midwives within the rest of the regions in Uganda. This study only compared the relationship between self-reported work-related stress between the place of work (public or private) and the location of work (urban or rural). We observed that several other factors might confound how midwives experience and perceive stress including issues inherent in the individuals themselves however, these were beyond the scope of this study.

Recommendations

We recommend that concerned administrative bodies for midwives and
nurses address the key stress factors emerging in this study. A more extensive study involving a more diverse sample from other regions in Uganda, and a range of health facilities should be carried out to fully ascertain the factors influencing stress and burnout among midwives. A predictive model might also need to be developed to ascertain the magnitude of each key subscale that contributes to the level of stress experienced by midwives in their workplaces. More qualitative studies might also be required to understand the reasons midwives identified specific factors (i.e., problems with patients and families, conflicts with physicians, and problems with peers and supervisors) as the most likely to cause stress in the workplace.

**Conclusion:** Most midwives in this study in central Uganda report moderate to extreme levels of work-related stress. The most commons stressful factors reported were patients and families, workload, problems with supervisors, conflict with physicians, and uncertainty with treatment. There were a few differences identified in the type of stressors among midwives working in rural or urban areas, with midwives in urban settings reported being most stressed with ‘death and dying’ and ‘conflict with physicians,’ while those in rural settings report more ‘uncertainty with treatment’ and ‘problems with supervisors.

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**Conflict of Interest:** None

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