**A QUALITATIVE STUDY OF WORK-RELATED MUSCULOSKELETAL DISORDERS AMONG MIDWIVES IN SELECTED HOSPITALS IN HO MUNICIPALITY, GHANA**

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# ABSTRACT

**Objective**: The study sought to explore the experiences of midwives with work-related musculoskeletal disorders, their impact on them, and their coping strategies at selected hospitals in the Ho municipality.

**Methods**: A qualitative approach with an exploratory descriptive design was used in this study. Data were collected and recorded on voice recording devices from fifteen (15) midwives through purposive semi-structured interviews using an interview guide. Data were manually transcribed and analyzed using thematic analysis.

**Results**: Four themes and ten subthemes emerged from the analysis of the study. These themes were further expanded by their sub-themes in describing musculoskeletal conditions, onset, understaffing of midwives, awkward posture assumption during care delivery, limited logistics, struggle with quality of life, impaired work performance, rest and good body mechanics, and teamwork.

**Conclusion**: In order to lower the rate of WRMSDs among midwives and to increase work efficiency, educational programs on prevention and coping mechanisms for musculoskeletal disorders should be made mandatory for midwives.

**Keywords**: *Musculoskeletal disorders, Labour, Midwives, Non-adjustable delivery beds, Thematic content analysis*

**Introduction**

Globally, the prevalence of work-related musculoskeletal disorders (WRMSDs) among midwives varies widely between 9.2% and 68.0% (Kassa et al., 2019). The International Labour Organization (ILO), and the World Health Organization (WHO) refers to WRMSDs as a new epidemic that warrants more attention (WHO, 2020). Lower back pain is one of the most common WRMSDs among midwifery professionals, accounting for a point prevalence of approximately 17%, an annual prevalence of 40-50% and a lifetime prevalence of 35-80% (Chiwaridzo et al., 2018a).

Musculoskeletal disorders can be caused by poor posture, sprains, lifting of heavy objects, stress, long working hours, and workload (Yan et al., 2017; Azma et al., 2016a). In the healthcare sector, midwives are part of the multi-disciplinary medical team that are susceptible to WRMSDs (Kacem et al., 2021a).

Generally, midwives routinely perform activities that require standing long for the birth delivery processes, lifting patients, working in awkward postures, long working hours and transferring patients out of bed and from the floor (Krishnan et al., 2021b ; Tinubu et al., 2015). These work tasks put midwives at high risk for acute and cumulative WRMSDs (Jin et al., 2018). Given the predisposition of midwives to the risk factors of WRMSDs, pragmatic health preventive measures become imperative to modify patterns of working so as to avoid undue occupational stress on the staff and eventual rise in the incidence of these disorders (Chiwaridzo et al., 2018). In maternity, limitations in productivity or functionality by the midwives can cost the life of the mother and the baby or cause critical and chronic damage (Sarafis et al., 2016).

In Ghana, there is little information on the prevalence of WRMSDs among midwives. However, a study by Boakye et al. (2018) in the Greater Accra region documented a prevalence of WRMSDS among midwives to be 53.8%. Although Ho Municipality’s midwives are not dissimilar from other midwives, contextual differences necessitate local studies to be conducted for relevant solutions to be proffered. To get a piece of first-hand information on the experiences of midwives with work-related musculoskeletal disorders, its impact on them and their coping strategies, a qualitative design was employed for the study.

# Materials and Methods

## Study Design

This study adopted an exploratory design with a qualitative research approach. This design was selected to enable the researchers to explore midwives’ experiences with work related musculoskeletal disorders, its impact and coping strategies at selected hospitals in the Ho Municipality.

### Sample and sampling Technique

Purposive sampling was employed in this study and data saturation was reached after the 15th participant. This sampling technique was chosen because this research focuses on particular characteristics of a population that are of interest which will best enable participants to answer the research question. The study included midwives working at the selected facilities and willing to consent to take part of the study.

**Research Instrument and Data Collection Techniques**

A semi structured interview guide was used based on the study objectives. A semi structured questionnaire was chosen because it permits freedom of responses and provides an insight into a comprehension of an issue. To ensure a higher degree of validity and reliability of the interview guide for the study, a pre-test was conducted among three (3) midwives in any of the selected health facility. When the period for data collection was due, midwives eligible for the study were approached with the researcher-developed interview guide. An informed consent was obtained from the individual midwives after an explanation of the nature of the study. The place and time of face-to-face interviews was scheduled according to the participants’ convenience. All interviews were conducted in English language since it is an official language. Each interview will last between 30 to 45 minutes, which was recorded using digital audio recorders as well as detailed field notes.

**Data Analysis**

The outcomes of the interview were analyzed using thematic content analysis. Thematic content analysis is a method of presenting qualitative data in a descriptive manner. The data from the recorded interviews was transcribed and categorized. The data was compared with notes taken during the interview process to check for possible omissions or additions. The data was subsequently integrated using the thematic content analysis technique. Codes were developed into themes and sub-themes for the write-up. Direct quotations from participants were presented to ensure that the participants’ responses were reflected in the study. Field notes were also reviewed to add depth to the analysis.

## Results

## Sample characteristics

A total of fifteen (15) midwives from 3 selected health facilities participated in this study.

## *Table 1- Demographic characteristics of participants*

|  |  |  |
| --- | --- | --- |
| SAMPLE CHARACTERISTICS | COUNT (15) | PERCENTAGE (100%) |
| **Gender** | **Count (N)** | **Percentage (%)** |
| Male | 1 | 6.7% |
| Female | 14 | 93.3% |
| **Total** | 15 | 100 |
| **Age** | **Count (N)** | **Percentage (%)** |
| **20 – 29** | 2 | 13.3% |
| **30 – 39** | 7 | 46.7% |
| **40 – 49** | 4 | 26.7% |
| **50 – 59** | 2 | 13.3% |
| **Marital status** | **Count (N)** | **Percentage (%)** |
| Single | 4 | 26.7% |
| Married | 10 | 66.6% |
| Divorced | 1 | 6.7% |
| **Educational Background** | **Count (N)** | **Percentage (%)** |
| Diploma | 6 | 40% |
| Degree | 9 | 60% |

|  |  |  |
| --- | --- | --- |
| Year of work experience | Count (N) | Percentage (%) |
| 1 – 5 | 2 | 13.3% |
| 6 – 10 | 7 | 46.7% |
| 11 – 15 | 3 | 20% |
| 16 – 20 | 3 | 20% |

## Research Question Results

All fifteen (15) participants in this study affirmed that they suffer from musculoskeletal disorders as a result of the midwifery work. Four themes and thirteen subthemes emerged from the analysis of this study.

**Table 2: Summary of the themes and their subthemes.**

|  |  |  |
| --- | --- | --- |
| **RESEARCH OBJECTIVES** | **THEMES** | **SUBTHEMES** |
| 1. Experience of midwives on work-related musculoskeletal disorders. | **Theme one:** musculoskeletal disorders experienced. | 1. Description of Musculoskeletal conditions. 2. Onset of musculoskeletal discomfort. |
| **Theme two:** Predisposing factors contributing to musculoskeletal disorders. | a. Understaffing of midwives.  b. Assuming awkward posture during care delivery.  c. Limited hospital logistics. |
| 1. The impact of work-related musculoskeletal disorder among midwives. | **Theme three:** Impact on work-life | 1. Struggle with quality of life 2. Impaired work Performance |
| 1. Coping strategies adopted by midwives to reduce work-related musculoskeletal disorders. | **Theme four:**  Work-life adaptive strategies | 1. Rest and good body mechanics. 2. Teamwork 3. Self- medication. |

## Theme One: Musculoskeletal Disorders experienced

Majority of the participants described some musculoskeletal disorders experienced and how it started. These disorders range from those that arise suddenly and are short term such as lower back pain, waist and neck pain to long term conditions such as herniated lumber disk, spondylosis and scoliosis.

### Subtheme one: Description of Musculoskeletal conditions

13 out of 15 participants vividly described the musculoskeletal conditions experienced in line of duty. This is evident in the following quotes:

*“I have been having pain at my waist, my neck and my lumbar but one morning I couldn’t turn my neck so I went to the nearest hospital. I was asked to take x ray and the result showed it was herniation of the bone, so I was given some medication and was asked to come back. About two months later I experienced the same pain again so I went to another hospital but was referred to a bigger hospital in the capital city for MRI. When the results came, it was herniation of the bone and my spinal cord. I was diagnosed with spondylosis. I was given a pain relief and referred to a physiotherapist”* **(P2, 40years)**

Other participants also said:

*Yes, I have back and waist pain. As for the waist it resulted from the bed we use for delivery while the back is as a result of taking ultrasound scan for pregnant women. The was a time I went to work and couldn’t sit upright after a day’s work. I couldn’t even lift my hand so x-ray was requested and I was diagnosed of scoliosis. I was put on medications and was told if it doesn’t resolve then it will be corrected surgically***. (P13, 33years)**

### Subtheme two: Onset of musculoskeletal disorder

The onsets of these skeletal disorders were described as sudden or gradual. The following are statements by some participants:

*For the pain it started with the numbness in the leg so I went for an x-ray. The pain was actually radiating with the numbness so I went back to consult the orthopedic specialist and he said it’s not my previous surgery (Caesarian Section) and that I should be fine in six months. So finally, I had to take an x-ray, which indicated I have a problem with my back as a result of the nature of my work. We continued until an MRI confirmed that I have slip a disk on my spinal cord “herniated lumbar disk”.* **(P6, 40years)**

### Theme Two: Predisposing factors of Work-Related Musculoskeletal Disorders.

It was revealed that most activities, poor working environment, limited logistics, diversity of clients’ needs at the hospital, inadequate staff and body postures predispose most midwives to work-related musculoskeletal disorders.

#### Subtheme three: Understaffing of midwives

It was revealed that, because the nature of their work is demanding. In this regard, participants stated:

*“I work overtime… I risk myself to do many things…like yesterday there was a client I delivered and I had to stay over and write the delivery summary since I conducted the delivery alone. Later I realized the client was bleeding so I had to stay and stabilize her before leaving. The night staff were just two on duty so I left here around 11p.m”.* **(P8, 36years)**

*“We are not many, there are lack of staff but management would not regard it. We are only 9 midwives at the maternity ward. There are times when one midwife runs a full shift with many patients on the ward. Sometimes, just as you are about closing,* *labor cases do arrive in the second stage. You may be extremely tired but still have to attend to those cases. Amidst the waist pain, you still need to attend to all, just imagine”.* **(P1, 34years)**

#### Subtheme four: Assuming Awkward Posture during Care Delivery

All Participants reported that they assumed inappropriate postures while attending to clients. The following statements were made:

*“Sometimes patients prefer delivering on the floor which makes us bend or assume an awkward posture for a very long time but because of patient’s right we tend to do it without hesitation. For example, I had to deliver a psychiatric client on the floor even though delivery beds were available. The client preferred to lie on the floor so I had to conduct the delivery on the floor. All these predispose us to musculoskeletal disorders”.* **(P10, 59year)**

*I prefer standing for a long time in complicated cases, bending over the patient, lifting the patient and pushing the trolley here and there. The postures assumed while conducting deliveries make us prone to musculoskeletal disorders”.* **(P15, 56years).**

#### Subtheme five: Limited hospital logistics

In addition, midwives expressed concern that limited logistics is a serious problem for the hospital. The following statements were made:

*“We lack most equipment in this hospital. For instance, we move oxygen cylinders around a lot. Anytime we run out of oxygen at the labour ward, we either go to NICU or the maternity ward to carry the oxygen cylinders which are without carriers or labourers to assist. We normally move the cylinders up and down all by ourselves, and all these predispose us to musculoskeletal disorders”.* **(P9, 32years)**

*“Imagine me examining puerperal mothers on this low bed, I will surely bend and you know examining puerperal mother takes a very long time and its very tedious. We need seats as well”.* **(P12, 26years)**

## Theme Three: Impact of work-related musculoskeletal disorders among midwives

The subthemes include performance impairment, negative effect on quality of life, financial struggles in paying treatment bill and the idea of changing job.

### Subtheme six: Struggle with quality of life

Nearly all of the midwives who were interviewed said that they have had problems with their musculoskeletal systems as a result of their jobs. These are evidence from participants:

*“Due my back pain, I can’t bend to tidy up my room or even cook. Previously, I spent more time with my family on my off days but now I prefer sleeping because of the pain and mostly sleep in sitting position”.* **(P4, 40years)**

Participants said that WRMSDs affects them financially since they have to foot their hospital bills themselves after treatment. This is described in the following statement:

*The hospital has no insurance for staff suffering from any work-related disorder, I pay with my own money. Even up till now I'm still paying with my own money anytime I go to Korle Bu hospital for treatment.* **(P4, 40years)**

*I will be telling lies if I say I know of any available insurance for staff. I visit the Physiotherapist twice a week, that is 8 times a month which has huge toll on my finances because not all their services are covered by the NHIS.* **(P6, 40years)**

It also emerged from the interview that most participants have the idea of moving into a different field of work. The narration supports the above assertions:

*Oh, do you want me to die early? Lecturing is next on my agenda but it’s not because the job is difficult that’s why I want to leave. To be frank, there’s stress, the stress is too much, physical and mental stress. So personally, I have decided to leave the field within the next five years.* **(P6, 40years)**

### Subtheme seven: Impaired work Performance

According to the findings of the study, the job of a midwife requires a lot of activities and critical thinking in order to protect the mother and her unborn child. This was evident in the words of some participants:

*Sometimes because of the pain when I go to the ward I work on few clients. I’m not allowed to conduct delivery or do any difficult work because of my condition. Also, I do not run night duties.* **(P2, 40years)**

*Sometimes when you’re too tired and a client calls, how fast you attend to them is affected. There was a day I came for afternoon shift at 2pm, I was serving medication, attending to CS and abortion cases. I only had the chance to drink water at 5pm. Immediately I sat down, a client called. I couldn’t attend to her immediately. I asked what was wrong with her when I was sitting there but I shouldn’t have asked the question while sitting down. I should have gone to her to check what was wrong but I did not. Later she said it was coming but when I got to her bedside she was expelling, and it was an incomplete abortion.* **(P9, 32years)**

## Theme Four: Coping strategies adopted by midwives to mitigate work-related musculoskeletal disorders.

The most common strategies adopted by all participants include rest and good body mechanics, teamwork, and self-medication.

### Subtheme eight: Rest and good body mechanics.

Some participants emphasized that they try to create time for rest and also maintain good posture while working. This is described in the following statements:

*“Oh, I sleep, the first thing I normally do after work is to throw my bag somewhere and take a nap even before I think of finding something to eat”.* **(P2, 40years)**

*“Anytime I’m timing contraction, I always sit down because it is 10 minutes long. I sit down to be comfortable. If I conduct delivery and let’s say there is a tear, I sit down to do the suturing. Personally, I do create time for rest”.* **(P5, 28years)**

The study also revealed that most midwives relieve their pain from work-related musculoskeletal disorders, by visiting the physiotherapy. The following quote support the above assertion:

*“Because of my condition(spondylosis), I go for physiotherapy regularly. Occasionally, I do full body works also”.* **(P2, 40years)**

*I personally go for physiotherapy twice every week to reduce the pain. Also, I wear Lumber sacral belt which helps not to put pressure on the affected body part.* **(P6, 40years)**

### Subtheme Nine: Teamwork

All participants stated that to make their work less stressful, they require extra hands in providing care to a patient. This is evident by the following statement:

*“I usually seek help from my colleagues to carry heavy patients and tasks I cannot perform alone.* *In case of any difficult task, you need to call for help. Don’t force yourself to do things above your strength when there are people around. When you break down right now you will be replaced”.* **(P3, 39years)**

*“As for me, my doctor advised me not to lift heavy things but I still do with assistance from other staff on duty when the need arises”.* **(P4, 40years)**

Another participant also talked about breaking in between tasks to stretch to reduce the stress on some parts of the body. This was evident in the words:

*When performing a task, I stretch in between and continue with the work again. Also, when I’m not feeling well, I hand over to a colleague to continue the work for me to rest.* **(P1, 34years)**

### Subtheme 10: Self-medication

Some participants claimed that they use mild to moderate analgesics, such as tablet paracetamol, and diclofenac to manage their pain and keep working. The participants’ quoted the following:

*“Sometimes when I close from work, I experience so much pain that I cannot do my chores, so I take painkillers to help reduce the level of pain. Even sometimes at work, I feel severe pain so I take some paracetamol to relieve the pain”.* **(P8, 36years)**

*Due to the nature of midwifery work, even in pain, you still have to attend to clients so I take pain medication like Ezipen to relieve the pain while on duty.* **(P10, 59years).**

**Discussion**

The study indicated that work-related musculoskeletal disorders comprised of fractures, sprains, lower back pain and herniated lumber disk, spondylosis, and scoliosis. This finding is consistent with the studies by Cao et al. (2021), Okuyucu et al. (2019), Moghadam et al. (2017) in Iran, and Long et al. (2013), who documented that most midwives experienced some form of work-related musculoskeletal disorders which included lordosis, lower back pain, kyphosis, sprains, herniated lumber disk, and scoliosis. However, the current findings were contrasted by Kacem et al. (2021) in Tunisia who documented that the most common work-related musculoskeletal disorders experienced by midwives were lower back, neck, and shoulder pain. Majority of midwives recruited for our studies had worked for more than five years with a maximum working experience of 18 years. It is not surprising that some of the midwives recruited for our studies had herniated lumber discs, spondylosis, and scoliosis because these conditions take longer to develop than those reported by Kacem et al. (2021), who only reported lower back, neck, and shoulder pain. Study results showed that, the majority of participants reported to have developed symptoms of a work-related musculoskeletal disorder within the first year of beginning their careers as midwives, and they described the onset as either sudden or gradual. In agreement, Yan et al. (2017) in China found that during the first year of employment, more than two-thirds (62.7%) of midwives suffered from work-related musculoskeletal disorders. Contrastingly, Chiwaridzo et al. (2018) found that the majority of midwives first experienced work-related musculoskeletal disorder symptoms while still student midwives. The onset of WMSDs can be inferred from the findings above as occurring in all stages of life, from training to working years.

On predisposing factors, the results of this study showed that poor body posture and unavailability of Non-Adjustable Delivery Beds (NADBs) were significant predisposing factors for work-related musculoskeletal disorders. This result is consistent with research from Dartey et al. (2021), Peter et al. (2021), Yang et al. (2020), Azma et al. (2016) and Tinubu et al. (2010) in Nigeria, who identified the unavailability of adjustable beds and poor body posture as significant risk factors for work-related musculoskeletal disorders. The possible explanation for the above findings is that working in an awkward posture puts stress on the muscles, bones, and joints. For instance, transferring a pregnant woman requires the midwife to flex their vertebral column for a prolonged duration, exerting isometric muscle contractions to maintain their static posture or to slowly lower a heavier patient to the chair (eccentric muscle contractions). The fact that shortage of staff ranked as a predisposing factor work-related musculoskeletal disorders among midwives in the results does not come as a surprise given that most healthcare facilities in low- to middle-income countries are understaffed. This assertion affirms the current report by Ghana Registered Nurses and Midwives Association (GRNMA) that more than 3,000 of its members left Ghana by March 2022 and 55.9% of practicing nurses and midwives intend to leave the country (GRNMA, 2022). This will tend to create an increased workload among the working forces of nurses and midwives in the various health facilities and an increase in the prevalence of work-related musculoskeletal disorders. According to the results of the study, the majority of midwives also expressed concern about inadequate logistics as a risk factor for work-related musculoskeletal disorders. This result is in line with research conducted by Adenike et al. (2019), Sharma et al. (2014), Gholamzadeh et al. (2011) and Moustaka et al. (2010), who found that the majority of midwives cited a lack of working tools as a significant contributor to work-related musculoskeletal disorders.

Furthermore, results of our study also showed that work-related musculoskeletal disorders have a negative impact on midwives' performance at work as it lowers their productivity. This finding is consistent with earlier studies showing that work-related musculoskeletal disorders reduced midwives' productivity (Yan et al., 2017; Azma et al., 2016; Jordan et al., 2016; Carugno et al. 2012). As part of coping strategies, almost all midwives emphasized that maintaining good body postures whiles working either by sitting to perform some procedures or adjusting beds to appropriate heights when caring for pregnant women were some ways in reducing the pain associated with work-related musculoskeletal disorders. Additionally, the findings from this study indicated that another way midwives cope with work-related musculoskeletal disorders was to work collaboratively with colleagues. Most midwives stated that helping colleagues transfer a patient from a stretcher to the bed, assisting colleagues to perform bed bath, helping colleagues to position a client for procedure were the various ways they collaborated to reduce work-related musculoskeletal disorders. These findings are consistent with the findings by Boakye et al. (2018) in Ghana, and Kassa et al. (2019) in Ethiopia who in their studies documented that getting support from colleagues was a strategy adopted by most midwives to cope with work-related musculoskeletal disorders. Most of the midwives in this study admitted to using analgesics, mainly NSAIDs, as self-medication to treat their work-related musculoskeletal disorders. This finding is consistent with the study by Ogundipe et al. (2020), who documented that midwives’ resort to taking of medications to deal with lower back pain and neck pain. The aforementioned findings can be linked to the fact that midwives, by virtue of their job, possess sufficient knowledge of the many types of medications and their uses. However, it is well recognised that continual use of these drugs can have significant impact on the health of these midwives (Azma et al., 2016; Jordan et al., 2016).

## Conclusion

The study concluded that all midwives working at the selected health facilities in the Volta Region had experienced work-related musculoskeletal disorders, which had a detrimental effect on their quality of life and productivity at work. In order to lower the rate of WRMSDs among midwives and to increase efficiency, educational programmes and in-service training on prevention and coping mechanisms for musculoskeletal disorders should be made mandatory for midwives. Also, appropriate working equipment should be provided for effective work.

## Implications for Practice

These study findings have important implications for developing proper and continuous education programs, in service training and campaigns for the primary prevention of musculoskeletal disorders. Findings from this study will help health policy administrators, relevant stakeholders and health-care workers in developing strategies to curtail WRMSDs. Additionally, findings from this study will serve as a baseline information for other practitioners and researchers who are interested in this field.

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