Assessment of the quality of care in Maternity Waiting Homes (MWHs) in Mulanje District, Malawi

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Abstract

Aim
Maternal Mortality Ratio (MMR) in Malawi remains high at 439 deaths per 100,000 live births, primarily due to limited access to skilled birth care. Although Malawi established Maternity Waiting Homes (MWHs) to improve access to skilled labour, the quality of care provided in the homes has received limited assessment. The aim of this study was to assess quality of care in the Maternity Waiting Homes in Mulanje, Malawi.

Methods
We conducted a descriptive qualitative study in three MWHs in Mulanje district, Malawi, from December 2015 to January 2016. We conducted a non-participatory observation using a checklist, to assess the physical layout of the facilities, six face-to-face in-depth interviews (IDIs) with health providers and four focus group discussions (FGDs) with 27 pregnant women admitted for more than 48 hours in MWHs. We digitally recorded all FGDs and IDIs simultaneously transcribing and translating them verbatim into English. Data were analysed using thematic analysis.

Results
There were mixed perceptions towards the quality of care in the MWHs. Factors that were perceived to indicate higher quality included a quiet environment at the MWH and midwifery services. Lack of cooking spaces, lack of 24-hour nursing care, absence of food and recreation services and sleeping on the floor negatively affected perceptions of quality.

Conclusion
The study has shown that care provided in MWHs varied across facilities. Perceptions of the quality of care were not uniform and a lack of standards contributed to the differences. Efforts should be made to improve, sustain and standardize care in MWHs in order to improve perceptions of quality in MWHs.

Introduction
Maternal death is one of the major health problems in the world with 99% of maternal deaths occurring in developing countries and 57% in sub-Saharan Africa. The Maternal Mortality Ratio for sub-Saharan Africa alone is 500 maternal deaths per 100,000 live births, while in Malawi, MMR is at 439 deaths per 100,000 live births. Although the MMR rates remain high in Sub-Saharan Africa, De Brouwere et al. contend that more than 80% of the maternal deaths are preventable through effective interventions, even in developing countries. Lack of access to skilled birth care is the leading contributing factor to maternal deaths in developing countries. One of the many interventions in place to improve access to skilled birth care is the establishment of Maternity Waiting Homes (MWHs). Access to skilled birth care is increased by accommodating pregnant women in nearby hospitals where emergency obstetric care is provided.

MWHs are residential facilities within health institutions where women with high-risk pregnancies are admitted as they wait for their expected date of delivery. Pregnant women with previous still births, operative delivery, high parity and high blood pressure, are some of the factors that define high-risk pregnancies. MWHs also cater for pregnant women who have poor access to skilled birth care from 35-40 weeks gestation. Some countries developed their own MWH guidelines with admission protocols. For example, Mozambique includes geographical distance and high-risk pregnancy as criteria for admission into MWHs.

An evaluation of MWHs published on the World Health Organization’s (WHO) website showed that Malawi does not have MWH guidelines and that the admission protocol was not documented. The evaluation highlighted that previously, Malawi used guardian shelters and postnatal wards to accommodate pregnant women close to the hospital instead of MWHs. Few women referred themselves to the shelters and others were recommended by health workers. The WHO evaluation stipulated minimum standards for MWHs which include three elements, health services, education and supportive services.

Malawi adopted and officially implemented MWH interventions in 2012 under the presidential safe motherhood initiative. Currently, 18 districts in Malawi have MWHs, with Mulanje district pioneering the initiative in 2012. The aim was to provide all women with regular checkups and education, especially those living far from the hospital. Despite the expansion of MWHs in Malawi, MWHs’ specific guidelines and services management have not been documented. However, anecdotal reports show that, currently, most MWHs are using the Antenatal Care (ANC) guidelines. Although MWHs form one of the pillars of the presidential safe motherhood initiative and aim at linking pregnant women into the formal health system to improve maternal health, there has been limited assessment on the quality of care provided in MWHs in Malawi. This study was guided by the Donabedian structure-process-outcome framework to assess quality of health care services in diverse
health care settings and the minimum standards of quality care in MWHs listed on the WHO’s website. The value of combining the Donabedian model and the WHO MWH standards was that the Donabedian model helped to take on board all comprehensive variables that could lead to defining the quality of care in the MWHs, the structure, process and outcome. We therefore collected data to facilitate the assessment of quality of care using Donabedian aspects. Malawi does not have standards to guard the provision of services in the MWHs. Information on quality will assist in improving MWHs for the health workers and the intended purposes of contributing to the improvement of maternal health and reduction of maternal deaths. In this study, we assessed client and provider perspectives on quality of care in MWHs in Malawi.

Methods

Study design

We conducted a qualitative descriptive study at Mulanje Mission Hospital, Mulanje District Hospital and Chonde Health Centre in Mulanje, Malawi, from December 2015 to January 2016 to assess client and provider perspectives on quality of care in MWHs. Of the 23 health facilities in Mulanje, these health facilities were the only three facilities with a MWH at the time when this study was conducted.

Study place and Sample size

We purposively selected Mulanje district because it pioneered the establishment of MWHs16. We conducted a non-participatory observation of the physical layout of the MWHs using a checklist17-18. We only focused on the perceptions of health workers and pregnant women on the quality of care because of time limitations. We conducted six face-to-face interviews (FTIs) with health providers and two at each health facility. We conveniently sampled and recruited 27 pregnant women who constituted four focus group discussions (FGDs). The pregnant women were those that were admitted for more than 48 hours in MWHs. At Chonde Health Centre, we did not find enough women to constitute an FGDB. We digitally recorded all FGDS and key informant interviews (KIIs), simultaneously transcribing and translating them verbatim into English.

Health workers assisting in identifying eligible pregnant women as per eligibility criteria. We verified the participant’s demographic data as captured in their health passport book to achieve maximum variation in the selection of individuals with various characteristics to broaden responses19,20. We included both primigravidae and multigravidae who were of different ages and had spent varying lengths of time in MWHs in order to draw on various experiences and broaden the scope of the responses. In each of the two facilities, the researchers divided the women into two groups to constitute FGDS based on participants’ age to promote free expression of their experience in relation to the care they received in MWHs. One group had women aged 18 to 24 years and the other group had women aged 25 years and above. We purposively selected six health workers based on their roles and experiences in the MWHs. We included a nurse midwife and a guard from each MWH who had worked at their respective MWHs for more than 6 months. We decided on a period of six months because participants would have the necessary skills and would provide deeper insights into the quality of care14. We purposively included a guard because they are a critical human resource stationed in MWHs around the clock.

Data collection

Data collection in the FGDS and IDIs followed pretested guides (Additional files 1 and 2: ID1 and FGDS guide respectively). We collected data to facilitate the assessment of quality of care, descriptions and evaluations of care received, and challenges and recommendations regarding MWHs. We collected similar data from health care workers highlighting their perspectives and how they provide the services (Additional file 3). Each participant was interviewed once by research assistants who were trained by the researcher on how to use the data collection tools and administer the consent forms. The IDIs lasted for 45-65 minutes, while FGDS lasted for 60-95 minutes. Data collectors summarised the key findings after each session as a measure of data validation21. We stopped collecting data after data saturation, which was achieved when participants did not add any new information to the already collected data22.

We conducted non-participatory observations in all study sites using a checklist (Additional file 4: Non-participatory observation checklist). The checklist was developed to assess structural elements prescribed by the Donabedian theory. The checklist was developed from the minimum standards stated in the review of MWH published on the WHO website to assess whether or not certain structural aspects were present23. Prior to data collection, the checklist was reviewed by the College of Medicine Research Ethics Committee (COMREC) and the supervisor’s expert review.

Prior to data collection, the checklist was reviewed by the College of Medicine Research Ethics Committee (COMREC) and the supervisor’s expert review. The research team piloted data collection guides at South Lunzu Health Centre to check for validity and no changes were made. We achieved data credibility through collection of data from two data sources: health workers and pregnant women. We applied the methodological triangulation16 by using different methods of data collection tools: IDIs, FGDS and non-participatory observations. We verified whether participants’ contributions matched with their written contributions by repeating what had been discussed to validate the data18.

Ethical approval

Prior to study implementation, we sought ethical approval from COMREC on the protocol, consent documents and interview guides (COMREC: P16/15/1818). We sought support and authorization from the Mulanje District Health Officer and officer’s in-charge of the respective health facilities to conduct the study. We sought written informed consent from participants who were able to read and write and participants that were unable to read and write provided thumb prints on the consent forms in the presence of impartial witnesses. We used codes instead of participants’ names to ensure confidentiality. Although the researcher and research assistants were nurse midwives, their identities were concealed by not wearing uniforms, which helped to avoid compromising research findings. The researcher and assistants were not employees from the study sites.

Data analysis

We analysed our data manually following thematic analysis as suggested by Braun et al., which assisted in theme identification and facilitated the organization and report patterns within data in detail25. Our themes were inductively and deductively developed from our data. Donabedian’s model and the WHO conceptual frameworks, respectively26,27. Prior to analysis, we transcribed recorded data, translated it verbatim from Chichewa into English and read the transcripts multiple times which allowed for data immersion and familiarization. The two authors independently coded one transcript. Different codes were discussed by the two authors and later, we agreed upon primary codes that were used for the other transcripts. We also included other codes that were not realized from the initial transcript as analysis progressed. We examined the codes and collated similar codes into categories to organize them under overarching themes28. We refined our themes by checking them against the data and the conceptual frameworks that guided the study. We defined and explained the components of each theme. Codes that did not fit the established themes were presented separately to achieve an objective presentation of findings. We searched for inconsistent evidence and opposing details and named the themes by looking at the data that was taken on board, looking at the stories behind the themes and why the themes were important29.

Results

Table 1: Demographic characteristics of focus group discussion participants

| Variable          | N (%) | % |
|-------------------|-------|---|
| Gravidity         | 15    | 56|
| Primigravidae     | 12    | 44|
| Multigravidae     | 2     | 7 |

| Age               | 14    | 52|
| Gestation in weeks| 24    | 7 |
| 25-34             | 2     | 7 |
| 36-39             | 5     | 26|

| Duration of stay  | 25    | 93|
| 4-3 days          | 9      | 07|
| 4-8 weeks         | 2      | 07|

| Marital status    | 92    | 07|
| Married           | 92    | 07|

| Number of admission | 25    | 93|
| First admission    | 25    | 93|
| Second admission   | 25    | 93|
| Mean age range     | 19-29 | 93|
| Median gravidity   | 1.3   | 93|
| Median gestation   | 37    | 93|
| Gestation age range| 34-40 | 93|

Most women admitted to the MWHs were married (N= 23) and 4 were single. Participants were able to read and write and most of the participants were either in grade 11 or grade D (N= 23). The participants’ median age was 24 years, with the age range of 18-29 years old. The median gravidity of the women in the MWHs was 1, with the gravidity range of 1-3, and the median gestation age was 37 weeks with the gestation range of 34-40 weeks.

Characteristics of pregnant participants in in-depth interviews

The median age for the participants was 25 years with the age range of 19-30 years. 4 of the participants were married and only 2 were single. The median numbers of primigravidae and multigravidae (N=3). Among the pregnant women, 5 had a gestation age of less than 39 weeks with one more than 40 weeks. 4 participants had stayed for less than 1 week, while 2 participants had stayed in the MWHs for between four and 6 weeks. 4 of the participants were able to read while 2 were unable to read and write.

Characteristics of health workers

The health workers included three nurse midwives and three guards. The nurses’ highest level of qualification was a diploma in nursing and midwifery whilst the guards’ highest level of education was the Malawi Junior Certificate of Education (JCE). The duration of employment for the health workers ranged between 3 months to 6 years.

Table 2: Emerging themes and sub-themes

| Emerging themes                  | Subthemes                                      | Number of admission | Mean age range | Median gravidity | Median gestation age |
|----------------------------------|------------------------------------------------|--------------------|----------------|-----------------|---------------------|
| 1. High quality of care in MWHs  | - Convenience                                  | 25                 | 19-29          | 1.3             | 37                  |
|                                  | - Midwifery services                           | 2                  |                |                 |                     |
|                                  | - Close monitoring of pregnant women           | 2                  |                |                 |                     |
| 2. Low quality of care in MWHs   | - Nutrition support                            | 25                 | 19-29          | 1.3             | 37                  |
|                                  | - Lack of cooking space                       | 2                  |                |                 |                     |
|                                  | - Lack of 24-hour nursing care                 | 2                  |                |                 |                     |
|                                  | - Benefits                                     | 2                  |                |                 |                     |
|                                  | - Health workers’ attitude                     | 2                  |                |                 |                     |
|                                  | - Security                                     | 2                  |                |                 |                     |
|                                  | - Inadequate material                          | 2                  |                |                 |                     |
|                                  | - Health education                             | 2                  |                |                 |                     |
|                                  | - Infrastructure                               | 2                  |                |                 |                     |
|                                  | - Water supply                                 | 2                  |                |                 |                     |
|                                  | - Waste management                             | 2                  |                |                 |                     |

a) Good quality of care in maternity waiting homes

Participants who were satisfied with the quality of care in the MWHs were: (a) high quality of care in the MWHs, and (b) low quality of care in the MWHs. Overall, participants had mixed experiences and recommendations regarding MWHs. We list of themes is presented in Table 2 below.
the care they received met their expectations because the health care workers addressed the problems that led to their admission. In some instances, participants were satisfied with the referral services that were provided such as ultrasound scanning.

“I just thank them that the care that we are receiving here is adequate. For example, during the night some women do not have food to eat or when the food has been served they find something to eat.” (PW, FGD Mulanje District Hospital).

The health care workers’ gratitude corroborated the participant’s expression of satisfaction as follows:

“I feel happy if women have been assisted nicely … when we meet, they would call me and show me the baby that born … that makes me feel good.” (SP, Chonde Health Centre).

Participants were also pleased with the accommodation.

“This place is good and free. Allows fresh air and a person can do whatever she please. It is a good place.” (PW, FGD Mulanje District Hospital).

b) Low quality of care in MWHs

In all the study sites, there were participants dissatisfied with the services; some expressed boredom, short times in managing their homes and others expressed unhappiness with staying in the MWHs.

“We are even tired here… There is nothing that makes me happy here.” (PW, FGD Mulanje District Hospital MWH).

“There is nothing interesting, … In our home we even sleep on beds and we have the mosquito nets.” (PW FGD Mulanje Mission Hospital MWH).

“Our husbands are forced to stay home and look after the house and the other kids at the same time they have to bring food for us their wives here so it is not simple.” (PW, IDI Chonde Health Centre).

Factors that influence quality of care in maternal waiting homes

Several factors influenced the quality of care in the MWHs, such as resources for quality care and storage of information.

Drugs and other hospital supplies

Health care workers in all the study sites reported that most of the time, they are not supplied with all the necessary materials needed for the MWHs, for example iron supplements.

“The resources that we require include gloves and ferrous sulphate [iron supplements]. However we have stayed close to two months without having the iron supplements in stock.” (SP, IDI Chonde Health Centre).

“Amenities: Water supply, wash rooms, lighting

Participants at Mulanje District Hospital MWH reported that they do not always have a water supply within the facility and would draw water from a river. Although the buildings have indoor plumbing, the water supply is inconsistent even if the water bill is paid.

“Most of the time we do not have the water supply, we do go down to the hospital and we use tap water and sometimes we even bath there.” (PW, FGD Mulanje District Hospital MWH).

Participants from Mulanje District Hospital MWH also reported that they do not have adequate lighting in the washroom, which makes it difficult to use during the night. Participants at Mulanje Mission Hospital MWH reported that they have washrooms, but they are inadequate for the number of clients. At Chonde Health Centre MWH, participants said that the washrooms are not hygienic.

“We have only one bathroom and one toilet to cater for about 30 plus people who are waiting inside, so it is very difficult for us to use at the same time…” (PW FGD Mulanje Mission Hospital MWH).

Transportation resources

Participants at Chonde Health Centre reported that there is an ambulance for use when clients are referred to other locations. Participants at Mulanje Mission District Hospital MWH mentioned that there are no wheelchairs or trolleys, making it difficult to go to the labour ward.

“Every since I came here, I have never seen a woman taken on the wheelchair.” (PW, FGD Mulanje District Hospital MWH).

Participants at Mulanje District Hospital MWH reported that during the night, when they are going to the labour ward, pregnant women use personal phones as a torch, and the guards do not have the necessary materials.

“…If one of the women on the group has a phone, then we light the torch…” (PW, IDI Mulanje District Hospital MWH).

Challenges during Labour

Participants highlighted challenges such as giving birth in the corridor, and midwives’ delays in attending pregnant women in labour.

“Some women do deliver in the corridors … they are also told that they should go move around and if you happen to give birth in the corridor, they shout at you.” (PW, Mulanje District Hospital MWH).

Poor documentation

Health providers at Chonde Health Centre MWH and Mulanje District Hospital MWH reported that they do not have files or registers for record keeping, which limits the information and statistics on their clients.

“We need to have admission books … but because of shortage of resources we do not write anywhere the information about the women.” (SP IDI Mulanje District Hospital MWH).

“…”It is impossible to track the pregnant women who are in the MWHs… It is really impossible.” (SP IDI Chonde Health Centre MWH).

Human resource

Participants and health providers in all study sites reported lack of nurses to provide care to pregnant women around the clock. Participants at Chonde Health Centre MWH reported that they have a schedule for nurses; not only do nurses rarely adhere to the schedule, but they are understaffed as well.

“Yes the women stay with the guard. There are no midwives in the MWHs.” (SP IDI Mulanje Mission Hospital MWH).

Security within MWHs

Participants and health workers at Mulanje District Hospital MWH and Chonde Health Centre MWH stated that participants would report to the labour ward at night without the escort of security guards. At Chonde Health Centre, male guards were not comfortable to look after pregnant women because it is culturally inappropriate. As a result, MWHs were left unguarded leading to loss of resources through theft.

“I wish we had two guards … We feel scared, but we still go because we trust in large groups.” (PW FGD Mulanje District Hospital MWH).

In all participants complained of inadequate human and material resources. Participants reported that MWHs lacked human resources that could support with recreational activities and they lacked materials that they could use. Furthermore, participants stated that other health care workers expressed a bad attitude towards the clients. Some providers requested pregnant women do their work for them. Participants at Mulanje Mission MWH complained that the home was not spacious; some pregnant women had to sleep on the floor. At Chonde Health Centre MWH, pregnant women reported sleeping on the floor, even though beds were available because they were advised not to use them. Similarly, at Mulanje District Hospital MWH, some women slept on the floor because there was no bedding and sleeping.

Nutritional support

Participants from Chonde Health Centre MWH and Mulanje Mission Hospital MWH reported that they were not offered food, while participants from Mulanje District Hospital MWH expressed concern over the poor quality and inadequacy of the food provided.

“Although the food is served, it is not adequate and the food is not well prepared, sometimes the food is burnt; people are not receptive to the food.” (PW, FGD Mulanje District Hospital MWH).

The absence of a kitchen creates a challenge for the participants at Mulanje District Hospital. Participants reported to use the hospital kitchen instead of the MWH’s kitchen because the MWH kitchen was not declared open although it exists. Due to long distance between the MWH and hospital kitchen, participants found it difficult to cook at night.

“We cannot prepare food at the MWH because the available kitchen is not functioning.” (PW, FGD Mulanje District Hospital).

Participants from all centers also found challenges with preventing diseases like malaria. Although they are provided with mosquito nets, the nets are either inadequate or torn; other participants do not use nets because they do not sleep on the bed and some nets are stolen.

Discussion

The main finding of our study was that some pregnant women and health workers were satisfied with the quality of care in the MWHs, whilst others were dissatisfied. Our findings should be interpreted in the context of the Donabedian theory and the minimum standards for the MWH as laid out by the WHO25, 26. Most studies on MWHs conducted outside Malawi did not focus on assessing the perception of quality of care in MWHs but rather focused on their utilisation, on the mattress without bed sheets made the pregnant women feel excessively hot. Observations of the physical layout of the MWHs are elaborated in Table 3.

“We are sleeping on the bed, but if there are a lot of women others sleep on the floor.” (PW, IDI Mulanje Mission MWH).

of which quality was captured in the process27-29. Had we focused on the utilisation of the MWH, perceptions of those that had not been admitted in the MWH could have been incorporated; however some ideas may be abstract. Our
study showed that the factors leading to satisfaction with the quality of care were good accommodation, good ventilation of the MWHs space, provision by nurses and midwives, and provision of food. Similarly, a literature review by Sawisthana et al. showed that pregnant women in developing countries were satisfied with good environmental conditions, indicating the importance of provision by nurses and midwives. In our study, we found similar results, with pregnant women in MWHs generally satisfied with the quality of care provided.

However, the WHO's recommendations state that pregnant women should have access to information and services. In our study, pregnant women in MWHs were satisfied with the quality of care provided, but some were dissatisfied with the availability of food, lack of nursing care around the clock, and lack of water. These factors negatively affected the quality of care, as shown by our findings. Furthermore, the availability of water in MWHs is crucial in ensuring the quality of care, as shown in the study in rural Zambia. Our findings highlight the importance of these factors in ensuring the quality of care in MWHs.

Conclusion

The key finding of our study was that pregnant women in MWHs were satisfied with the quality of care provided, but some were dissatisfied with the availability of food, lack of nursing care around the clock, and lack of water. These factors negatively affected the quality of care, as shown by our findings. Furthermore, the availability of water in MWHs is crucial in ensuring the quality of care, as shown in the study in rural Zambia. Our findings highlight the importance of these factors in ensuring the quality of care in MWHs.

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