ABSTRACT

BACKGROUND: Globally, less attention has been given to the abuse and disrespect observed during maternity care. Person-centered maternity care is providing care that is respectful and responsive to individual women’s preferences and needs and that their values guide all clinical decisions during childbirth. In Ethiopia, person-centered health care is one of the factors that increase client satisfaction and health service utilization. Therefore, we aimed to determine the level of person-centered maternity care among mothers who gave birth in health facilities of South Wollo Zone public hospitals, Northeastern, Ethiopia, 2019 using a mixed-method study.

METHODS: An institution-based cross-sectional study was conducted using both qualitative and quantitative data collection methods. Three hundred sixty-nine study participants were selected for the quantitative study using simple random sampling. Twelve study participants were selected for the qualitative study using purposive sampling. The quantitative data was coded and entered into Epi data 4.4 version and the analysis was carried out using Statistical Package for Social Sciences version 23. Descriptive statics was presented using tables and figures. Thematic analysis was used for qualitative data and presented with the quantitative result through triangulation.

RESULT: The percentage mean score of the person-centered maternity care scale of the respondents was 64% of the total expected score. Whereas, the percentage means score sub-scales were 81.9%, for dignity and respect, 56.4% for communication and autonomy and 61.6% for supportive care. Most mothers who participated in an in-depth interview reported that there is not enough bed, delivery coach and bedpan in government hospitals.

CONCLUSION AND RECOMMENDATIONS: Person-centered maternity care in health facilities of South Wollo Zone public hospitals is low. Therefore, responsible health sectors should work to improve the quality of care through effective communication between clients and providers and a supportive environment is crucial to succeeding in increasing the uptake of high-quality facility-based births.

KEYWORDS: Person-centered care, maternity care, respectful care, health facilities

Background

Globally, progress has been made in the reduction of maternal mortality during the past several decades, but less attention has been given to the abuse and disrespect observed during maternity care. According to the White Ribbon Alliance, the concept of maternal care must be expanded beyond the prevention of morbidity or mortality to encompass respect and compassion for women’s basic human rights, including respect for women’s autonomy, dignity, feelings, choices, and preferences including companionship during maternity care.

According to the Institute of Medicine (IOM), person-centered maternity care is defined as providing maternity care that is respectful and responsive to individual women’s preferences, needs and values and ensuring that their values guide all clinical decisions before, during and after childbirth. Person-Centered Maternity Care (PCMC) emphasizes the experience of care and includes dimensions such as communication, respect and dignity and emotional support which are highlighted in the World Health Organization (WHO) quality of care framework for maternal and newborn health.

Different research which was done globally used different terminologies to measure person-centered care using qualitative and quantitative methods. The terminologies were positive childbirth experience, women-centered care, humanizing birth, family-centered maternity care and compassionate and respectful maternity care. The other researchers used the converse of those terminologies like; disrespect, abuse, and mistreatment during childbirth. But person-centered maternity care scale which has 3 dimensions and 30 components is now a valid and comprehensive tool to measure the maternal experience of person-centered maternity care quantitatively in developing settings.
The study of PCMC in low-income and middle-income countries (Kenya, Ghana, and India) showed that across all settings in the 3 countries women were not receiving PCMC. In addition Communication, respect for women’s autonomy and provision of dignified and supportive care tend to be poor across all study sites, highlighting a key gap in PCMC.24

Advancing PCMC is critical for increasing facility-based childbirth and ensuring effective implementation of women’s rights and person-centered approaches in maternal health services.2.4 In some cases, policymakers, program managers, and care providers are unaware of or neglect the disrespect and abuse that is experienced in their settings or the settings for which they are responsible.1,21

Globally, Sustainable Development Goals (SDGs) are aimed at reducing global maternal mortality to less than 70 deaths per 100,000 live births by 2030 for each country.22 But, in Ethiopia according to Ethiopian Demographic Health Survey (EDHS) 2016, the maternal mortality rate was 412/100,000 live births.23 This figure makes maternal mortality rate reduction very hard to achieve; if we can’t improve the care in health facilities person-centered since this will increase the satisfaction of clients and able to increase health service utilization.24,25

Recently, the Ethiopian Federal Ministry of Health has included caring, compassionate and respectful care (CRC) as 1 of the 4 pillars of the Health Sector Transformation Plane (HSTP 2015-2019) but, robust measurement is needed to understand the extent to which maternity care component is person-centered. According to this plan provision of quality health services involves instituting a patient-centered healthcare delivery system.25

Despite this fact, there is a dearth of evidence on some dimensions of PCMC to identify the real clients’ experience of PCMC specially, on the respectful dimension. The other components of PCMC like—communication and autonomy and supportive care are not well researched in Ethiopia in general and in South Wollo Zone public hospitals in particular. Therefore, this research tried to determine PCMC among mothers who gave birth in health facilities of South Wollo Zone public hospitals using a comprehensive tool and mixed data collection methods.

**Methods and Materials**

**Study area and period**

The study was conducted in South Wollo Zone public hospitals in the Amhara region, Ethiopia. Dessie is the capital town for the South Wollo Zone which is located 488 km from Bahir Dar, the capital city of the Amhara Region in the Eastern and 401 km far away from Addis Ababa, the capital of Ethiopia in the Northeastern direction. The Zone has 22 districts. There are 10 public hospitals in the Zone. The study was conducted from February 01 to March 12, 2019.

**Study Design:** Institution-based cross-sectional study design was employed using mixed (quantitative and qualitative) data collection methods.

**Population**

For the quantitative study; the source population was all mothers who gave birth at health institutions of South Wollo Zone public hospitals 9 weeks prior to the data collection period. The study population was randomly selected mothers who gave birth at health institutions of South Wollo Zone public hospitals 9 weeks prior to the data collection period.

For the qualitative study; the study population was all purposely selected mothers who gave birth at health institutions of South Wollo Zone public hospitals.

**Sample size determination**

**For quantitative data:** The sample size required for this study was calculated based on a single population proportions formula using Z (standard normal distribution) corresponding to a significance level of the 95% confidence interval at \( Z = 1.96 \) and (the margin of error) assumed to be 5%, \( P \) is an assumption that the proportion of women reporting person-centered care while giving birth, in which \( P = 50\% \) was taken.

And considering the non-response of 10%, the final sample size was 379.

**For qualitative data:** 12 mothers were interviewed for qualitative data until relative theoretical saturation of ideas achieved during data collection.26

**Sampling technique**

For quantitative data: In the first step, we randomly selected 3 hospitals from the 10 hospitals in the South Wollo Zone—namely, Tenta Hospital, Hidar 11 general hospital and Dessie specialized hospital. Following this, the number of mothers who gave birth was allocated proportionally to each hospital. The total number of mothers who gave birth in the Hospitals from February 01/2011 to March 12/2011 was identified. Finally, simple random sampling was used to select individual study participants when they came to post-natal care and immunization.

For qualitative study: Mothers for in-depth interviews were selected purposively (Residence was considered in the selection process to include the opinion of rural and urban resident mothers) from those mothers who were not included in the quantitative study.

**Data collection instrument**

For quantitative data: The data collection tool was composed of questionnaires about socio-demographic characteristics of the mother, obstetric history and a person-centered maternity care scale that was validated in Kenya and India to measure person-centered maternity care for developing settings. The scale has good internal consistency reliability, with Cronbach's alpha above .80; and high content, construct, and criterion validity and includes 30 items that span 3 domains: dignity and
respect (6 items), communication and autonomy (9 items), and supportive care (15 items). Each item has a four-point response scale, that is, 0 = no, never, 1 = yes, a few times, 2 = yes, most of the time, and 3 = yes, all the time. The tool was recommended to be administered to women who have recently given birth up to 9 weeks post-partum. Internal consistency/reliability for this questionnaire was checked by calculating Cronbach’s alpha for each of the domains to examine the extent to which respondents answered consistently to the theoretically similar items in each domain and it was found .79 for dignity and respect, .82 for communication and autonomy, .83 for supportive care sub-scales, and .85 for full PCMC scale.

For qualitative data: A semi-structured in-depth interview guide was used for qualitative data collection. The theme of the in-depth interview guide was dignity and respect questions, communication and autonomy questions, and supportive care questions with probing questions to explore deeply the quantitative components of PCMC.

Data collection methods

Quantitative data were collected using face-to-face interviewer-administered semi-structured questionnaires and in-depth interviews using audio-recording and note-taking were used for qualitative data collection. The trained data collectors were assigned to each selected hospital in South Wollo Zone. A pretest was done at Boru Hospital by using 10% of the total sample size (38 Mothers) earlier than the actual data collection period to judge the instrument and amendments were done accordingly.

Operational definitions

Person-centered Maternity care: This was measured using the PCMC scale which has 3 domains: dignity and respect, communication and autonomy, and supportive care, and 30 items with each item have a four-point response scale, that is, 0 (“no, never”), 1 (“yes, a few times”), 2 (“yes, most of the time”), and 3 (“yes, all the time”), and with negative items reverse coded (ie, questions that were framed negatively, such as verbal abuse, auditory privacy and crowdedness of room questions, had to be recoded so that high numbers represent good care).

Dignity and respect: Measured using 6 items with each item has a four-point response scale; that is, 0 (“no, never”), 1 (“yes, a few times”), 2 (“yes, most of the time”), and 3 (“yes, all the time”).

Communication and Autonomy: Measured using 9 items with each item has a four-point response scale; that is, 0 (“no, never”), 1 (“yes, a few times”), 2 (“yes, most of the time”), and 3 (“yes, all the time”).

Supportive care: Measured using 15 items with each item having a four-point response scale; that is, 0 (“no, never”), 1 (“yes, a few times”), 2 (“yes, most of the time”), and 3 (“yes, all the time”).

Data processing and analysis

For quantitative data: The collected data were entered into Epi-data manager version 4.4.1 and exported to statistical package for social science (SPSS) version 23 software for analysis. Any errors identified during data entry were corrected by reviewing the originally completed questionnaires. Descriptive statistics were presented using tables and figures.

For qualitative data: Qualitative data were transcribed, translated, coded and analyzed manually using the thematic analysis method; and finally presented with the quantitative result through triangulation by using a narrative approach.

Ethical considerations

Ethical clearance and approval to conduct this research were obtained from the Ethical Review Committee of Jimma University with reference number IHRPGS/222/2019. Permission to conduct the study was also requested from the South Wollo Zone health department. Voluntary informed consent was obtained from the study participants.

Result

Socio-demographic and obstetric characteristics of respondents

Three hundred sixty-nine mothers participated in this study with a response rate of 97.4%. The majority of the respondents 259 (70.2%) were from urban kebeles (The smallest administrative divisions in Ethiopia) and the rest 87 (29.8%) were from rural kebeles. The mean age of the respondents was 27.65 (SD ± 5.6) years with a minimum and maximum age of 17 and 48 years respectively. Most of the respondents were currently married 334 (90.5%). More than half of the respondents 219 (59.3%) were Muslims and 130 (35.2%) were Orthodox Christian followers respectively. Regarding the level of education, 124 (33.6%) of the respondents were primary level and 111 (30%) of them were secondary education and above level. The majority of mothers were not employed 286 (77.5%). More than half of the respondents’ 192 (52%) income were ≤3000 Ethiopian birrs. See Table 1.

Of the total respondents, nearly all 363 (98.4%) had a history of Antenatal Care (ANC) follow-up for recent delivery and two-thirds of 238 (65.6%) of mothers who received ANC service were seen at governmental health facilities. More than half of the respondents, 232 (62.9%) were multiparous. Only 83 (22.9%) of mothers had greater than 4 visits for ANC service.

Almost three-fourths 275 (74.5%) of mothers had a previous history of institutional delivery of at least 2 children. Over half of the respondents, 186 (50.4%) and 192 (52%) of the delivery service were attended by a midwife and gave birth through spontaneous vaginal delivery respectively. Nearly half 180 (48.8%) of the respondents reported that they gave birth during the daytime and nearly all 358 (97%) mothers had live births. See Table 2.
**Person-centered maternity care (PCMC) scales and sub-scales**

The maximum and minimum score for PCMCs was 88 and 19 respectively (out of 90). The mean PCMC score of the respondents was 57.6 with a standard deviation of 14 from 90. Standardization of the mean score was made by the following formula;

\[
\text{Percentage means score} = \frac{\text{Actual score} - \text{potential minimum score}}{\text{Potential maximum score} - \text{potential minimum score}} \times 100\%
\]

- Percentage means score for PCMC Scale = \((57.6-0)/(90-0) \times 100\% = 64\%\)
- Percentage means score for dignity and respect = \((14.74-0)/(18-0) \times 100\% = 81.9\%\)
- Percentage means score for communication and autonomy = \((15.23-0)/(27-0) \times 100\% = 56.4\%\)
- Percentage means score for supportive care = \((27.72-0)/(45-0) \times 100\% = 61.6\%\)

The Percentage mean score of the PCMC scale of the respondents was 64% of the total expected score. Whereas, the percentage means score sub-scales were 81.9%, for dignity and respect, 56.4% for communication and autonomy and 61.6% for supportive care. See Figure 1.

**Dignity and respect**

The mean score of the respondents was 14.7 (SD ± 2.7). About 124 (33.6%) of respondents in South Wollo Zone public hospitals felt that they were treated with respect while 96 (26%) of mothers reported they were treated in a friendly manner all the time during their stay in the health facilities. About 56 (14.6%) and 41 (11.1%) of women reported that they experienced verbal abuse and physical abuse at least once during their stay at the health facility respectively. See Table 3.

The finding from the in-depth interview showed that verbal abuse was frequently reported whereas none of the respondents reported physical abuse. “When I gave birth in referral hospital the cleaner insult me and showed bad facial expressions to me. So, I felt very bad... um not only me I saw other mothers were also crying on this [. . .the insult] issue...” 27 years old, Mother said.

“The service delivery was good but, sometimes the health care providers touch the moral of clients...they didn't respond appropriately for your questions and they didn't give satisfactory response... even they said don't come now and then to ask...” 27 years old, Mother said.

**Table 1. Sociodemographic characteristics of respondents in South Wollo Zone public hospitals, Northeast Ethiopia, 2019 (n = 369).**

| VARIABLES          | CATEGORY                  | FREQUENCY | PERCENTAGE (%) |
|--------------------|----------------------------|-----------|----------------|
| Residence          | Urban                      | 259       | 70.2           |
|                    | Rural                      | 110       | 29.8           |
| Age of mothers     | 15-19                      | 18        | 4.9            |
|                    | 20-29                      | 238       | 64.5           |
|                    | ⩾30                        | 113       | 30.6           |
| Marital Level      | Currently married          | 334       | 90.5           |
|                    | Currently unmarried        | 35        | 9.5            |
| Mother’s religion  | Muslim                     | 219       | 59.3           |
|                    | Orthodox Christian         | 130       | 35.2           |
|                    | Protestant                 | 15        | 4.1            |
|                    | Catholic                   | 5         | 1.4            |
| Level of education | Illiterates and able to read and write | 61 | 16.5 |
|                    | Primary level (1-8 grades) | 124       | 33.6           |
|                    | Secondary and above        | 184       | 49.9           |
| Employment status  | No                         | 286       | 77.5           |
|                    | Yes                        | 83        | 22.5           |
| Income (Birr)      | ⩽3000                      | 192       | 52             |
|                    | >3000                      | 177       | 48             

**Note:**

- The maximum and minimum score for PCMCs was 88 and 19 respectively (out of 90). The mean PCMC score of the respondents was 57.6 with a standard deviation of 14 from 90.
- Standardization of the mean score was made by the following formula;
- Percentage means score = Actual score – potential minimum score / Potential maximum score – potential minimum score \times 100%
questions... generally, they lack dignity and respect in their care. ...it was better if they respect the dignity of human” 22 years old Mother said. Record confidentiality and auditory privacy in the in-depth interview were reported less frequently during labor and delivery. 

**Communication and autonomy**

The mean score of the communication and autonomy sub-scale of the respondents was 15.2 (SD ± 5.4). The majority of respondents 234 (63.4%) reported that providers never introduce themselves when they first give care to them. Sixty-three (17.1%) of mothers reported that providers never called them by their names. Only 32 (8.7%) of respondents said that they were never involved in choices concerning their treatment, compared to 54 (14.6%) who felt that they were always involved. About 31 (8.4%) of the respondents did not feel they could be in a position of their choice during delivery. Additionally, 55 (14.9%) and 46 (12.5%) of respondents reported that the

**Table 2. Obstetric characteristics of respondents in South Wollo Zone public hospitals, North East Ethiopia, 2019 (n = 369).**

| VARIABLES                                | CATEGORY                        | FREQUENCY | PERCENTAGE (%) |
|------------------------------------------|----------------------------------|-----------|----------------|
| Antenatal care                           | Yes                              | 363       | 98.4           |
|                                          | No                               | 6         | 1.6            |
| Frequency of Antenatal Care (ANC)        | ≤4                               | 280       | 77.1           |
|                                          | Above 4                          | 83        | 22.9           |
| Place of Antenatal Care (ANC)            | Government health institution    | 238       | 65.6           |
|                                          | Private health institution       | 125       | 34.4           |
| Parity                                   | Primiparous                      | 137       | 37.1           |
|                                          | Multiparous                      | 232       | 62.9           |
| Total number of facility-based childbirth| ≤2                               | 275       | 74.5           |
|                                          | 3-4                              | 89        | 24.1           |
|                                          | >4                               | 5         | 1.4            |
| The profession of delivery attendant     | Doctor                           | 156       | 42.3           |
|                                          | Midwife                          | 186       | 50.4           |
|                                          | Others (Nurse)                   | 27        | 7.3            |
| Sex of the main provider                 | Male                             | 221       | 59.9           |
|                                          | Female                           | 121       | 32.8           |
|                                          | Both                             | 27        | 7.3            |
| Type of last delivery                    | Normal delivery                  | 192       | 52             |
|                                          | Cesarean delivery                | 58        | 15.7           |
|                                          | Instrumental                     | 119       | 32.3           |
| Time of delivery                         | Day time                         | 180       | 48.8           |
|                                          | Night time                       | 189       | 51.2           |
| Newborn outcome                          | Alive                            | 358       | 97             |
|                                          | Dead                             | 11        | 3              |
healthcare personnel never sought consent and authorization before an examination respectively. See Table 4.

The qualitative findings regarding communication and autonomy also revealed that effective communication between health care providers and mothers was an important factor to improve satisfaction and decreasing the anxiety of mothers; ". . .I was very satisfied if the health care providers called me by my name and if he [health care provider] explained what he is going to give me but. . .. umm some of them didn’t do that.’’ A 29-year-old mother said.

Supportive care. The mean score of the respondents was 27.7 (SD ± 7.4). About 165 (44.7%) of women reported that they were not allowed to be with someone they wanted during labor and 250 (67.8%) of women delivered without a companion. Besides, 103 (27.9%) of women reported that they felt that the rooms were crowded during their stay at the facility.

Less than half 170 (46.1%) of the respondents reported that water was available all the time during their stay in the health facility. The qualitative finding supported the finding that most mothers reported that there was a problem with water accessibility during their stay in the health facility. ‘’. . .let alone the water [there was no water] there was no other liquid matter even for drinking . . .was no equipment for drinking in the hospital. . .they had no Allah’s water’’ A 31-year-old mother said. See Table 5.

On the other hand, most mothers who participated in an in-depth interview reported that there is not enough bed, delivery coach and bedpan in government hospitals. The main findings from this study showed that lack of infrastructure during maternity care was one of the determinant causes that leads to lower quality of person-centered maternity care among maternity care users. ‘’. . .when I went there [hospital] the patient load was very high and were no beds for labour and delivery and I

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Table 3. Distribution of dignity and respect items, South Wollo Zone public hospitals, 2019 (n = 369).

| ITEMS                                                                 | NO, NEVER (%) | YES, A FEW TIMES (%) | YES, MOST OF THE TIME (%) | YES, ALL THE TIME (%) |
|-----------------------------------------------------------------------|---------------|----------------------|---------------------------|-----------------------|
| Treatment with respect                                               | 4 (1.1)       | 63 (17.1)            | 178 (48.2)                | 124 (33.6)            |
| Treatment in a friendly manner                                        | 11 (3)        | 90 (24.4)            | 172 (46.6)                | 96 (26)               |
| Providers shouted, scolded, insulted, threatened, or talked rudely during treatment (Verbal abuse) (RC) | 283 (76.7)    | 69 (18.7)*           | 17 (4.6)                 | 0                     |
| Providers treated me roughly like pushed, beaten, slapped, pinched and physically restrained (Physical abuse) (RC) | 328 (88.9)    | 25 (6.8)*            | 16 (4.3)                 | 0                     |
| Feeling of other people not involved in care could hear the discussion with health care provider (Auditory privacy) (RC) | 312 (84.6)    | 45 (12.2)            | 9 (2.4)                  | 3 (0.8)               |
| Feel health information was/will be kept confidential (Record confidentiality) | 12 (3.3)      | 13 (3.5)             | 208 (56.4)               | 136 (36.9)            |

*Shows that Yes, few times changed into Yes, once RC = Reverse Coded.

Table 4. Distribution of communication and autonomy items, South Wollo Zone public hospitals, 2019 (n = 369).

| ITEMS                                                                 | NO, NEVER (%) | YES, A FEW TIMES (%) | YES, MOST OF THE TIME (%) | YES, ALL THE TIME (%) |
|-----------------------------------------------------------------------|---------------|----------------------|---------------------------|-----------------------|
| Providers introduced themselves*                                       | 234 (63.4)    | 64 (17.3)            | 48 (13.0)                 | 23 (6.2)              |
| Providers called me by my name*                                       | 63 (17.1)     | 71 (19.2)            | 150 (40.7)                | 85 (23.0)             |
| Feel involved in decisions about my care                              | 32 (8.7)      | 90 (24.4)            | 193 (52.3)                | 54 (14.6)             |
| Consent to examinations and procedures                                | 55 (14.9)     | 99 (26.8)            | 142 (38.5)                | 73 (19.8)             |
| Allowed position of choice                                            | 31 (8.4)      | 101 (27.4)           | 157 (42.5)                | 80 (21.7)             |
| Spoken in a language I understand                                     | 6 (1.6)       | 42 (11.4)            | 95 (25.7)                 | 226 (61.2)            |
| Examinations and procedures were explained                            | 46 (12.5)     | 111 (30.1)           | 143 (38.8)                | 69 (18.7)             |
| Purpose of medicines was explained*                                   | 33 (8.9)      | 119 (32.2)           | 160 (43.4)                | 51 (13.8)             |
| Feel comfortable to ask questions I had to Providers                  | 13 (3.5)      | 83 (22.5)            | 160 (43.4)                | 113 (30.6)            |

* = The choice of the item was changed into (No, none of them, Yes, few of them, Yes, most of them and Yes, all of them). # = Did not get any medicine 6 (1.7%).
have stayed outside...on the corridor for a long time...not only me but also other mothers gave birth on the corridor. So, the main problem was that they had no bed...” A 32-year-old mother said.

Only 128 (34.7%) of the respondents reported that they thought there was enough health staff in the facility to care for them. Respondents of in-depth interview reported that the ratio of clients to health care providers was very high; “I saw there was high workload and the ratio of the health professionals and the client is not comparable [low number of providers]...they [health care providers] need to get enough rest” A 28 years old mother said.

On the other hand, the woman in the in-depth interview raised that privacy is a key requirement of women utilizing maternal care services, for physical examinations as well as the delivery process itself. They reported that they experienced the absence of privacy in some facilities “...there were no curtains to cover my body, the window was broken so that everyone can see you from outside or inside of the delivery room. ...generally, I wasn’t that much satisfied with their care” A 32-year-old mother said. Although some other mothers reported that their privacy was kept in private health institutions “...every mother had her curtains; so, they didn’t see each other” A 34-year-old mother said.

Discussion

This study investigated the person-centered maternity care among mothers who gave birth in health institutions of South Wollo Zone public hospitals using both quantitative and qualitative methods. The mean Person-Centered Maternity Care score was 57.7. This result is lower when it is compared to the study conducted in Kenya and India where the mean PCMC score was 60,19 and direct observation of respectful maternity care in 5 East and Southern African countries including Ethiopia, identified insufficient communication and information sharing by providers as deficiencies in respectful care.28

One of the transformation agenda in the Ethiopian health care system is to give respectful, dignified, and compassionate care since this practice increase client satisfaction and health service utilization.25 This study showed that only a little over one-third (33.6%) of the respondents experienced respectful treatment and only 1 in 4 (26%) of the respondents reported that they had got friendly treatment all the time during their stay at the health facility. This finding showed that achieving this goal remained low in the case of South Wollo Zone public hospitals. The reason might be a lack of appropriate training for health care providers on the key aspects of person-centered maternity care (ie, dignity and respect).

Table 5. Distribution of supportive care items, South Wollo Zone public hospitals, 2019 (n = 369).

| ITEMS                                              | NO, NEVER (%) | YES, A FEW TIMES (%) | YES, MOST OF THE TIME (%) | YES, ALL THE TIME (%) |
|----------------------------------------------------|---------------|-----------------------|---------------------------|------------------------|
| Allowed a labor companion*                         | 165 (44.7)    | 61 (16.5)             | 66 (17.9)                 | 69 (18.7)              |
| Allowed a delivery companion                       | 250 (67.8)    | 52 (14.0)             | 42 (11.4)                 | 25 (6.8)               |
| Providers talk to me about how I was feeling       | 25 (6.8)      | 72 (19.5)             | 190 (51.6)                | 82 (21.9)              |
| Providers supported me when I had anxieties and fears | 26 (7.0)      | 69 (18.7)             | 188 (50.9)                | 86 (23.3)              |
| Feel providers did their best to control my pain    | 21 (5.7)      | 66 (17.9)             | 172 (46.6)                | 110 (29.8)             |
| Providers paid attention when I needed help         | 13 (3.5)      | 77 (20.9)             | 157 (42.5)                | 122 (33.1)             |
| Feel providers took the best care of me             | 15 (4.1)      | 61 (16.5)             | 178 (48.2)                | 115 (31.2)             |
| Trust providers with regards to my care             | 5 (1.4)       | 68 (18.4)             | 162 (43.9)                | 134 (36.3)             |
| Feel there were enough providers to care for me     | 13 (3.5)      | 80 (21.7)             | 148 (40.1)                | 128 (34.7)             |
| Feel facility was crowded (RC)                      | 57 (15.4)     | 125 (33.9)            | 84 (22.8)                 | 103 (27.9)             |
| Facility had water                                 | 41 (11.1)     | 72 (19.5)             | 86 (23.3)                 | 170 (46.1)             |
| Facility had electricity                           | 3 (0.8)       | 35 (9.5)              | 57 (15.4)                 | 274 (74.3)             |
| Feel safe in the facility                          | 12 (3.3)      | 64 (17.3)             | 189 (51.2)                | 104 (28.2)             |
| Item                                               |               |                       |                           |                        |
| Very long (%)                                      |               |                       |                           |                        |
| Somewhat long (%)                                  |               |                       |                           |                        |
| Little long (%)                                     |               |                       |                           |                        |
| Very short (%)                                     |               |                       |                           |                        |
| Feeling about waiting time                         | 46 (12.5)     | 115 (31.2)            | 127 (34.4)                | 81 (22.0)              |
| Item                                               |               |                       |                           |                        |
| Very dirty (%)                                     |               |                       |                           |                        |
| Dirty (%)                                          |               |                       |                           |                        |
| Clean (%)                                          |               |                       |                           |                        |
| Very clean (%)                                     |               |                       |                           |                        |
| Thinking the general environment of the health facility; the facility was | 11 (3.0)   | 70 (19.0)             | 239 (64.8)                | 49 (13.2)              |

*1 did not want someone to stay with me 8 (2.2%), RC = Reverse Coded.
On the other hand, 23.3% of respondents experienced verbal abuse (like shouting at mothers, scolding, insulting, etc.) at least once during their stay at the health facility. This result is higher than the study conducted in Ethiopian public health facilities where providers shouted at 6.6% of HIV-negative women while taking their medical history and in low and income countries like; Kenya, Ghana and India where 7% to 11% reported verbal abuse. But, the result is lower than the previous study conducted at Bahir dar town in which 33.5% reported verbal abuse. This discrepancy could be due to the variations in staff training in the organizations and methodological approaches between studies. This implies that particular attention should be given to give training for healthcare providers regarding person-centered care of mothers.

A significant number of 11.1% of mothers reported that they have experienced physical abuse (like being pushed, beaten, slapped, etc.) at least once during their stay at the health facility. This finding is higher than findings from a study conducted in Ethiopian public health facilities physical abuse (the woman being slapped or hit) was reported in 9% of the observations and the finding from low- and middle-income countries (LMIC; Kenya, Ghana, and India) where less than 5% of respondents reported physical abuse. This variation might be due to socio-cultural differences between the clients and providers among studies. This suggests that the hospital administration should take corrective action in response to the physical abuse perpetrated by healthcare professionals and raise awareness to keep their ethical obligations.

Nearly two-thirds of mothers (64.4%) reported that providers never introduce themselves when they first came to see them. More than 17% of mothers reported that providers never called them by their names. Over 44.7% of women reported that they were not allowed to be with someone they wanted during labor and 67.8% of women gave birth without a birth companion. These findings were supported by the study conducted in Tanzania, that reported women felt ignored and neglected during childbirth because family members or companions were not allowed to provide support. But, WHO recommendations for intrapartum care of positive childbirth experience recommended that women need a comfortable birth position, companion's choice and respectful maternity care and effective communications.

Limitation of the study

The study does not show a causal relationship between the independent variable and the outcome variable since it was cross-sectional and descriptive in nature.

Conclusion

In conclusion, person-centered maternity care was low in South Wollo Zone public hospitals; particularly, in communication and autonomy and supportive care components. Hence, it seemed that providers rarely introduced themselves, asked permission to do exams or procedures, explained procedures and the purpose of medications to women, or created an environment in which women felt able to ask questions regarding their care. Women also had little involvement in decisions about their care, including the possibility of having birth companions present and the opportunity to choose their preferred delivery positions.

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Authors’ Contribution

FT conceived the original idea and was involved in proposal development, design, data collection and analysis and in all stages of the thesis. KY, TA, and HS were involved in proposal development, analysis, and all stages of the research project. All authors read and approved the final manuscript.

Availability of Data and Materials

The data is available from the corresponding author and will be provided upon a reasonable request.

Ethical Approval and Consent to Participate

Ethical clearance and approval to conduct this research were obtained from the Ethical Review Committee of Jimma University with reference number IHRPGS/222/2019. Permission to conduct the study was also requested from the South Wollo Zone health department. Voluntary informed consent was obtained from the study participants. Participants and this was confirmed by the ethical committee. Confidentiality and anonymity were ensured throughout the execution of the study.

Consent for Publication

Not applicable.

REFERENCES

1. MCHIP. User’s Guide: Respectful Maternity Care Toolkit. Maternal and Child Health Integrated Program; 2013:1-4.
2. White Ribbon Alliance. Category of Disrespect and Abuse: The Universal Rights of Childbearing Women. White Ribbon Alliance; 2010:1-6.
3. Berwick DM. What ‘patient-centered’ should mean: Confessions of an extremist. Health Aff 2009;28:w555-w565.
4. Tuncapel O, Were WM, MacLeann C. Quality of care for pregnant women and newborns—the WHO vision. BJOG. 2015;122:1045-1049.
5. Wilson-Mitchell K, Kustace L, Robinson J, Shemoe A, Simba S. Overview of literature on RMC and applications to Tanzania. Reprod Health. 2018;15:12.
6. Health Canada. Family-Centred Maternity and Newborn Care: National Guidelines. Authority of the Minister of National Health and Welfare Canada; 2000.
7. Hall J, Hundley V, Collins B, Ireland J. Dignity and respect during childbirth: a survey of the experience of disabled women. BMC Pregnancy Childbirth. 2018;18:1-13.
8. Oladapo O, Tuncapel O, Bonet M, et al. WHO model of intrapartum care for a positive childbirth experience: transforming care of women and babies for improved health and well-being. BJOG. 2018;125:918-922.
9. Rubashkin N, Szébik I, Baji P, Szántó Z, Szűcs G, Velemiskán S. Assessing quality of maternity care in Hungary: expert validation and testing of the mother-centered care (MCPC) survey instrument. *Reprod Health*. 2017;14:152.

10. Wassihun B, Zeleke S. Compassionate and respectful maternity care during facility-based childbirth and women’s intent to use maternity services in Bahir Dar, Ethiopia. *BMC Pregnancy Childbirth*. 2018;18:294.

11. Bohren MA, Vogel JP, Tunçalp Ö, et al. Mis-treatment of women during childbirth in Abuja, Nigeria: a qualitative study on perceptions and experiences of women and healthcare providers. *Reprod Health*. 2017;14:9.

12. Shrestha P, Koirala S, Shrestha G, et al. Community health worker’s role in improving the quality of care received by women giving birth: a qualitative study from two districts of Nepal. *BMC Pregnancy Childbirth*. 2017;17:226.

13. Okafor II, Ugwu EO, Obi SN. Disrespect and abuse during facility-based childbirth in a low-income country: International Journal of Gynecology and Obstetrics. Disrespect and abuse during facility-based childbirth in a low-income country. *Int J Gynecol Obstet*. 2014;128:110-113.

14. Miller S, Lalande A. The global epidemic of abuse and disrespect during childbirth: history, evidence, interventions, and FIGO’s mother–baby friendly birthing facilities initiative. *Int J Gynecol Obstet*. 2015;131:1-16.

15. Afulani PA, Diamond-Smith N, Phillips B, Singhal S, Sudhinaraset M. Validation of the person-centered maternity care scale in India. *Reprod Health*. 2018;15:1-14.

16. Rubashkin N, Warnock R, Diamond-Smith N. A systematic review of person-centered care interventions to improve quality of facility-based delivery. *Reprod Health*. 2018;15:1-22.

17. Afulani PA, Diamond-Smith N, Golub G, Sudhinaraset M. Development of a tool to measure person-centered maternity care in developing settings: validation in a rural and urban Kenyan population. *Reprod Health*. 2017;14:1-18.

18. de Silva D. Helping Measure Person-Centred Care. Health Foundation; 2014:2-3.

19. Afulani PA, Phillips B, Aborigo RA, Moyer CA. Person-centred maternity care in low-income and middle-income countries: analysis of data from Kenya, Ghana, and India. *Lancet Glob Health*. 2019;7:e96-e109.

20. Asfaw A, Bekele D. Status of respectful and non-abusive care during facility-based childbirth in a hospital and health centers in Addis Ababa, Ethiopia. *Reprod Health*. 2015;12:33.

21. Kumsa A. Status of Emergency Obstetric and Newborn Care Services and Client Satisfaction among Public Health Facilities in Jimma Zone, Oromia Region, Ethiopia. *BMC Pregnancy and Childbirth*. 2018;14:1-13.

22. Alkema L, Chou D, Hogan D, et al. Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation inter-agency Group. *Lancet*. 2016;387:462-474.

23. CSA and ICF. *EDHS2016. Ethiopian Demographic Health Survey*. CSA and ICF; 2016.

24. Kumsa A, Tura G, Nigusse A, Kebede G. Satisfaction with emergency obstetric and new born care services among clients using public health facilities in Jimma Zone, Oromia Regional State, Ethiopia: a cross sectional study. *BMC Pregnancy Childbirth*. 2016;16:85.

25. Federal Ministry of Health. Health Sector Transformation Plan. Federal Ministry of Health; 2015.

26. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant*. 2018;52:1893-1907.

27. Sudhinaraset M, Afulani P, Diamond-Smith N, Bhattacharyya S, Donnay F, Montagu D. Advancing a conceptual model to improve maternal health quality: the person-centered care framework for reproductive health equity. *Gates Open Res*. 2018;1:1.

28. Rosen HE, Lynam PF, Carr C, et al. Direct observation of respectful maternity care in five countries: a cross-sectional study of health facilities in East and Southern Africa. *BMC Pregnancy Childbirth*. 2015;15:306.

29. Sheferaw ED, Bazant E, Gibson H, et al. Respectful maternity care in Ethiopian public health facilities. *Reprod Health*. 2017;14:1-12.

30. Sando D, Kendall T, Lyatuu G, et al. Disrespect and abuse during childbirth in Tanzania: are women living with HIV more vulnerable? *J Acquir Immune Defic Syndr*. 2018;77:S229-S234.

31. McMahon SA, George AS, Cheber JJ, Mosha IH, Mpembeni RN, Winch PJ. Experiences of and responses to disrespectful maternity care and abuse during childbirth; a qualitative study with women and men in Morogoro Region, Tanzania. *BMC Pregnancy Childbirth*. 2016;14:1-13.