Respectful maternity care during labor and childbirth and associated factors among women who gave birth at health institutions in the West Shewa zone, Oromia region, Central Ethiopia

Gizachew Abdissa Bulto1*, Dereje Bayissa Demissie2† and Abera Shibru Tulu3†

Abstract

Background: Skilled assistance during pregnancy and childbirth is one of the key interventions in reducing maternal morbidity and mortality. But studies have shown that many women across the globe experience disrespectful and abusive treatment during labor and childbirth in institutions, which forms an important barrier to improving skilled care utilization and improving maternal health outcomes. Although there are few studies done in Ethiopia, information on the status of respectful maternity care (RMC) among women during childbirth at health institutions in the West-Shewa zone is lacking. Therefore, the study aimed to assess RMC during Labor and Childbirth and associated factors among women who gave birth at health-institutions in the West Shewa zone, Central Ethiopia.

Methods: Cross-sectional study was conducted at Health institutions in the West Shewa zone, Oromia region, Central Ethiopia. A systematic random sampling technique that uses women’s delivery registration number was used to collect data. Data was collected through an exit-interview. Both bivariate and multivariable logistic regressions were used to identify associated factors.

Results: From a total of 567 women who fully responded, only 35.8% received RMC. From categories of RMC, 76.5% of the woman is protected from physical harm/ill-treatment and 89.2% received equitable care free of discrimination. But, only 39.3% of woman’s right to information, informed consent and preferences were protected. Giving birth at health center (AOR:5.44), discussion on the place of delivery (AOR:4.42), daytime delivery (AOR:5.56), longer duration of stay (≥ 13 h) (AOR:2.10), involvement in decision-making (AOR:8.24), asking for consent before the procedure (AOR:3.45), current pregnancy unintended (AOR:5.56), the presence of < 3 health-workers during childbirth (AOR:2.23) and satisfied on waiting-time to be seen (AOR:2.08) were found to be significantly associated with RMC.

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Background

Respectful maternity care (RMC) is an approach centered on an individual, based on principles of ethics and respect for human rights, and promotes practices that recognize women’s preferences and women and newborns’ needs [1, 2]. RMC is a universal human right that is due to every childbearing woman in every health system [3, 4]. However, many women across the globe experience disrespectful, abusive or neglectful treatment during childbirth in health institutions [5]. The reported forms of Dis-Respect and Abuse (DRA) have been classified into seven categories: physical abuse, non-consented care, non-confidential care, non-dignified care, discrimination based on patient’s attributes, abandonment of care and detention in facilities [6].

Evidence from various countries in Sub-Saharan Africa shows that women would prefer to deliver in a facility, but choose not to because of previous experiences of inadequate, low quality, and/or disrespectful care in facilities [7–9]. Despite this, reports of “disrespectful and abusive treatment” during labor and childbirth continue to appear in the world [5, 7, 10]. Given the abundant reports of disrespectful and abusive obstetric care, women in low and middle-income countries fear various undesirable procedures and may prefer to deliver at home with a traditional birth attendant [4, 11].

Different studies highlighted the connection between disrespect and abusive care during facility-based childbirth and a decision by women not to use facility-based childbirth services. The negative effect of DRA during childbirth on skilled delivery attendance constitutes an important barrier to increasing services utilization and enhancing maternal well-being [8, 12, 13]. In Tanzania women who experienced disrespect/abuse were less likely to plan to deliver again at the same facility [14]. Bowser and Hill found that a weak health care system and shortages in human resource contributes to disrespectful or abusive care. Health facility infrastructure, resources and commodities were mainly mentioned as a contributors for the lack of RMC [15].

Skilled assistance during pregnancy and childbirth is one of the most important interventions in reducing maternal morbidity and mortality. Efforts to increase the use of facility-based maternity care in low-income countries are unlikely to achieve the desired gains if there is no improvement in the quality of care provided, especially elements of respectful care [16]. The negative patient experiences at health institutions contribute to poor health outcomes and reinforce mistrust of institutional care. Additionally, women and families may delay or avoid seeking care in health facilities, even at the risk of their own health and that of their newborn [17, 18].

Ethiopian federal ministry of health in its Health Sector Transformation Plan (HSTP) has planned to increase the level of deliveries attended by skilled birth attendants from 15% in 2014 to 90% by 2020. To help achieve the targets set, the Ministry has identified caring, respectful and compassionate (CRC) health professionals as one of the four transformation agendas. Lack of respect for patients and their families is a common complaint and having CRC health professionals is a critical requirement to ensure equity and achieve high-quality health services on its HSTP [19, 20].

In Ethiopia, the pooled prevalence of disrespect and abusive care during childbirth and maternity care was 49.4% [21]. More than two-thirds (78.6%) of postpartum mothers in Addis Ababa, 67.1% in Bahir Dar city and 21% of women in four health centers of Amhara and Southern regions of Ethiopia reported as they experienced one or more categories of disrespect and abuse during labor and childbirth [22–24]. Another study in Bahir Dar city showed only 57% of mothers received RMC [25].

As indicated, disrespect and abuse during labor and childbirth is an important concern, especially in countries like Ethiopia, where the maternal mortality rate is high (412/100,000 live births) and yet the skilled birth attendance has been very low (28%) [26].

In Ethiopia, even if there are few studies conducted on the status of disrespect and abusive treatments, data on the status of respectful maternity care and associated factors among women who give birth at health institutions in the west Shewa zone is lacking. Therefore, this study aimed to assess RMC during Labor and Childbirth and associated factors among “women who gave-birth” at health-institutions in West Shewa zone, Central, Ethiopia. Findings from this study may also help policymakers, program managers and organizations working on this area as baseline data for effective implementation of CRC in the HSTP, improving DRA treatments at health institutions.

Conclusions: The proportion of RMC during labor and childbirth in the study area was low. Type of institution, discussion during ANC, time of delivery, duration of stay, involvement in decision-making, the number of health workers, waiting time and consent were identified factors. Therefore, giving emphasis to creating awareness of care providers on the standards and categories of RMC, improving care provider-client discussion, monitor and reinforcing accountability mechanisms for health workers to avoid mistreatments during labor and childbirth were recommended.

Keywords: Respectful Maternity Care, Labor and Childbirth, Health Institutions, West Shewa Zone
Methods
Study design, period and area
An institution-based cross-sectional study design was used to assess the status of RMC during Labor and Childbirth and associated factors among women who gave birth in public Health institutions of West Shewa zone, Central Ethiopia, from April 01 to June 30, 2018. Ambo town which is the capital of the zone is located 114 km to the west of Addis Ababa, the capital of the country. Available information from the zonal health office shows that the total population of the zone is estimated to be 2,381,079 of which 1,214,350 is female. Currently, the health system of the zone consists of one university referral hospital, one general Hospital, five primary hospitals, ninety-two health centers and four hundred forty-seven health posts with 98% of potential health service coverage. All health centers and hospitals provide 24 h of labor and delivery services [27].

Source population and study population
The source population was all women who delivered at health institutions in the West Shewa zone. The study population was all women who delivered at the selected Health institutions during the data collection period and selected by a systematic random sampling. Women who were referred from other health institutions after giving birth to those selected health institutions were excluded.

Sample size and Sampling procedure
The sample size was determined by using single population proportion formula with the assumption that 78% proportion (P) of women experienced one or more categories of disrespect and abuse from a study done at the selected hospitals and health centers by reviewing the number of deliveries attended to by each health facility. A systematic random sampling technique was used to collect data using women’s delivery registration number from the delivery logbook. Data were collected from every 3rd woman who gave birth during the study period at each selected health institutions.

Operational definitions
In this study, women were considered to have received respectful maternity care during labor and childbirth if they answered yes to all of those questions assessing RMC or verification criteria used for assessing the seven categories (performance standards) of RMC during labor and childbirth [22, 25, 28].

Women were considered as experienced disrespect and abuse if they answered no to one or more of those questions assessing RMC or verification criteria used for assessing the seven categories of RMC [10, 12, 23].

Data collection tools and procedures
The questionnaires for data collection were initially prepared in English, and translated into the local language (Afan Oromo) and back into English to check for consistency with language experts. Data was collected through an exit interview by using a pre-tested structured Afan Oromo version questionnaire. We used a validated tool for assessing RMC which was adapted from the Maternal and Child Health Integrated Program. The other included questions in the questionnaire were prepared by reviewing different other related works of literature and variables identified to be measured [25, 28, 29].

Twenty-four [24] data collectors who were not working in the study area were recruited for the data collection and three [3] Master Degree holders conducted supervision during the data collection period. The training was given for data collectors and supervisors by investigators for two days. Pre-test of the questionnaire was done on 5% of the women who delivered at Holeta health center and Inchini hospital, to identify any ambiguity, check for consistency of the questionnaire, acceptability and necessary correction were made one week before the actual data collection. The filled questionnaires were collected and checked for consistencies and completeness daily by supervisors and principal investigators.

Data processing and analysis
The returned questionnaires were checked for completeness, cleaned manually, coded and entered into EPI Data version 3.1 software and then exported to SPSS windows version 23 for further analysis. Bivariate analysis was used primarily to check which variables have an association with the dependent variable individually. Variables which were found to have an association with the dependent variable (p-value ≤ 0.2) were then entered into Multiple Logistic regression model.

Ethical considerations
Ethical clearance was obtained from the research review and ethics committee of Ambo University, college of Medicine and Health Sciences.
Results
A total of 567 women fully responded to the interview questionnaire making a response rate of 97.4%. The majority of respondents, 263 (46.4%) had their childbirth in health centers, 546 (96.3%) were married, 303 (53.4%) were protestant religion followers, and 530 (93.5%) belong to the Oromo ethnic group. Regarding women's occupational status 202 (35.6%), were housewives and about 395 (69.7%) were urban residents. One-fourth of the respondents attended primary education 150 (26.5%). The mean age of respondents was 26.9 years with a standard deviation of 5.2 years (Table 1).

Obstetric Related Characteristics of Women
The result of this study indicated that the majority of respondents 417 (73.5%) were multiparous and 537 (94.7%) had ANC follow up. Of the total respondents, 453 (79.9%) of them gave birth with spontaneous vaginal delivery, 549 (96.8%) were live birth, and in only 54 (9.5%) of them, there were cultural practices (coffee or porridge) after delivery (Table 2).

Prevalence and Categories of Respectful Maternity Care
The overall proportion of women who received RMC during labor and childbirth was 203 (35.8%) [95% CI: 31.7–39.7], but a significant number of women 364 (64.2%) had experienced disrespect and abusive care during childbirth [95% CI: 60.3–68.3]. Only 47.3% of women who gave birth at health centers and 25.8% who gave birth at hospitals received RMC (. P=0.000).

From categories of RMC, 434 (76.5%) of the women were protected from physical harm or ill-treatment and 506 (89.2%) received equitable care free of discrimination. More than half 319 (56.3%) of respondents were never left without care or unattended. But, only 223 (39.3%) of a woman's right to information, informed consent, and preferences were protected (Fig. 1).

From the categories of being free from physical harm or ill-treatment, 498 (87.8%) of mothers were never physically forced or abrasively handled by care providers and 416 (73.4%) of them were provided comfort or pain relief as necessary.

Woman's right to information, informed consent and choice or preferences is the least respected from categories of RMC. In about 419 (73.9%) of women, they were allowed to move during labor and 312 (55.0%) were allowed to assume a position of choice during birth. For about 369 (65.1%) of women care providers responded to their questions with promptness, politeness and truthfulness and 356 (62.8%) of them explained what is being done and to expect throughout childbirth.

Factors associated with Respectful Maternity care during Childbirth
This study identified that those women who gave birth at health centers were 5 times (AOR = 5.44, 95% CI:2.93, 10.08) more likely to receive respectful care as compared to those who gave birth at a general hospital. Women who stayed 13 to 24 h and more than 24 h at health facility were 2.1 and almost 2 times more likely to receive respectful maternity care than those who stayed 12 h or less (AOR = 2.10, 95%CI:1.24,3.56) and (AOR = 1.94, 95%CI:1.08,3.46) respectively.

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This study revealed that women whose current pregnancy was unwanted were 5.56 times more likely to get RMC than those of a wanted pregnancy (AOR = 5.56, 95%CI: 2.56–12.11). Women who had discussed on the place of delivery with health workers during ANC visits were 4.42 times more likely to receive RMC during labor and Childbirth than those who did not (AOR = 4.42, 95%CI: 2.15–9.11).
In the current study the number of attending health care providers was found to affect RMC; in which those who were attended to by 2 or fewer providers were 2.23 times more likely to receive RMC than those who were attended by 3 or more (AOR = 2.23, 95%CI: 1.30, 3.82). Taking consent before doing a procedure was found to affect RMC, which indicated that women who gave their consent before the procedure were 3.45 times more likely to get respectful care than those who did not consent (AOR = 3.45, 95%CI: 1.56–7.61). Women who gave birth during the day time were 5.56 times more likely to receive respectful care than nighttime shift (AOR = 5.56, 95%CI: 3.47–8.91).

Those women who got involved in decision-making about their care were found to be 8.24 times more likely to receive respectful care than those who didn’t get involved (AOR = 8.24, 95%CI: 3.63–18.67). Women who were satisfied with their current waiting time to be seen by health workers were 2 times more likely to get RMC than those who weren’t (AOR = 2.08, 95%CI: 1.02–4.25) (Table 4).

**Discussion**

The current study indicated that overall, only one-third of women received RMC during labor and childbirth at public health institutions in the West Shewa Zone.
### Table 2: Obstetric characteristics of mother’s who gave birth at public health facilities in the west Shewa zone, Oromia region, central Ethiopia, 2018. (N = 567)

| Characteristics                                      | Categories                      | Number | Percent (%) |
|------------------------------------------------------|---------------------------------|--------|-------------|
| Number of Parity                                      | Primi-para                      | 150    | 26.5        |
|                                                      | 2–3                             | 211    | 37.2        |
|                                                      | ≥ 4                             | 206    | 36.3        |
| Current pregnancy Intended/Wanted                    | Yes                             | 507    | 89.4        |
|                                                      | No                              | 60     | 10.6        |
| Number of ANC follow ups                             | No ANC follow up                | 30     | 5.3         |
|                                                      | Once to twice                   | 90     | 15.9        |
|                                                      | Three times                     | 176    | 31.0        |
|                                                      | Four and above                  | 271    | 47.8        |
| Providers discussed about place of delivery during ANC| Yes                             | 462    | 81.5        |
|                                                      | No                              | 75     | 13.2        |
|                                                      | No ANC follow up                | 30     | 5.3         |
| Discussed place of delivery with partner             | Yes                             | 409    | 72.1        |
|                                                      | No                              | 158    | 27.9        |
| Visit type for current delivery                      | New or My first time            | 225    | 39.7        |
|                                                      | Repeat Visits                   | 298    | 52.6        |
|                                                      | Referred from other institution | 44     | 7.8         |
| Labor started                                        | Spontaneous                     | 526    | 92.8        |
|                                                      | Induced                         | 41     | 7.2         |
| Duration spent on labor                              | Less than 12 h                  | 416    | 73.4        |
|                                                      | More than 12 h                  | 151    | 26.6        |
| Total current stay at Health facilities              | 12 h or less                    | 277    | 48.9        |
|                                                      | 13 to 24 h                      | 147    | 25.9        |
|                                                      | 25 h and above                  | 143    | 25.2        |
| Mode of Delivery                                     | Spontaneous vaginal delivery    | 453    | 79.9        |
|                                                      | Assisted vaginal Delivery       | 45     | 7.9         |
|                                                      | Cesarean section                | 69     | 12.2        |
| Outcomes of delivery                                 | Alive                           | 549    | 96.8        |
|                                                      | Stillbirth                      | 18     | 3.2         |
| Condition of mother during childbirth                | No complication                 | 498    | 87.8        |
|                                                      | Had Complications               | 69     | 12.2        |
| Time of delivery                                     | Day time                        | 301    | 53.1        |
|                                                      | Nighttime                       | 266    | 46.9        |
| Who attended your delivery                           | Midwife                         | 420    | 74.1        |
|                                                      | Nurse or Health Officer         | 39     | 6.9         |
|                                                      | Doctors or Emergency Surgeon    | 108    | 19.0        |
| Sex of Provider                                      | Male                            | 287    | 50.6        |
|                                                      | Female                          | 280    | 49.4        |
| Procedures Done                                      | Episiotomy                      | 142    | 25.0        |
|                                                      | Fundal pressure                 | 65     | 11.5        |
|                                                      | Manual removal of placenta      | 24     | 4.2         |
|                                                      | Instrumental Delivery           | 39     | 6.9         |
|                                                      | Cesarean Section                | 69     | 12.2        |
This is in line with the study done in Bahirdar town [32.9% of mothers experienced respectful and non-abusive care [25]. However, this is higher than the study done in Addis Ababa where 21.4% of respondents received respectful and non-abusive care [18]. This variation might be due to the difference in the study setting and study population in which Addis Ababa’s study was only limited to the town and they excluded those mothers who had an elective or emergency cesarean section.

The current finding is lower than the study done in Bahirdar town, Ethiopia in which 57% of women experienced RMC [25]. In Northern Ethiopia, 22% reported at least one incident of DRA [30]. In Addis Ababa 82.4% had received RMC [31], and in another study in Addis Ababa at least one form of DRA in 36% of the observations [28]. Health centers in two regions of Ethiopia also showed 21.1% of respondents reported DRA [32] and a systematic review in Ethiopia also indicated 49.4% of DRA [21]. The current finding (35.8%) is also lower than the study done in urban Tanzania (15%) of postpartum women reported at least one instance of DRA [17]. Another study done in Tanzania 19.48% reported DRA on exit from the health facilities and 28.21% on follow-up interview in the community [12]. From the study done in Kenya, 20% of women had reported any form of DRA

Table 2 Obstetric characteristics of mother’s who gave birth at public health facilities in the west Shewa zone, Oromia region, central Ethiopia, 2018. (N = 567) (Continued)

| Characteristics                                      | Categories           | Number | Percent (%) |
|------------------------------------------------------|----------------------|--------|-------------|
| Asked your consent before performing procedure       | Not asked me         | 79     | 13.9        |
|                                                      | Yes                  | 240    | 42.3        |
|                                                      | No Procedure done for me | 248    | 43.7        |
| Number of attendants during childbirth               | One                  | 73     | 12.9        |
|                                                      | Two                  | 240    | 42.3        |
|                                                      | Three                | 111    | 19.6        |
|                                                      | Four and above       | 143    | 25.2        |
| Anyone other than concerned provider gets access to see you during LAD | Yes                  | 92     | 16.2        |
|                                                      | No                   | 475    | 83.8        |
| There are cultural practices for mothers after delivery (Coffee or porridge) | Yes                  | 54     | 9.5         |
|                                                      | No                   | 513    | 90.5        |
| Admitted to maternity waiting home before labor started | Yes                  | 32     | 5.6         |
|                                                      | No                   | 535    | 94.4        |
| Do you want to have a child in the future            | Yes                  | 433    | 76.4        |
|                                                      | No                   | 134    | 23.6        |

Fig. 1 Prevalence of different categories of RMC during childbirth at public health facilities in West Shewa zone, Oromia region, Ethiopia, 2018
In another multi-level study in Kenya DRA decreased from 20 to 13% [34]. The possible reason for this variation might be due to the difference in the study setting in which the current study was conducted both in urban and rural settings unlike studies done in Bahirdar town, Addis Ababa city and Tanzania. The presence of projects working in the area in Tanzania, Kenya, northern Ethiopia, a study by Kathleen P et al. Additionally, the variations in the health care system with Tanzania and Kenya might be the possible reasons.

Although RMC is a universal right of every childbearing woman in the health care system, they may still experience disrespect and abusive care during childbirth [3, 4]. In the current study more than four-fifths of the

| Categories of RMC | RMC Number | RMC Percent | DRA Number | DRA Percent |
|------------------|------------|-------------|------------|-------------|
| 1. The woman is protected from physical harm or ill-treatment | | | | |
| Never used physical force/abrasive behavior with the woman | 498 | 87.8 | 69 | 12.2 |
| Never physically restrains woman | 504 | 88.9 | 63 | 11.1 |
| Touches/demonstrate caring in a culturally appropriate way | 530 | 93.5 | 37 | 6.5 |
| Never separates woman from her baby unless | 552 | 97.4 | 15 | 2.6 |
| Does not deny food or fluid to women in labor | 550 | 97.0 | 17 | 3.0 |
| Provides comfort/pain-relief as necessary | 493 | 86.9 | 74 | 13.1 |
| 2. The woman’s right to information, informed consent and choice/ preferences is protected | | | | |
| Great and introduces self to woman and companion | 385 | 67.9 | 182 | 32.1 |
| Encourages companion to remain with woman | 387 | 68.3 | 180 | 31.7 |
| Encourages woman and her companion to ask questions | 337 | 59.4 | 230 | 40.6 |
| Responds to questions with promptness, politeness & truthfulness | 369 | 65.1 | 198 | 34.9 |
| Explains what is being done & to expect throughout LAD | 356 | 62.8 | 211 | 37.2 |
| Gives periodic updates on status and progress of labor | 389 | 68.6 | 178 | 31.4 |
| Allows the woman to move about during labor | 419 | 73.9 | 148 | 26.1 |
| Allows woman to assume position of choice during birth | 312 | 55.0 | 255 | 45.0 |
| Obtains consent or permission prior to any procedure | 350 | 61.7 | 217 | 38.3 |
| 3. Confidentiality and privacy is protected | | | | |
| Confirms patient files are stored in locked cabinets with limited access | 531 | 93.7 | 36 | 6.3 |
| Uses curtains or other visual barrier to protect woman | 518 | 91.4 | 49 | 8.6 |
| Uses drapes/covering appropriate to protect woman’s privacy | 487 | 85.9 | 80 | 14.1 |
| 4. The woman is treated with dignity and respect. | | | | |
| Speaks politely to woman and companion | 513 | 90.5 | 54 | 9.5 |
| Allows woman and her companion to observe cultural practices as much as possible | 449 | 79.2 | 118 | 20.8 |
| Never makes insults, intimidation, threats, shouted at, scolded, laughed, scorned or coerce woman or her companion | 442 | 78.0 | 125 | 22.0 |
| 5. The woman receives equitable care, free of discrimination | | | | |
| Speaks to the woman in a language and at a language-level that she understands | 547 | 96.5 | 20 | 3.5 |
| Doesn’t show disrespect to women based on any specific attribute | 519 | 91.5 | 48 | 8.5 |
| 6. The woman is never left without care | | | | |
| Encourages woman to call if needed | 474 | 83.6 | 93 | 16.4 |
| Comes quickly when woman calls or after decision | 397 | 70.0 | 170 | 30.0 |
| Never leaves woman alone or unattended | 353 | 62.3 | 214 | 37.7 |
| 7. The woman is never detained or confined against her will | | | | |
| Facility doesn’t have a policy to detain women who don’t pay. | 564 | 99.5 | 3 | 0.5 |
| Don’t been forced to stay against your will | 563 | 99.3 | 4 | 0.7 |
women, received equitable care and their confidentiality and privacy protected. Three fourth of women were protected from physical harm or ill-treatment. Women never left without care and the right to consented care were the least respected categories of RMC.

A study done in Bahirdar indicated that; providing a discrimination-free, friendly and abuse-free care to be the commonly practiced category of RMC [25]. Another study identified physical abuse and non-consented care were the commonly experienced categories of DRA [23]. In Addis Ababa study showed that in one-third of the women physical harm or ill-treatment were not protected, while women left without care constitute almost two-fifth. In 33% of hospitals and 94% of health centers their privacy was not protected and 94.8% of women have experienced non-consented care [18]. In another study by Kitaw M. et al., one in nine women received discrimination-free and with no abandonment of care. But, only one-fifth of women received dignified care during their childbirth [31]. The study in two regions in Ethiopia indicated non-consented care, lack of privacy, non-confidential care, were the commonly observed forms of DRA [32]. The pooled data in Ethiopia, also indicated, abandonment of care, non-confidential care and physical abuse as common forms of mistreatments [21]. These shows the proportion of each category of RMC among different studies in Ethiopia varies.

| Table 4 Factors associated with Respectful Maternity care during labor and childbirth at health facilities in West Shewa Zone, Oromia region, central Ethiopia, 2018 |
|-----------------|-----------------|-----------------|-----------------|
| Variables       | Received RMC service | Adjusted OR | P-value |
|                 | Yes              | No             | 95% CI | Adjusted OR | 95% CI | Adjusted OR | 95% CI |  |
| Type of health Facility |                    |                |        |                |        |
| Health Center   | 126(47.9)        | 137(52.1)      | 2.46(1.59,3.80) | 5.44(2.93,10.08) | 0.000* |
| Primary Hospital| 37(23.6)         | 120(76.4)      | 0.82(0.49,1.38) | 1.13(0.61,2.09)  | 0.686  |
| General Hospital| 40(27.2)         | 107(72.8)      | 1       | 1              | 0.000  |
| Asked for consent before the procedure |                    |                |        |                |        |
| Not asked me    | 14(17.7)         | 65(82.3)       | 1       | 1              | 0.001* |
| Yes asked       | 103(42.9)        | 137(57.1)      | 3.49(1.85,6.56) | 3.45(1.56,7.61)  | 0.002* |
| No procedure    | 86(34.7)         | 162(65.3)      | 2.46(1.30,4.64) | 1.51(0.69,3.26)  | 0.299  |
| Is current pregnancy wanted |                    |                |        |                |        |
| Yes wanted      | 173(34.1)        | 334(65.9)      | 1       | 1              | 0.000* |
| Not wanted      | 30(50.0)         | 30(50.0)       | 1.93(1.12,3.30) | 5.56(2.56,12.11) | 0.000* |
| Number of health workers during childbirth |                    |                |        |                |        |
| Two or less     | 132(42.2)        | 181(57.8)      | 1.88(1.31,2.67) | 2.23(1.30,3.82)  | 0.003* |
| Three or more   | 71(28.0)         | 183(72.0)      | 1       | 1              | 0.000* |
| Discussed on place of delivery with health worker during ANC |                    |                |        |                |        |
| Yes             | 185(40.0)        | 277(60.0)      | 3.22(1.88,5.54) | 4.42(2.15,9.11)  | 0.000* |
| No              | 18(17.1)         | 87(82.9)       | 1       | 1              | 0.000* |
| Time (shift) of delivery |                    |                |        |                |        |
| Day time        | 148(49.2)        | 153(50.8)      | 3.71(2.55,5.38) | 5.56(3.47,8.91)  | 0.000* |
| Nighttime       | 55(20.7)         | 211(79.3)      | 1       | 1              | 0.000* |
| Duration of stay at health facilities |                    |                |        |                |        |
| 12 h or less    | 79(28.5)         | 198(71.5)      | 1       | 1              | 0.009* |
| 13 to 24 h      | 68(46.3)         | 79(53.7)       | 2.15(1.42,3.27) | 2.10(1.24,3.56)  | 0.005  |
| More than 24 h  | 56(39.2)         | 87(60.8)       | 1.61(1.05,2.46) | 1.94(1.08,3.46)  | 0.025  |
| Involvement in decision-making |                    |                |        |                |        |
| Involved        | 194(40.6)        | 284(59.4)      | 6.07(2.97,12.38) | 8.24(3.63,18.67) | 0.000* |
| Not involved    | 9(10.1)          | 80(89.9)       | 1       | 1              | 0.000* |
| Waiting time to be seen by the health worker |                    |                |        |                |        |
| Yes satisfied   | 188(38.0)        | 307(62.0)      | 2.32(1.28,4.22) | 2.08(1.02,4.25)  | 0.045* |
| Not satisfied   | 15(20.8)         | 57(79.2)       | 1       | 1              | 0.000* |

*Variables found to be statistically significant at a p-value of less than 0.05
These variations might be due to the differences in the study setting, resulting in the different prevalence of RMC categories among health institutions (Hospitals vs. Health centers), town versus rural settings and different cadres in the health care system. This is highlighting as there is a need for specific local interventions for different settings to lower the forms of DRA in Ethiopia.

From a study done in Kenya and Tanzania relatively lower proportion of all forms of DRAs were reported, indicating that a large proportion of women in Ethiopia are experiencing disrespectful and abusive care during labor and childbirth [17, 33].

This study identified that the type of health facility in the health care system was significantly associated with RMC. Women who gave birth at health centers were more likely to receive respectful care as compared to those who gave birth in the general hospital. This is in-line with the study done in Addis Ababa that indicated as there was a significant difference between the health centers and hospitals [18] and from the study done in Malawi the odds of a health provider shouting at a woman were lower in health centers compared to hospitals [35] This is may be due to the presence of more number of caseloads compared to the available number of human resources at hospitals than in health centers.

Maternal stay at the health facility was also found to be significantly associated with RMC during labor and childbirth. Mothers who stayed 13 to 24 h and more than 24 h at health institutions were almost 2 times more likely to receive RMC than those who stayed less than 12 h. This finding is in agreement with a study done in Tanzania where women who stayed less than 1 day in the facility for delivery were 1.35 times more likely to report experiences of DRA [12]. The reason for this might be due to the fact that those women who stayed longer may become familiar with the health workers and are more likely to receive customary services.

Women who gave birth during the day time were 5.56 times more likely to receive respectful care than at a nighttime shift. In agreement with this, a study done in Kenya identified delivering at night was associated with a higher risk of DRA and had greater odds of reporting physical abuse than those delivering during the day [34]. This might be due to the fact that during day time there are more resources/infrastructures available and the number of health workers than at nighttime in which only one health worker might be assigned for duty in health centers and also very weak supervision from senior health workers and managers during nighttime.

This study revealed that women whose current pregnancy was unwanted were 5.56 times more likely to get RMC than those of a wanted pregnancy. In agreement with this study conducted in Bahirdar also showed the odds of experiencing DRA was 76% less among those unplanned or unwanted pregnancy [25]. This is may be due to the fact that those women with an unwanted pregnancy were less likely to be worried about the outcomes and were multiparous in the current study.

The result also has shown that women who had discussed on a place of delivery with health workers during ANC were 4.42 times more likely to receive RMC than those who did not. A study done in Bahirdar indicated that respondents with fewer than 4 ANC visits were more likely to have been disrespected and abused than those with ≥ 4 ANC visits [23]. The reason for this might be because women who had ANC and discussed on a place of delivery were more likely to be familiar with the health care providers, since majority of them in the current study gave birth at the same facility.

In the current study, the number of attending health care provider was found to be significantly associated with RMC during labor and childbirth. Mothers who were attended to by 2 or fewer providers were 2.23 times more likely to receive RMC than those who were attended by 3 or more. This is may be due to mothers do not want to show their private body to more number of providers.

Taking consent before doing a procedure was found to affect RMC. It was shown that women who gave their consent before the procedure were 3.45 times more likely to get respectful care than those who did not consent. Those women who got involved in the decision-making about their care were found to be 8.24 times more likely to receive respectful care than those who were not involved. The reason might be that in our study area there is a wrong perception among some health care providers that mothers might feel more pain if informed before performing procedures like episiotomy, manual removal of placentas and others. Thus, they prefer doing those procedures without informing the clients and even sometimes performs without providing analgesia. This result also highlights the need for involving mothers in all types of care they receive from health facilities.

Women who were satisfied with their waiting time to be seen by health worker were 2 times more likely to get RMC than those who were not. The reason for this might be due to women who were not satisfied were likely to feel as they were neglected or left without care if not seen by health workers after admission.

Limitation of the study: Though the problem of recall bias was minimized by conducting exit interview for postpartum mothers immediately; the current study is not free of social desirability bias in which some mothers may report the service as positive experiences while they are in the health facilities. As a strength, the study tried to cover a large number of health facilities including health centers and hospitals in the West Shewa zone providing services for over 2.3 million peoples.
Conclusions
The proportion of RMC during labor and childbirth in health institutions in the west Shewa zone was low. Giving birth at the health center, discussion on the place of delivery with health workers during ANC, day time delivery, longer duration of stay at health facility (≥ 13 h), involvement in decision-making, consent before the procedure, current pregnancy not wanted, presence of < 3 health workers during childbirth, and satisfied with waiting time to be seen by a health worker were found to be significantly associated with RMC.

Therefore, health institutions and all other stakeholders should give due emphasis on creating awareness of care providers on the standards and categories of RMC, and emphatically consider those identified factors for intervention. Additionally, monitoring and reinforcing accountability mechanisms for health workers to avoid mistreatments, and supporting them to provide the service with respect and compassion during labor and childbirth. Further research involving observation is also recommended to get more information about RMC services.

Abbreviations
ANC: Ante Natal Care; AOR: Adjusted Odds Ratio; CRC: Caring, Respectful and Compassionate; DRA: Disrespect and Abuse; HSTP: Health Sector Transformation Plan; LAD: Labor And Delivery; RMC: Respectful Maternity Care

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Authors’ contributions
GAB, conceptualized the study, designed the study instrument, secured study funds, conducted data analysis and wrote the first draft and subsequent drafts of the manuscript as principal investigator. DBD and AST take part in designing the study tool, coordinated data collection and supervision, participated in data analysis and revised subsequent drafts. All authors read and approved the final manuscript.

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Availability of data and materials
Datasets used in the current study are available from the corresponding author upon reasonable request.

Ethics approval and consent to participate
Ethical clearance was obtained from the research ethics review committee of Ambo University, college of Medicine and Health Sciences. A formal letter of cooperation was written to all selected Health institutions. Written informed consent was obtained from study participants after fully explaining the nature of the study in their local languages as it is attached in the questionnaire. The collected information was kept confidential without the name of the study participants.

Consent for publication
Not applicable.

Competing interests
Authors declared that they have no competing interest.

Author details
1Department of Midwifery, College of Medicine and Health Sciences, Ambo University, Ambo, Ethiopia
2Department of Neonatal Nursing, Saint Paul’s Hospital Millennium Medical College, Addis Ababa, Ethiopia
3Department of Public Health, College of Medicine and Health Sciences, Ambo University, Ambo, Ethiopia.

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