

# Consented maternal care and associated factors among mothers who gave birth at public health institutions in South Wollo Zone, Amhara region, Ethiopia 2022

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## Abstract

**Introduction:** Informed consent in healthcare services is a legal, ethical, and professional requirement on the part of all treating health providers and providing person-centered care. The methods of requesting consent during childbirth have not been extensively studied. In Ethiopia, there is not at all a single study done.

**Objective:** The purpose of this study is to determine associated factors among mothers who gave birth at health institutions in the South Wollo Zone, Amhara region, Ethiopia in 2022.

**Methods:** Mothers who gave birth at South Wollo Zone public health institutions, from 01 March to 30 April 2022 participated in a multi-center institutional-based cross-sectional study design. Systematic random sampling was used to select 423 study participants. A validated questionnaire was used for data collection, and the data were collected through face-to-face interviews. Data were entered into Epi-Data version 4.6 and exported to SPSS version 23 for analysis. A multivariable logistic regression analysis was performed to identify factors associated with the outcome variable. The level of significance was determined using an adjusted odds ratio with a 95% confidence interval.

**Result:** The study had 416 participants in total, with a response rate of 98.3%. Out of the 416 respondents interviewed, 67.1% of the women received consented care. The age group of 30–34, complications during childbirth, intended pregnancy, merchant, and primary and referral hospital were significantly associated with consented care.

**Conclusion:** The level of non-consented care during delivery was high compared with other literature reflecting substantial mistreatment. Therefore, stakeholders should strengthen monitoring and assessment systems to prevent abuse, and further study is required to look for practical ways to make improvements. Key elements of consented care have also been included in Basic and Emergency Obstetric Care training sessions and given to health providers.

## Keywords

Consented maternal care, childbirth, health institutions, South Wollo Zone

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## Introduction

Informed consent is a process in which patients and healthcare providers discuss the nature, implications, harms, benefits, risks, and other possibilities of a proposed medical treatment<sup>1,2</sup>. Informed consent in healthcare services is a legal, ethical, and professional requirement on the part of all healthcare provider and supports person-centered care. Informed consent is a critical issue in terms of both key quality and safety.<sup>3</sup>

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Patients have the right to obtain information and ask questions regarding the care or treatment they are given.<sup>4</sup> Patients' medical autonomy is safeguarded by the informed consent code of ethics, which grants them the freedom to choose their course of treatment independently of medical advice. If a patient is competent, then she has a right to information about her treatment options and to choose in the absence of coercion.<sup>5</sup>

Numerous studies show that a key factor preventing facility-based births is women's dissatisfaction with their maternity care. Treatment of women seeking obstetric care through non-consented clinical care seems to be ubiquitous and unavoidable.<sup>6,7</sup> If a patient does not believe that they have given their consent to an examination or procedure, they are likely to identify with assault, one of the consent's antonyms.<sup>8</sup> The most horrible episodes of obstetric violence frequently include the assault or harm of laboring women, when medical treatments are given without consent but also in spite of a clear rejection; and the UN special rapporteur on violence placed special emphasis on the importance of consent for tackling mistreatment during childbirth.<sup>9,10</sup>

To be legitimate, consent must be provided voluntarily and freely, with no undue pressure or influence placed on the person to give permission or refuse medical care<sup>11</sup>, and the patient must be competent to understand and decide, receive full disclosure, comprehend the disclosure, act voluntarily, and consent to the proposed action.<sup>12</sup> Informed consent is not just a signed form/document, it is a collaboration in the decision-making process between the patient and healthcare provider therapeutic encounter.<sup>13</sup>

The relationship between a doctor and patient must be one of trust and respect, and this is critical for providing quality patient care.<sup>14</sup> The Miller and Wertheimer consensus states that patients have the right to complete and accurate information about their course of treatment as well as the freedom to refuse it.<sup>15</sup> Women's rights to make treatment decisions contend that medical professionals should respect patients' medical autonomy even when a patient makes decisions that endanger the life of her unborn child, even if it is morally wrong to subject unborn children to unnecessary risks.<sup>16</sup> This is especially true if a woman in labor makes a decision that puts her unborn child's life in danger. When a woman makes a medically ill-advisable decision during labor and delivery she may act wrongfully; however, she has the right to do so. On the other hand, the mother's medical rights would be violated by involuntary interventions during labor.

Therefore, even when women make potentially fatal decisions during labor and delivery, legal institutions should respect their choices regarding treatment.<sup>17</sup> Even though more evidence is needed, studies have stated that enhanced communication between healthcare providers and patients leads to better patient outcomes, fewer medical errors, and lower malpractice case rates. Providing patients with simplified supplemental written materials, using the repeatback

methods, decision aids, and video educational resources enhances patient perception as well as awareness of informed consent.<sup>1</sup>

The ability to voluntarily accept an intervention after being provided with sufficient and understandable information regarding the risks and benefits is known as valid informed consent.<sup>18</sup> Preoperative preparation is essential for all surgical procedures, including cesarean sections (CSs), which are the most common surgical interventions worldwide.<sup>19</sup> In obstetrics, getting consent and explaining procedures are linked to better ratings of the birth experience, but receiving care without consent is thought to hinder the use of skilled birth care.<sup>20,21</sup>

Studies reported that informed consent is underutilized. A qualitative study done in England reported that consent is not properly taken from their clients and patient refusal is ignored. Even healthcare providers do not know how they proceed when their patients cannot give consent.<sup>22</sup>

Despite its importance, there is limited evidence showing the utilization of consent care in healthcare service delivery around the globe.<sup>23</sup> Spatially in Ethiopia, there is no single study done regarding the proposed problem. To assess consented care and associated factors during labor and delivery, this study is being conducted.

## Methods

### *Study design, period, and area*

In order to assess the level of consented maternal care during childbirth and associated factors among women who gave birth in the South Wollo zone Amhara Region, Ethiopia from 01 March to 30 April 2022 public health institutions, a multicenter institutional-based cross-sectional study design was employed. The study was carried out at South Wollo zone public health institutions in Ethiopia's Amhara region. It is one of the 11 zones that make up Ethiopia's Amhara regional state. It is bordered on the south by North Shewa, on the west by East Gojjam, on the northwest by South Gondar, on the north by North Wollo, on the northeast by Afar Region, and the east by the Oromia Special Zone and Argobba Special district. There are 22 districts in the Zone. Located 401km north of Addis Ababa, the capital of Ethiopia, is Dessie Town, the capital city of the south Wollo zone. Data from the zonal health department show that there are 135 health clinics and 12 public hospitals in the zone. All hospitals and health institutions offer delivery services around the clock.

### **Source population and study population**

The source population was all mothers who gave birth in the South Wollo Zone Public Health institutions. All mothers who gave birth in the South Wollo zone throughout the study period were included in the study population; participants

were selected by systematic random sampling from public health institutions.

## Sample size and sampling procedure

### Sample size determination

Under the following assumptions, the sample size was established using a precision approach that is based on a single population percentage formula: 50% proportion of PRA, 95% level of confidence, and 5% margin of error.

$$n = \frac{(Z_{\alpha/2})^2 * p(1-p)}{d^2} = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.05)^2} = 384$$

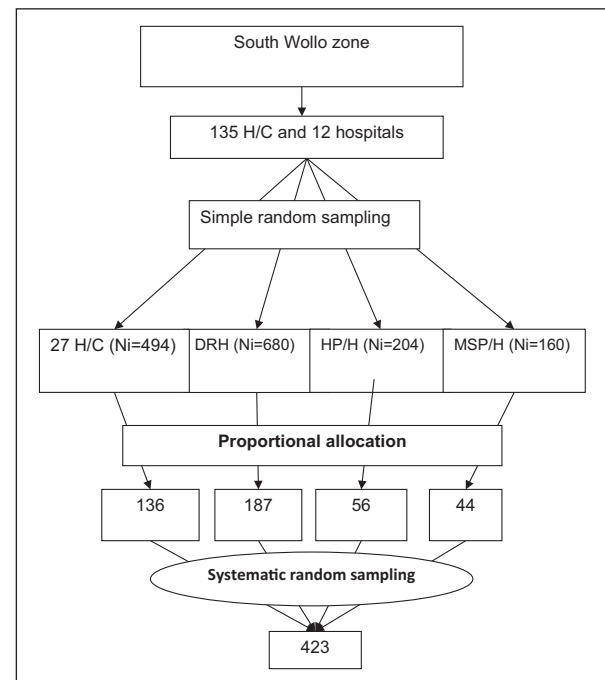
Where,  $n$ =required sample sizes,  $\alpha$ =level of significance,  $z$ =standard normal distribution curve value for 95% confidence level = 1.96,  $p$ =proportion of PRA, and,  $d$ =margin of error. Finally, by adding a 10% non-response rate, the required minimum size of the sample was 423.

To choose the Dessie referral hospital, Haik Primary Hospital, Mekane Selam Primary Hospital, and 27 health Centers, a simple random sampling procedure was applied. The sample was distributed proportionately among all the public health institutions that were chosen, taking into account the average number of women who gave birth in each institution during 2 months in 2021.

Study participants were selected from among the mothers who gave birth in South Wollo zone public health facilities using a systematic random sampling technique, continuing until each public health facility had the necessary sample size. In each of the selected healthcare facilities, data was collected from every third woman who gave birth during the study period. The sampling interval  $k=3$  was calculated by dividing the source population by the total sample size and this interval was used in all health institutions to select study participants. For each of the public health institutions, the constant number  $K$  was also calculated, and it was the same  $K=3$ . This interval was used in all public health institutions to select study participants. The first sample was selected randomly by lottery method among the first three participants (1 randomly selected) then every third unit was taken to get the required sample size from each institution (Figure 1).

### Operational definition of variables

**Friendly care:** The care that includes care in a kind and friendly approach, using polite words, call by name, speaking language the mother understands, and measured by using seven requirements a woman who responds “Yes” to all seven friendly care questions, considered she was receiving friendly care at the time of labor and delivery.<sup>24-27</sup>



**Figure 1.** Sampling procedures to assess consented maternity care and associated factors among women who gave birth in public health institutions of south Wollo Zone, Northwest Ethiopia, 2022.

H/C: health center; DRH: Dessie referral hospital; HP/H: Haik primary hospital; MSP/H: Mekane Selam primary hospital.

### Data collection tools and procedure

A validated quantitative data collection technique was used by using through face-to-face interview administered questionnaire as part of their respectful maternity care tool kit.<sup>28</sup>

The instrument initially was arranged in English, then translated into Amharic, and finally back into English to ensure uniformity. The tool is divided into four sections: Respondents' sociodemographic information is found in Part I; Participants' obstetric information is found in Part II; Provider-Related Factors are found in Part III; and Categories of consented maternity care (CMC) that women received during facility-based childbirth are found in Part IV. To aid in the data collection procedure, 21 data collectors with BSc in midwifery professionals and three MSc midwifery specialists supervisors were engaged.

Women who were giving birth at the facilities participated in a postpartum exit interview. Private conversations were held with each qualified woman on hospital property, in a room apart from the maternity unit. Supervisors collected and signed the completed questionnaires after verifying that no information was missing and that they were accurate. Aside from this, the primary investigator continuously monitored and supervised the data collection process.

Supervisors and data collectors received a half-day instruction regarding the goals of the study and data

collection methods. Throughout the data collection process, the skilled data collectors received supervision. Pretest was done on 5% of the sample size (21 women) before the actual data collection at Boru Hospital and Woged Health Center. The collected data were reviewed and checked for completeness, clarity, and consistency, and on-spot corrective measures were taken by both data collectors and supervisors

### Data processing and analysis

Epi-Data version 4.6 was utilized to enter the data, which were then cleaned for inconsistencies and missing values before being exported to SPSS version 23 for analysis. Analytical and descriptive statistical techniques were employed.

To determine how each independent variable is associated with the outcome variable, bivariable logistic regression was used. A variable with a  $p$ -value of  $<0.2$  was a candidate for a multivariable logistic regression model. Then, to identify a statistically significant association, the multivariable analysis's  $p$ -value of less than 0.05, adjusted odds ratio (AOR), and its 95% confidence interval (CI) were taken into account. In the end, the data were collated, shown, and discussed using texts, tables, and graphs. The odds ratio and 95%.

## Result

### Sociodemographic characteristics of the respondent

The study had 416 participants in total, with a response rate of 98.3%. Among the individuals involved in the study, 35.6% were within the age group of 25–29 years; with an interquartile range of (IQ of 21–30) years and a median age of 27. Of all responders in total, 389 (93.5%) were Amhara by ethnicity, and 327 (78.1%) were Orthodox Christianity religion followers. Considering the mother's marital status, 374 (89.9%) of them were married and 145 (34.9%) were housewives. Of the total respondents, 234 (56.2%) made less than 2282 Ethiopian birr per month as a family 228 (54.8%) of the total respondents lived in rural areas (Table 1).

### Obstetric-related characteristics of women

According to the study's findings, 287 (69%) of the respondents were multiparous and 380 (91.3%) had ANC follow-up. Of the total respondents, 316 (76%) gave birth with spontaneous vaginal delivery and 42 (10.1%) were given birth by CS. Of the total respondents, 393 (94.5%) were live births, and 325 (78%) participants were attended by Midwife healthcare professionals. Not having companions when giving birth for 118 (27.9%) of childbirth women and staying at health facilities for 12 h or less for 333 (80%) (Table 2).

### Women's perceptions of consent requests by type of clinical procedure

The women stated that the frequency of requests for consent differed according to the type of clinical procedure. Women were generally requested for their agreement before having maternity operations rather than newborn procedures. The greatest percentage of consent requests for maternal procedures (90.5%) was reported for CS, with the lowest being for PPH prophylaxis (29.1%) after spontaneous birth or Instrumental vaginal delivery. Women stated that low rates of consent requests for neonatal procedures had been obtained during childbirth among these neonatal conjunctivitis prophylaxis, and neonatal hemorrhagic disease prophylaxis (12.7%) presenting the lowest rate among the nine procedures that were investigated (Table 3).

### Category of consented maternity care

In about 385 (92.5) of women, provider responds to your question with politeness and truthfulness, and 373 (89.7%) they were given the freedom of being birth in the position they want. For about 384 (92.3%) of women, providers explain What was going on and what to anticipate during labor and delivery, and 325 (78.1%) providers introduce themselves and greet you and your companion. Among the participants, a significant number of women 91 (21.9%) complained that some healthcare professionals did not introduce themselves and greet them and their companions. About 385 (92.5%) of women's care providers answered their inquiries with promptness, politeness, and truthfulness. Additionally 384 (92.3%) of them gave explanations on what is happening and what to expect during childbirth (Table 4).

### Status of consented care

Among the 416 responders who were interviewed, 67.1% (95% CI: 62.5, 71.6%) of the women received consented care, but a large number of women 32.9% had not received consented care during childbirth with (95% CI: 28.4–37.5).

### Factors associated with consented maternity care during childbirth

As the bivariable analysis's result showed the respondent's age, occupation, pregnancy intended/wanted, number of parity, time of delivery, place of delivery, delivery outcome, and facing complications during labor and delivery were factors found to be associated with consented maternity care at a  $p$ -value of 0.25 or less. The five variables in a multivariable logistic regression analysis are: age, occupation, pregnancy intended/wanted, place of delivery, and facing complications during labor and delivery were significantly associated with consented maternity care at a  $p$ -value of  $<0.05$ .

**Table 1.** A sociodemographic characteristic of mothers who gave birth at public health institutions in the south Wollo Zone, Amhara region, Ethiopia, 2022 (N=416).

| Characteristics        | Categories                    | Frequency | Percentage |
|------------------------|-------------------------------|-----------|------------|
| Age in groups          | 15–19                         | 34        | 8.2        |
|                        | 20–24                         | 101       | 24.3       |
|                        | 25–29                         | 148       | 35.6       |
|                        | 30–34                         | 72        | 17.3       |
|                        | 35 and above                  | 61        | 14.7       |
| Place of residence     | Rural                         | 228       | 54.8       |
|                        | Urban                         | 188       | 45.2       |
| Religion               | Orthodox                      | 327       | 78.1       |
|                        | Muslim                        | 77        | 18.5       |
|                        | Protestant                    | 14        | 3.4        |
| Marital status         | Single                        | 31        | 7.5        |
|                        | Married                       | 374       | 89.9       |
|                        | Others <sup>a</sup>           | 11        | 2.7        |
| Ethnicity              | Amhara                        | 389       | 93.5       |
|                        | Tigre                         | 15        | 3.6        |
|                        | Other ethnicity <sup>b</sup>  | 12        | 2.9        |
| Educational status     | Unable to read and write      | 114       | 27.4       |
|                        | Able to read and write        | 67        | 16.1       |
|                        | Primary (1–8) completed       | 33        | 7.9        |
|                        | Secondary (9–12) completed    | 106       | 25.5       |
|                        | Collage and above             | 96        | 23.1       |
| Mothers occupation     | Housewife                     | 145       | 34.9       |
|                        | Private employee <sup>c</sup> | 47        | 11.3       |
|                        | Government employee           | 54        | 13         |
|                        | Merchant                      | 65        | 15.6       |
|                        | Student                       | 47        | 11.3       |
|                        | Farmer                        | 58        | 13.9       |
| Average monthly income | Less than 2282                | 234       | 56.2       |
|                        | More than 2282                | 182       | 43.8       |

<sup>a</sup>Divorced and widowed.

<sup>b</sup>Oromo and gurage.

The odds of consented maternity care were 3.57 (1.10–11.59) and 5.24 (1.36–20.18) times higher among women in the age group of 30–34 and 35 and above, respectively. According to this study, women who intended their current pregnancy were 3.2 (1.61–6.36) times more likely to receive consented maternity care than those who were not.

According to this study, women who experienced difficulties or faced complications during labor and delivery were 62% (AOR=0.38, 95% CI: 0.19–0.76) less likely to receive consented maternity care as compared to those who have not faced complications during labor and delivery. The odds of receiving consented maternity care were 3.1 (AOR: 3.1, 95% CI: 1.36–7.18) times higher among women who work as a merchant than those who were a housewife. This study concluded that among the women who gave birth at primary hospitals and referral hospitals were 70% and 58% less likely to have consented to maternity care (AOR: 0.30,

95% CI: 0.16–0.58) and (AOR: 0.42, 95% CI: 0.24–0.76) as compared to those women who gave birth at Health center respectively (Table 5).

## Discussion

This is the first inquiry regarding consent supplication practices around the time of childbirth in Ethiopia based on women's point of view for nine key clinical procedures and mothers during childbirth reported seven types of consented maternity care at public health institutions in the south Wollo Zone, Amhara region, Ethiopia. In this study, there is evidence of a widespread absence of patient information processes or consent requests by type of clinical procedure according to women's perception during childbirth in many settings, such as PPH prophylaxis, neonatal conjunctivitis prophylaxis, and neonatal hemorrhagic disease prophylaxis

**Table 2.** Obstetric characteristics of mothers who gave birth at public health institutions in the south Wollo Zone, Amhara region, Ethiopia, 2022 (N=416).

| Characteristics                                | Categories                      | Frequency | Percentage |
|--|---------------------------------|-----------|------------|
| Number of parity                               | Primi-para                      | 129       | 31         |
|  | 2–3                             | 194       | 46.6       |
|  | ≥4                              | 93        | 22.4       |
| Pregnancy intended/wanted                      | Yes                             | 360       | 86.5       |
|  | No                              | 56        | 13.5       |
| Antenatal care follow-ups                      | Yes                             | 380       | 91.3       |
|  | No                              | 36        | 8.7        |
| Place of antenatal care follow-ups             | Health center                   | 252       | 66.4       |
|  | Primary hospital                | 64        | 16.8       |
|  | Referral hospital               | 34        | 8.9        |
|  | Private clinic                  | 30        | 7.9        |
| Number of ANC follow-ups                       | Once to twice                   | 116       | 30.5       |
|  | Three times                     | 152       | 40         |
|  | Four and above                  | 112       | 29.5       |
| Current place of delivery                      | Public health center            | 134       | 32.2       |
|  | Primary hospital                | 99        | 23.8       |
|  | Public referral hospital        | 183       | 44         |
| Provider conducting delivery                   | Nurse                           | 2         | 0.6        |
|  | Midwife                         | 325       | 78         |
|  | Doctor                          | 30        | 7.2        |
|  | Emergency surgeon               | 59        | 14.2       |
| Sex of provider                                | Male                            | 250       | 60.1       |
|  | Female                          | 166       | 39.9       |
| The current mode of delivery                   | SVD                             | 316       | 76         |
|  | Cesarean section                | 42        | 10.1       |
|  | AVD                             | 58        | 13.9       |
| Outcomes of delivery                           | Alive                           | 393       | 94.5       |
|  | Stillbirth                      | 23        | 5.5        |
| Facing complications during labor and delivery | No                              | 370       | 88.9       |
|  | Yes                             | 46        | 11.1       |
| Type of complication                           | Hemorrhage                      | 13        | 28.3       |
|  | Hypertensive disorders          | 15        | 32.6       |
|  | Other complication <sup>Ⓢ</sup> | 28        | 39.1       |
| Time of delivery                               | Day time                        | 202       | 48.6       |
|  | Nighttime                       | 214       | 51.4       |
| Total hours of stay at health facilities       | 12 h or less                    | 333       | 80         |
|  | 13–24 h                         | 28        | 6.7        |
|  | 25 h and above                  | 55        | 13.3       |
| Companions during delivery                     | No                              | 300       | 72.1       |
|  | Yes                             | 118       | 27.9       |

SVD: spontaneous vaginal delivery; AVD: assisted vaginal delivery; <sup>Ⓢ</sup>: infection, obstructed labor, premature rupture of membrane.

This finding shows only 67.1% of the women received consented care at public health institutions in the South Wollo Zone, Amhara region, Ethiopia.

This result is higher than the studies conducted in Enugu, southeastern Nigeria where consented care services were provided at a rate of 45.5%.<sup>29</sup> This variation might be the difference in sociodemographic characteristics and health-care professionals practice.

This finding also supported a study conducted in Pakistan in which the majority of service providers do not provide

care with consent.<sup>30</sup> In a study done in London, healthcare professionals also have concerns about consent practices, and more work is urgently needed to promote autonomy in laboring women.<sup>31</sup>

This study was also lower than the research findings in Bangladesh. Consent (not informed consent) was taken from 95% of the mothers before proceeding with normal vaginal delivery and postpartum care in the tertiary-level hospital in Bangladesh.<sup>32</sup> According to a study conducted in Italy, 83.5% of the procedures requested informed consent.<sup>23</sup> The

**Table 3.** Consent request by type of clinical procedure according to women's perception during childbirth at public health institutions in the south Wollo Zone, Amhara region, Ethiopia, 2022 (N=416).

| Variable  | Yes         | No          |
|---|-------------|-------------|
| Vaginal examination during labor (N=416)                                      | 351 (84.4%) | 65 (15.6%)  |
| Fundal pressure during the second stage of labor as perceived by women (N=30) | 11 (36.6%)  | 19 (63.4%)  |
| Episiotomy (N=131)  | 60 (45.8%)  | 71 (54.2%)  |
| Instrumental vaginal birth (N=58)   | 27 (46.6%)  | 31 (53.4%)  |
| Cesarean section (N=42)   | 38 (90.5%)  | 4 (9.5%)    |
| PPH prophylaxis (N=416)   | 121 (29.1%) | 295 (70.9%) |
| Neonatal conjunctivitis prophylaxis (N=416)                                   | 53 (12.7%)  | 363 (87.3%) |
| Neonatal hemorrhagic disease prophylaxis (N=416)                              | 53 (12.7%)  | 363 (87.3%) |
| Neonatal screening for metabolic diseases (N=118)                             | 106 (89.8%) | 12 (10.2%)  |

**Table 4.** Category of consented maternity care reported by mothers during childbirth at public health institutions in the south Wollo Zone, Amhara region, Ethiopia, 2022 (N=416).

| Category of consented care |  | Yes (%)     | No (%)     |
|----------------------------|--|-------------|------------|
| Consented care             | Providers introduce themselves and greet you and your companion                        | 325 (78.1%) | 91 (21.9%) |
|                            | Providers encourage you and your companion to ask questions                            | 379 (91.1%) | 37 (8.9%)  |
|                            | Provider responds to your question with politeness and truthfulness                    | 385 (92.5%) | 31 (7.5%)  |
|                            | Providers explain what was being done and what to expect throughout labor and delivery | 384 (92.3%) | 32 (7.7%)  |
|                            | The provider gives periodic updates on the status and progress of your labor           | 382 (91.8%) | 34 (8.2%)  |
|                            | Providers allow you to choose a birth position as you want                             | 373 (89.7%) | 43 (10.3%) |
|                            | Healthcare providers obtain permission/consent from you before any procedure           | 381 (91.6%) | 35 (8.4%)  |

explanation might be the status of the participant's level of understanding about the service, service quality, and the ability of participants to report consented care might be different, and the difference may be infrastructure.

The odds of consented maternity care were 3.57 (1.10–11.59) and 5.24 (1.36–20.18) times higher among women in the age group of 30–34 and 35 and above respectively.

This finding is supported by research done in adjusting for countries (Ghana, Guinea, Myanmar, and Nigeria) younger, unmarried women were more likely to have without consent vaginal examinations.<sup>33</sup> The likely reason may be that healthcare providers interact and treat teens differently simply because they are younger than the providers themselves, or the providers may perceive teens as too young to become a mother. Many qualitative research and reviews have indicated that younger women, especially those in their teens may be the targets of discrimination and may receive less consented care.<sup>34,35</sup>

According to this study, women who were intended with their current pregnancy were 3.2 (1.61–6.36) times more likely to receive consented maternity care than those with an unwanted pregnancy. The reason that might be pregnancy is desired and planned; the mother receives continuous emotional support from her husband, family, and community, which improves the outcome of childbirth and consented care.

This study revealed that the women who have not faced complications during labor and delivery were 1.61 (AOR=1.61, 95% CI: 1.23–4.16) times received consented

care compared to those who faced complications during labor and delivery. This study supported a study that was conducted in Australia and New Zealand experienced complications during childbirth, 20% of interviewees said informed consent was lacking or insufficient, 25% of participants suggested policy change in favor of a formal informed consent process and 55% of participants recommended changing the policy to improve awareness of complications and increased birth preparedness.<sup>36</sup>

The odds of receiving consented maternity care were 3.1 (AOR: 3.1, 95% CI: 1.36–7.18) times higher among women who work as a merchant than those who were a housewife. Study results from Western Ethiopia support this finding<sup>37</sup> and in Central Tigray, Ethiopia.<sup>38</sup> The possible explanation may be that merchant women are more likely to report abuse because they are better aware of their rights and very likely to report non-consented care.

This research revealed that the women who gave birth at Primary hospitals and Referral Hospital were 70% and 58% less likely to have consented care (AOR: 0.30, 95% CI: 0.16–0.58) and (AOR: 0.42, 95% CI: 0.24–0.76) as compared to those women who gave birth at Health center, respectively. This is consistent with the study conducted in the West Shewa zone, Central Ethiopia, and Addis Ababa that indicated there was a notable difference between hospitals and health centers between the health centers and hospitals.<sup>39,40</sup> The most plausible explanation may be due to the presence of larger caseloads compared to the available

**Table 5.** Factors associated with consented maternity care during labor and childbirth at public health institutions in the south Wollo Zone, Amhara region, Ethiopia, 2022 (N=416).

| Variables   | Received CMC service |             | COR (95% CI)     | AOR (95% CI)       |
|---|----------------------|-------------|------------------|--------------------|
|   | Yes                  | No          |                  |                    |
| <b>Age</b>  |                      |             |                  |                    |
| 15–19   | 16 (47.1%)           | 18 (52.9%)  | 1                | 1                  |
| 20–24   | 64 (63.4%)           | 37 (36.6%)  | 1.95 (0.88–4.27) | 1.56 (0.47–2.84)   |
| 25–29   | 106 (71.6%)          | 42 (28.4%)  | 2.84 (1.33–3.58) | 2.32 (0.90–5.95)   |
| 30–34   | 50 (69.4%)           | 22 (30.6%)  | 2.56 (1.11–5.92) | 3.57 (1.10–11.59)* |
| 35 and above  | 43 (70.5%)           | 18 (29.5%)  | 2.68 (1.13–6.41) | 5.24 (1.36–20.18)* |
| <b>Occupation</b>                                     |                      |             |                  |                    |
| Housewife   | 100 (69%)            | 45 (31%)    | 1                | 1                  |
| Private employee'                                     | 37 (78.7%)           | 10 (21.3%)  | 1.66 (0.76–3.64) | 2.1 (0.87–5.05)    |
| Government employee                                   | 34 (63%)             | 20 (37%)    | 0.76 (0.39–1.47) | 0.68 (0.32–1.47)   |
| Merchant  | 51 (78.5%)           | 14 (21.5%)  | 1.64 (0.82–3.26) | 3.1 (1.36–7.18)**  |
| Student   | 28 (59.6%)           | 19 (40.4%)  | 0.66 (0.33–1.31) | 1.87 (0.75–4.68)   |
| Farmer  | 29 (50%)             | 29 (50%)    | 0.45 (0.24–0.84) | 0.37 (0.18–0.76)   |
| <b>Pregnancy intended/wanted</b>                      |                      |             |                  |                    |
| No  | 25 (44.6%)           | 31 (55.4%)  | 1                | 1                  |
| Yes   | 254 (70.6%)          | 106 (29.4%) | 2.97 (1.67–5.27) | 3.2 (1.61–6.36)**  |
| <b>Parity</b>   |                      |             |                  |                    |
| Primi-para  | 75 (58.1%)           | 54 (41.9%)  | 1                | 1                  |
| 2–3   | 142 (73.2%)          | 52 (26.8%)  | 1.96 (1.23–3.15) | 1.66 (0.86–3.21)   |
| ≥4  | 62 (66.7%)           | 31 (33.3%)  | 1.44 (0.83–2.51) | 0.73 (0.25–2.06)   |
| <b>Time of delivery</b>                               |                      |             |                  |                    |
| Day time  | 144 (71.3%)          | 58 (28.7%)  | 1                | 1                  |
| Night time  | 135 (63.1%)          | 79 (36.9%)  | 0.68 (0.45–1.04) | 0.64 (0.40–1.02)   |
| <b>Place of delivery</b>                              |                      |             |                  |                    |
| Health center   | 105 (78.4%)          | 29 (21.6%)  | 1                | 1                  |
| Primary hospital                                      | 58 (58.6%)           | 41 (41.4%)  | 0.39 (0.22–0.69) | 0.30 (0.16–0.58)** |
| Referral hospital                                     | 116 (63.4%)          | 67 (36.6%)  | 0.47 (0.28–0.79) | 0.42 (0.24–0.76)*  |
| <b>Delivery outcome</b>                               |                      |             |                  |                    |
| Live birth  | 269 (68.4%)          | 124 (31.6%) | 1                | 1                  |
| Stillbirth  | 10 (43.5%)           | 13 (56.5%)  | 0.35 (0.15–0.83) | 0.42 (0.15–1.14)   |
| <b>Facing complications during labor and delivery</b> |                      |             |                  |                    |
| No  | 257 (69.5%)          | 113 (30.5%) | 2.48 (1.28–4.0)  | 1.61 (1.23–4.16)** |
| Yes   | 22 (47.8)            | 24 (52.2%)  | 1                | 1                  |

AVD: assisted vaginal delivery; PEC: primary education (1–8) completed; SEC: secondary education (9–12) completed.

\*Significant at  $p$ -value < 0.05, \*\*Significant at  $p$ -value < 0.001.

number of human resources at hospitals than in health centers.

### Strength of the study

The study was carried out in a multi-center study in a rural and urban area to control the potential source of confounding using an adjusted logistics regression model.

### Limitations

This study has some essential limitations, the most effective way to investigate consenting care was by using the observational data collecting method. Finally, this study used only a quantitative approach, but the qualitative inquiry is

important to capture robust data in determining factors affecting consented maternal care services.

### Conclusion

- This study reveals the significant amount of non-consented care during delivery, and there is an immediate need for action in this area, so this study finding verifies and enhances the previous evidence showing gaps in consented maternal care requests during childbirth are prevalent. Factors like age group of 30–34 and 35 and above, complications during labor and delivery, planned pregnancy, merchant and Primary hospitals, and Referral hospitals were the factors that are significantly associated with those consented maternal care



during childbirth. However, although there is a lack of unanimity on how to better improve this practice in regular women-consented care, it is important to recognize the possible role of systemic factors (e.g., low quality of standard forms, and the timing of requests). More research and action are needed to investigate practices and explore the impact of different strategies of improvement. We recommended that the government of Ethiopia consider integrating key elements of consented care has also been included in Basic and Emergency Obstetric Care training sessions.

- Focused on increasing awareness of family planning methods to prevent unplanned pregnancy. Additionally, it creates awareness in the community about complications during childbirth if not choosing to have care in a hospital.
- Consented care is improved when patients have rights to information, informed consent, and the ability to refuse treatment, as well as privacy, confidentiality, and respect for their preferences. Besides this, public health institutions and other stakeholders must strengthen monitoring and assessment systems to prevent abuse, and further study is required to investigate effective strategies for improvement.

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### Author contributions

WYF: Conception and design, acquisition of data, analysis, and interpretation of data, drafting the article, critical revision of the article, and final approval of the version to be published. BBE: Conception and design, acquisition of data, analysis, and interpretation of data revised the subsequent drafts of the manuscript, final approval of the version to be published. FAS: Conception and design, acquisition of data, analysis, and interpretation of data revised the subsequent drafts of the manuscript, final approval of the version to be published. ABA: Conception and design, acquisition of data, analysis, and interpretation of data revised the subsequent drafts of the manuscript, final approval of the version to be published. TSY: Conception and design, acquisition of data, analysis, and interpretation of data, drafting the article, critical revision of the article, final approval of the version to be published. YYB: Conception and design, acquisition of data, analysis, and interpretation of data, drafting the article, critical revision of the article, final approval of the version to be published.

### Availability of data and material

All available data are in the manuscript.

### Declaration of conflicting interests

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### Ethical approval

Ethical approval for this study was obtained from Debre Tabor University's Research and Ethical Review Committee granted ethical approval; the letter's reference number was DT/091/21/1861/14. Additionally, a letter of support was obtained from the South Wollo Zone Health Office.




### Informed consent

Written informed consent was obtained from all subjects before the study age above 18-year-old participants and legally authorized representatives before the study under 18-year-old participants. The participants in the study received no financial compensation or benefit whatsoever. The study participants were identified using codes to protect data confidentiality, and participants have been informed that they have the right to withdraw at any time.

### Trial registration

Not applicable.

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### Supplemental material

Supplemental material for this article is available online.

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