Respectful Delivery Care and Associated Factors Among Mothers Delivered in Debre Berhan Town Public Health Facilities, Ethiopia

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Abstract

Background: In Ethiopia despite many interventions, 74% of mothers are delivered outside of health facilities. The gap between institutional delivery (26%) and antenatal care booked women (62%) is huge. Even if, respectful delivery care is the best and key strategy to increase institutional delivery, little is known about the implementation. The objective of this study was to assess the proportion and associated factors of respectful delivery care among mothers delivered in Debre Berhan town public health facilities, Ethiopia, 2019.

Methods: Facility-based cross-sectional study design was conducted among 413 consecutively selected mothers delivered in Debre Berhan town public health facilities from November 15 to December 30, 2019. Pretested structured interview-administered questionnaire was used. Respectful delivery care was assessed using twenty dichotomous items. Mothers who were reported yes for all of the items were considered to have received respectful maternity care. Data were entered into Epi-data version 3.1 and bivariable and multivariable logistic analyses were computed by using SPSS version 25 software. The Adjusted Odds ratio along with a 95% confidence interval was used to assess the magnitude and direction of the association. A statistically significant association was declared at a P-value of less than 0.05.

Result: The proportion of respectful delivery care in this study was 35.7% (95% CI: 31%, 40.3%). Day time delivery [AOR=2.48; 95% CI (1.55, 3.99)], secondary or more educated mothers [AOR= 3.59; 95% CI (1.53, 8.42)], having a companion during delivery care [AOR=2.45; 95% CI (1.47, 4.07)], and Antenatal care visits [AOR= 2.54; 95% CI (1.60, 4.01)] were the significantly associated factors.

Conclusion: The proportion of respectful delivery care in this study is low. Hence, health administrators and health workers should allow mothers to have a companion during delivery care. Furthermore, improve antenatal care visits and education has to be the direction of the health administration and education sectors.

Background

Respectful delivery care (RDC) is the provision of care for women with self-respect, secrecy, freedom from any abuse, based on their choice and preference [1]. Since the past three decades enhancing institutional delivery and reducing maternal mortality have been priority agendas for most countries. But, still many women died in the hand of traditional birth attendants and their families [2, 3]. All most all these global maternal deaths occurred in developing regions and two-third of the burden taken by the Sub-Saharan African countries. Ethiopia is also the fourth-ranked nation in the world that has the highest number of maternal death [4].

Most deliveries are a normal physiological process that does not require being clinical expertise, but it could be a time of painful memories for mothers. Thus, the relationship between mothers and service providers during institutional delivery is extremely crucial [5]. Recently conducted researches in the world

reported that most mothers are mistreated by their skilled birth attendants, which might affect current and future delivery in health facilities [6, 7]. This is against national and international proclamations, which have been declared that every woman has a right to receive respectful delivery care at all health care systems [8, 9]. Due to this high rate of unfavorable care in health facilities, many mothers preferred traditional birth attendants. This might lead to poor delivery outcomes and increase newborn and maternal mortality. Besides, it could be a barrier not to achieve sustainable development goals (SDG) [5, 7, 10–12].

This global high level of mistreatment indicates that previously taken interventions were coverage alone, and the quality of care and human rights issues were neglected [13]. Women mistreatment during institutional delivery is gender-based violence; which threatens livelihood, the rights of respectful and discrimination-free care [5, 14]. It also, directly and indirectly, affects health outcomes, patient satisfaction, and future delivery plan of mothers in a health facility [15, 16]. Due to this mistreatment, 20% of women develop postpartum stress disorder, 10% likelihood rise of case fatality rate, and 61% plan to deliver outside of a health facility for the future; even if they face life-threatening complications [17–20]. As a result, mothers lost trust in nearby health facilities and see health facilities as frightening and distressing institutions [7].

Despite service availability, the communities might not believe in the nearby public health facilities which indicates how much the health facilities far from its established aims and professions honor lost [2, 5]. Recently, following the World Health Organization recommendations of Respectful Maternity Care (RMC), the Ethiopia Federal Minister of Health (FMOH) has adopted a new Compassionate, Respectful Care (CRC) approach. The FMOH has started providing in-service training to all health care staff on CRC practice [2]. Respectful delivery care is affected by Sociodemographic and obstetric characteristics of mothers, the socio-cultural norm of the communities, health worker's clinical competency and non-clinical skills, health system readiness, and availability of policy and its implementation [21–33].

In Ethiopia, different efforts have been taken to increase institutional delivery including build maternal waiting home in the health facilities, free service and transportation, pregnant women conference, and media advocacy campaign. Despite these interventions, 74% of mothers are delivered outside of health facilities, and the gap of facility childbirth (26%) and ANC booked women (62%) is huge [34]. RMC is the best and a key strategy to increase institutional delivery and reduce maternal and newborn mortality and failure to achieve RMC means failure to achieve SDGs three [2, 7, 35, 36]. Even if, the problem is multidimensional and requires context-specific understanding, little is known about the magnitude and determinants in the study area. Therefore, this study assesses the proportion and associated factors of respectful delivery care among mothers delivered in Debre Berhan town public health facilities, 2019.

Methods

Study design and setting

A health facility-based cross-sectional study was conducted from November 15 to December 30, 2019, in Debre Berhan town public health facilities, Ethiopia. Debre Berhan is an administrative city and the capital city of North Shewa Zone in Amhara Regional State. The town is found 130 kilometers away to the north from Addis Ababa, the capital city of Ethiopia. The total population of the town is 108,825, of which 59,617 females from those 3667 pregnant women. The town has one referral hospital, three health centers, and sixteen private health institutions. In 2018/19 the percentage of pregnant women who had received at least one ANC visit in the town was 71%, received at least four ANC visits was 41.6% and institutional delivery was 53.6% [37].

Study population

All mothers who delivered in Debre Berhan town public health facilities during the data collection period were included in this study. Mothers who had complications and referred to a higher facility and mothers who had hearing/visual problems were excluded.

Sample size determination

The sample size of a study was calculated using the following assumptions. For the proportion of respectful delivery care by assuming that the expected frequency of respectful delivery care during facility childbirth was 57% from the previous research in Ethiopia [30], level of confidence 95%, and allowed margin of error 5%. For the factors, the sample size was also calculated by taking 80% power of the study, 95% confidence interval, odds ratio, and outcome for exposed and non-exposed groups obtained from the respective studies. The calculated sample size of the factors was lower than the proportion of respectful delivery care. Therefore, the final sample size of the study after adding a 10% non-response rate was 413.

Sampling Technique and Procedure

By assuming that delivery attendance is random, a consecutive sampling technique was used. Every postnatal mother delivered in Debre Berhan town public health facilities were selected consecutively during health facility exit until the required sample size was reached during the study period. The numbers of women interviewed from each public health facilities were obtained by a proportional allocation of total previous one-month delivery (October 2019) of each facility.

Operational Definition

Respectful delivery care

It was labeled as dichotomous (yes/no) questions that contain 20 questions. If all of the 20 questions responses were positive (yes), it was labeled as a mother received respectful delivery care. Whereas, if a mother reports negative (no) for at least one question, it was labeled that a mother received disrespectful delivery care [25–33].

Data collection methods and tools

Pre-tested face to face interviewer-administered structured questionnaire was used to collect data from mothers who delivered in one referral hospital and three health centers. Six BSc degree holder health professionals who were not working in the study health facilities participated in this study as a supervisor and data collectors. The data collection tool was adopted from the Maternal Child Health Integrated Program (MCHIP) respectful maternity care tool kit for respectful delivery care measurement after considering its applicability in the study area [13]. For Sociodemographic data, obstetric, and health system-related data collection tool was developed after reviewing different kinds of literature [25–33].

Data processing and analysis

The collected data were checked for error, coded, and entered into EPI-data version 3.1 and bi-variable and multivariable logistic analysis was carried out by using SPSS version 25 software. Descriptive statistics like SD, frequency, and percentages were calculated and the result was presented in text, table, and graph. Before analysis, all assumptions of logistic regression were checked and model fitness was checked by Hosmer- Lemeshow goodness of fit test (0.61). First binary logistic regression analysis was performed to see the association between each independent variable and outcome variable and those variables with P-value less than 0.25 were entered into a multivariable logistic regression model. The Adjusted Odds ratio along with 95% confidence intervals was computed to assess the strength and direction of the association between predictors and an outcome variable. A statistically significant association was declared at P-value < 0.05

Data quality assurance

The data were collected during the mother's facility exit in a silent room by trained data collectors in four public health facilities. The data collectors and supervisor were trained and the questionnaire was pretested on 10% of the sample size before two weeks of actual data collection. Regular supervision, meeting was made daily and any problem was raised during data collection was solved immediately. The questioner was prepared in the English language then translates to the local language (Amharic) before data collection and translated back to English by the third person to check its consistency. To check the internal consistency of the questionnaires Cronbach's alpha test was performed (α coefficients = 0.75). All the questionnaires and data were checked for completeness and accuracy before, during, and after data collection and double data entry was used to avoid data entry error.

Result

Sociodemographic characteristics of study participants

A total of 412 postnatal mothers with a mean age of 26.71 (SD ± 4.68) were participated in this study yielding an almost 100% response rate. Most mothers 166 (40.3%) were between the ages of 25–29 years. More than half 228 (55.3%) of mothers were housewives and all most all 377 (91.5%) mothers were married. About 136 (33%) mothers were primarily educated and 330 (80.1%) of mothers were urban dwellers (Table 1).

Table 1
Sociodemographic characteristics of mothers delivered in Debre Berhan town public health facilities, Ethiopia, 2019.

Variables	Category	Frequency	Percentage
Age	< 20 years	18	4.4
	20–24 years	117	28.4
	25–29 years	166	40.3
	30–34 years	81	19.7
	≥ 35 years	30	7.2
Occupation	House wife	228	55.3
	Government employee	45	10.9
	Merchant	72	17.5
	Private employee	21	5.1
	Others	46	11.2
Marital status	Married	377	91.5
	Single	17	4.1
	Divorced	10	2.5
	Windowed	3	0.7
	Others*	5	1.2
Educational status	No formal education	58	14.1
	Primary (1–8)	136	33
	Secondary (9–12)	128	31.1
	College and above	90	21.8
Residency	Urban	330	80.1
	Rural	82	19.9
Religious	Orthodox	396	96.1
	Muslim	13	3.2
	Others	3	0.7
Income (for urban dweller only)	≤ 2000 birr	96	29
	> 2000 birr	234	71

Variables	Category	Frequency	Percentage
*= Cohabitating, separated			

Obstetric characteristics of the study participants

Out of 412 mothers, half of 206 (50%) mothers were multigravida and 186 (90%) of them had previous facility childbirth experience. Among the total mothers, 176 (42.7%) of them were delivered via assisted vaginal delivery and 278 (67.5%) of them were delivered at night time. Nearly one-third of 139 (34%) of mothers have developed complications during childbirth and 230 (59%) of mothers had companion during delivery care. Regarding ANC follow-up 402 (97.6%) of mothers had ANC follow-up at least once and 209 (52%) of them had four or more visits (Table 2).

Table 2
Obstetric characteristics of mothers delivered in Debre Berhan town public health facilities, Ethiopia, 2019.

Variables	Category	Frequency	Percentage
Gravidity	Primigravida	206	50
	Multigravida	206	50
Referral status	Yes	200	48.5
	No	212	51.5
Previous facility delivery	Yes	186	90.3
	No	20	9.7
Stage of labor during arrival	First stage	334	81
	Others *	78	19
Laboring hours in the health facility	< 24 hours	403	97.8
	≥ 24 hours	9	2.2
Mode of delivery	SVD	161	39.1
	Assisted V. delivery	176	42.7
	C-section delivery	75	18.2
Delivery time	Night	278	67.5
	Day	134	32.5
Delivery complication	Yes	138	33.5
	No	274	66.5
Having companion	Yes	230	55.8
	No	182	44.2
ANC follow-up	Yes	402	97.6
	No	10	2.4
Number of ANC visits	< 4 ANC visits	193	48
	≥ 4 ANC visits	209	52
HIV status	Positive	15	3.6
	Negative	397	96.4
Outcome of delivery	Alive	397	96.4

Variables	Category	Frequency	Percentage
	Death	15	3.6
Others (*) includes: 2nd stage, 3rd stage, labour not started, V = Vaginal			

Health system characteristics

The majority of 303 (73.5%) mothers were delivered in Debre Berhan hospital and 410(99.5%) mothers had a plan to deliver in the health facilities. About 211 (51.2%) delivery care providers were female and 282 (68.4%) of providers were midwives by profession. Regarding provider's experiences, about 204 (49.5%) of providers had 6–10 years of experience (Table 3).

Table 3
Health system characteristics of women delivered in Debre Berhan town public health facility, Ethiopia, 2019.

Variables	Category	Frequency	Percentage
Type of health facility	Health center	109	26.5
	Hospital	303	73.5
Future delivery plan (health facilities)	Yes	410	99.5
	No	2	0.5
Sex of provider	Female	211	51.2
	Male	201	48.8
Provider profession	Midwifery	282	68.4
	Doctor (GP &specialist)	84	20.4
	Others*	46	11.2
Provider experiences	≤ 5 years	145	35.2
	6–10 years	204	49.5
	> 10 years	63	15.3
Others (*) includes:-Integrated Emergency Surgical Officer (IESO), health officers, Nurses			

Table 4: Predictors of respectful delivery care among mothers delivered in Debre Berhan town Public health facilities, Ethiopia, 2019 (n=412)

Variables	Category	RDC		COR (95 % CI)	AOR (95 % CI)
		Yes	No		
Age	< 20	4	13	1	1
	20-34	135	231	1.89(0.60, 5.94)	1.83(0.53, 6.37)
	≥35	8	21	1.23(0.31, 4.91)	1.85(0.38, 8.90)
Place of residence	Urban	129	201	1	1
	Rural	18	64	0.43(0.27, 0.77)	0.81(0.40, 1.66)
Educational status	No formal education	9	49	1	1
	Primary (1-8)	42	92	2.48(1.11, 5.52)	2.24(0.93, 5.34)
	≥ Secondary (9-12)	96	124	4.21(1.97, 9.00)	3.59(1.53, 8.42)*
Occupation	Housewife	73	155	1	1
	Gov't employee	22	23	2.03(1.06, 3.88)	1.12(0.52, 2.38)
	Self-employed	29	43	1.43(.82, 2.47)	1.16(0.62, 2.19)
	Private employee	8	13	1.30(0.51, 3.29)	0.94(0.32, 2.68)
	Others	15	31	1.02(.52, 2.02)	1.14(0.53, 2.45)
Parity	Primigravida	68	138	1	1
	Multigravida	79	127	1.26(0.84, 1.89)	1.42(0.86, 2.33)
Referral status	Yes	58	142	1	1
	No	89	143	1.77(1.17, 2.66)	0.89(0.50, 1.58)
Having family during delivery	No	45	133	1	1
	Yes	102	132	2.17(1.46, 3.32)	2.45(1.47, 4.07)*
Delivery time	Night time	78	200	1	1
	Day time	69	65	2.72(1.77,	2.48(1.55,

				4.17)	3.99)**
ANC Visits	< 4 ANC visits	53	160	1	1
	≥ 4 ANC visits	95	114	2.65(1.74, 4.03)	2.54(1.60, 4.01)
Type of health facility	Health center	51	58	1	1
	Hospital	96	207	0.52(0.33, 0.82)	0.58(0.31, 1.08)
Type of profession	Midwifery	106	176	1	1
	Others	41	89	1.30(0.84, 2.03)	1.39(0.78, 2.44)
* (P-value < 0.05) and ** (P-value < 0.01) in multivariate analysis					

The proportion of respectful delivery care

Out of 412 mothers delivered in Debre Berhan town public health facilities nearly one third 147 (35.7%) (95% CI: 31, 40.3%) of mothers received respectful delivery care, but the remaining 265 (64.3%) of mothers were disrespected during institutional delivery (Fig. 1).

Factors that associated with respectful delivery care

Association between the outcome variable and the predictors was first assessed using binary logistic regression. In multivariable logistic regression analysis educational status, having a companion during delivery, delivery time, and the number of ANC visits were identified as significant predictors of respectful delivery care.

Mothers who had secondary education or more were 3.6 times more likely receiving respectful delivery care than formal none educated mothers [AOR = 3.59; 95% CI (1.53, 8.42)]. Mothers who had a companion during delivery care were 2.5 times more likely to received respectful delivery care than women had no companion [AOR = 2.45; 95% CI (1.47, 4.07)]. Mothers who were delivered at the day time were 2.5 times more likely received respectful delivery care than delivered at night time [AOR = 2.48; (1.55, 3.99)]. Mothers who had four or more ANC visits for current pregnancy were 2.5 times more likely received respectful delivery care than mothers who had less than four ANC visits [AOR = 2.54; 95% CI (1.60, 4.01)] (Table 4).

Discussion

This study aimed to assess the proportion of respectful delivery care and associated factors among mothers delivered in Debre Berhan town public health facilities. The proportion of respectful delivery care in this study was 35.7%. This is nearly similar to the cross-sectional studies done in four regions and

Bahir Dar, Ethiopia which were reported that 36% and 32.9% of mothers were received respectful delivery care during facility childbirth respectively [29, 38].

On the contrary, it was lower than the cross-sectional studies conducted in Brazil 81.7% [39], Nigeria 81% [40], and Ethiopia 78% [27]. This discrepancy might be due to socio-cultural, economic status, health policy variation, study setting difference, and different measurement tools. However, this was higher than the study conducted in Addis Ababa (21.4%), Jimma (8.3%), Wollega (25.2%), and Gondar (24.6%), Ethiopia [26, 31–33]. It could be due to that the previous study was before the government of Ethiopia initiates the CRC program. But, now basic supportive training is given for all maternal health service providers.

This study showed that mothers who had a companion during delivery were 2.45 times more likely received respectful delivery care than mothers who had no companion. This finding is consistent with the studies conducted in Tigray and Wollega, Ethiopia [27, 33]. The possible reason could be due to mothers who had a companion might be improving the mother's confidence and reduce labor-related stress due to emotional and psychological support by their companion. Besides, providers might refrain from abusive behaviors due to fear of companion, the companion also assisting providers and assisting mother's decision making.

On the contrary, an observational study conducted in four regions of Ethiopia public health facilities reported that mothers who had a companion during delivery care had an insignificant association with respectful delivery care [26]. This might be due to different study settings, a small sample size of former study, and study period variation.

In this study mothers who had delivered during day time were 2.48 times more likely to received respectful delivery care than delivered at night time. This finding is consistent with the studies conducted in Kenya and Ethiopia Bahir Dar [30, 41]. The possible reason for this association might be due to sleeping disturbance of provider, workload, and poor infrastructure of the facility (electric power interruption) during night time delivery.

On the contrary, an observational study conducted in Ethiopia four rural health centers reported that weekend delivered mothers were twenty times more likely received disrespectful delivery care than night time delivery [38]. This contradiction might be due to different data collection methods (observational), study setting and study period variation.

Mothers who had secondary or more educational status were nearly four times more likely to received respectful delivery care than formally non-educated mothers. This is in line with the study conducted in Arba Minch, Ethiopia [28]. The possible reason for this association could be educated mothers might have relatively good knowledge about their rights and obligation in the health facilities. Besides, they might have good rapport building with the provider due to nearly similar level education status, and better health-seeking behaviors that help, providers develop a good attitude toward them.

However, the studies conducted in Tigray and Jimma, Ethiopia reported that secondary and more educated mothers were 1.5 and 3 times more likely disrespected than illiterate mothers [27, 31]. This inconsistency in Tigray study might be due to differences in study setting that was a community-based study within one year of delivery which might be affected by recall bias and study period variation. Similarly, the study conducted in Jimma had a small sample size and study population variation that excludes mothers who gave birth via C-section.

In this study mothers who had four or more ANC follow-up were 2.54 times more likely to received respectful delivery care than mothers who had less than four ANC follow-up. This is agreed with the study done in Bahir Dar which was reported a positive significant association [30]. This could be due to a woman who had more ANC visits that might have better health-seeking behaviors and health workers might have a positive attitude for women who had more ANC follow-up. On the contrary, the studies done in Pakistan and Ethiopia showed an insignificant association between respectful delivery care and ANC visits [38, 42]. The reason for this discrepancy might be different study settings, different health policies, and socio-cultural variations.

Limitation Of The Study

This study might be affected by courtesy bias because mothers might not report disrespect honestly due to they might be considered that blaming of her providers and due to fear. The finding of this study may not be generalized to the community because it's a facility-based study. Since it is a cross-sectional study, the cause and effect relationship between the outcome variable and predictors may not be established.

Future researches should be observation studies because women may not know their basic rights during facility childbirth and any disrespect might be considered normal. Respectful maternity care is context-specific; future research should incorporate community, and health-system related factors of respectful delivery care and considering the exploration of those factors by the qualitative study.

Conclusion

In this study proportion of mothers who received respectful delivery care is low; only nearly one-third of women were received respectful delivery care. This is against national and international proclamations and might be the major obstacle for women's current and future decisions to deliver in the health facilities. Thus, Debre Berhan woreda health office, facility administrators, and delivery care providers should work on increasing ANC visits and allow mothers to have a companion of choice during delivery care. The town health and educational office should work on and empower girls and youth education.

Abbreviations

ANC

Antenatal Care, AOR:Adjusted Odds Ratio; CI:Confidence Interval; CRC:Compassionate Respectful Care; FMOH:Federal Minister of Health; RDC:Respectful Delivery Care; RMC:Respectful Maternity Care; SDGs:Sustainable Development Goals

Declarations

Ethical approval and consents to participate

This research was approved by the Institutional Review Board (IRB) of Debre Berhan University, college of health science (protocol number: 16/19/SPH). An official letter of permission and cooperation was written for Debre Berhan woreda health office and each facility administrators. All of the study participants were more than 18 years. Hence, informed oral consent was obtained before data collection from each participant after stating the aims of the study, risks, and benefits of participating in the study as approved by the ethics review board. All study participants were informed about able to discontinue the interview at any time and unable to answer some of the interview questions. The privacy and confidentiality of participants were maintained at each step of the study.

Consent for publication

Not applicable.

Availability of data and materials

The data sets used and analyzed in this study are available from responding author upon reasonable request.

Competing interests

The authors declared that they have no competing interests.

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Authors' contributions

YAW[1]: overall conceptualize and design of the study, data analysis and interpretation and manuscript revision; NTS[2]: Methods of the study, data collection and drafting of manuscript; OYM[3]: Data review, result writing and preparation of manuscript. All authors read and approve the final version of the manuscript.

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Figures

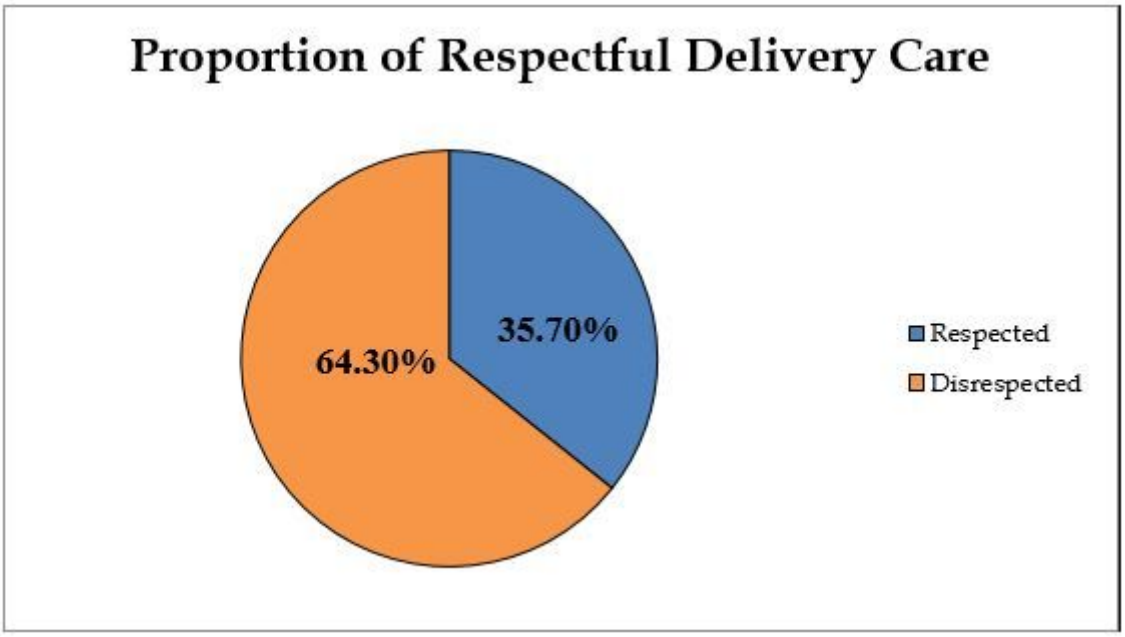

Figure 1

The proportion of respectful delivery care among mothers delivered in Debre Berhan town public health facilities, Ethiopia, 2019.

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