

Community awareness towards cesarean section delivery and its associated factors in Enderta woreda, Tigray Ethiopia, 2017: community based mixed study design

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Research Article

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Abstract

Objective: To assess community awareness towards cesarean section delivery and associated factors in Enderta woreda, Tigray, Ethiopia, 2017. When cesarean section is decided during labor, most of the women fear and refuse the decision. There are studies in some African countries assessing factors that affect women's awareness on cesarean section, but they are institutional based and quantitative only. In this research the study is at the community level and in addition to the quantitative part, it has qualitative design to explore the community feeling.

Results: Three hundred eighteen (95.2%) of the study participants were aware of caesarean section. Monthly income (AOR 18.822: 95% CI 1.463-24.228: P=0.048), and educational status of the mother (AOR 12.443: 95% CI 1.025-22.905: P = 0.024) had significant association with awareness towards cesarean delivery. Most of the participants replied cesarean section saves the life of mother and fetus and the main reason for mothers to refuse in decision is they don't know well about cesarean section.

Introduction

Cesarean section is delivery of a fetus through an incision in the abdominal and uterine wall. Cesarean sections have a great role in lowering maternal and perinatal morbidity and mortality rates. Its initial purpose was to preserve the life of the mother with obstructed labor. Nowadays Cesarean delivery is indicated when labor is unsafe for either mother or fetus, even it can be done after maternal death to save life of the fetus Postmortem cesarean delivery (1).

Cesarean section is considered an appropriate intervention for obstetric complications that causes maternal mortality like, antepartum hemorrhage, prolonged or obstructed labor, pre-eclampsia or eclampsia and intrapartum fetal distress (2). It can be elective cesarean section which is planned and done before onset of labor or can be emergency when urgent indication or complication happened (3).

World Health Organization national target toward maternal mortality, is no country should have maternal mortality greater than 140 per 100 000 live births, and outlines a strategic framework for achieving these ambitious targets by 2030 (5). Decision-to-delivery interval of emergency cesarean section is considered an important determinant of maternal and perinatal outcome and has become a measure of standard of care (20,21).

An estimated global total of 10.7 million women have died in the 25 years between 1990 and 2015 due to maternal causes. Over the course of that time, however, the world has made steady progress in reducing maternal mortality. The global MMR has fallen by 44% from the 1990 level of 385 to the 2015 level of 216 of this estimated global maternal deaths developing countries account for approximately 99% Sub-Saharan Africa alone accounting 66% (6).

Ethiopia is one of 10 high-performing countries among china, Bangladesh, Rwanda...that are considered on the fast track in 2013 to reduce maternal mortality (7). There is data showing , steady decline in the MMR: from 871 deaths per 100,000 live births in the 2000 EDHS, to 673 deaths per 100,000 live births in the 2005 EDHS, and to 676 deaths in the 2011 EDHS, to reach 412 deaths per 100,000 live births in the 2016 EDHS (8).

Methodology

A community based cross sectional study design containing mixed methods mainly quantitative supplemented by qualitative design was conducted to collect information among 366 pregnant women's in Enderta woreda. For the quantitative study design Study participants were selected by simple random sampling technique from the selected kebele. A structured, pre tested questionnaire was prepared and filled through trained interviewer. Data was checked and entered in to Epi-info version 3.5.1 ,cleaned and analyzed using SPSS window version 21 and logistic regression analysis was used .For qualitative design key in-depth interview was used and data from key informant was transcribed and translated to English. The findings from quantitative and qualitative were triangulated.

Definition of terms

Cesarean section: delivery of fetus through incision in uterine and abdominal wall.

Community: a group of people living in the same place or having a particular characteristic in common.

Awareness: A woman was considered to be aware of caesarean section if she had ever heard about it as an alternative to vaginal delivery.

Results

During the study period, 366 respondents were assumed to participate in the study from pregnant cohort list registration of each kebele. Eight of them were already delivered their baby, 24 of the pregnant mother were not available during study period and 334 were finally included in the study.

5.1 Socio-demographic characteristics data of respondents

The age of the respondents ranged from 19 to 47 years with a mean age of 30.84 ± 6.75 while the common age of the respondents was between 30-34 years followed by 25-29 years. Two hundred and seventy nine (83.5.0%) were married with 55 (16.5%) being widowed and divorced. Three hundred and

twenty four (97%) being orthodoxy Christian followers the rest being Muslim. One hundred and twenty nine (38.6%) had primary education, 34 (10.2%) with secondary education, only 7(2.1%) had tertiary education. 164 (49.1%) were illiterate. Of the husbands, Only 114 (34.1%) had primary education and 193 (57.8%) of them were illiterate. Two hundred and thirty five (70.4%) were housewives, 25(7.5%) were daily laborers (Table 1).

5.2 Obstetric characteristics of the study participants

Majority of our study participants, 282 (84.4%) were having gravidity more than one and 52 (15.6%) of them were pregnant for the first time. Two hundred and eighteen (65.3%) gave birth for more than one times and 235 (83.3%) of them gave birth via vaginal delivery while 28 (9.9%) was instrumental delivery.

5.3 Awareness of the study participants to cesarean section

Three hundred eighteen (95.2%) of study participants were aware of cesarean section out of which 19 (6.7%) had experienced it. Respondents recognized that prolonged labor (183/334; 54.8%), big baby (107/334; 32%), bleeding per vagina before delivery (38/334; 11.4%) as major indications for C/S. Majority of them, 235(70.4%) knew that vaginal delivery is possible after caesarean section, but 99(29.6%) did not know this. Two hundred and eighty five (85.3%) were willing to undergo c/s delivery, but 49 (14.7%) of them were not willing to undergo C/S delivery even with indication. Fear of subsequent infertility, 19 (5.7%) and fear of death 15 (4.5%) were some of the reasons for not undergoing C/S delivery. One hundred fifty two (45.5%) of the study participants heard about C/S from their family, 110 (32.9%) from health institution and 56 (16.8%) from mass media (Table 3).

5.4 Factors that affect community awareness towards cesarean delivery

Bivariate analysis revealed three statistically significant variables associated with the awareness of caesarian section: monthly income more than 3000 was around 6 times aware than low income once (COR 6.357: 95% CI 1.165-34.681: P = 0.033). Pregnant mother whose educational status is between grades 9-12 were 2 times more aware for caesarian delivery than illiterate once. (COR 2.25: 95% CI 2.32-76.55: P= 0.040). The study also found that pregnant mothers whose husband having secondary educational status were having around 11 times more aware of caesarian delivery than illiterate once (COR 10.625: 95% CI 1.92-58.783: P= 0.042) (table 4)

However multivariate analysis showed that only monthly income and educational status of the mother had significant association with awareness towards caesarian delivery in our study. Pregnant mothers with monthly income more than 3000 were having around 19 times more awareness than mother with low income once (AOR 18.822: 95% CI 1.463-24.228: P=0.048). According to this study pregnant mothers

with secondary educational status were having 12 times higher awareness than illiterate once (AOR 12.443: 95% CI 1.025-22.905: P = 0.024) (table 4).

5.4 Result of qualitative data

When asked about awareness on cesarean section their responses were...

"I have heard about cesarean section from health extension workers , it means saving the life of the mother ,but since we are from rural area we don't know its advantage. I know those urban women's elect cesarean section by their option so as not to become tired by labor pain, it's our misunderstanding to refuse cesarean section."**(Village A and D mothers)**

"Indication for cesarean section is if the presentation of the fetus is abnormal or if the mother is tired. personally I accept cesarean section its helping life of the mother and fetus but in our society they don't accept, they said that doctors are hurry to decide cesarean section they want to do practice at them ."**(Village E women development army)**

"I accept cesarean section it's not bad but mothers fear when they are told to sign for the procedure ,they assume the signature as that is for death.so teaching mothers at antenatal care ,cesarean section as option of delivery can help them in decision ." **(Village A husband)**

"Although I have no complication, I feel bad because I have never heard of cesarean section before. This is my seventh child, I gave birth my first four children at home with no complication I don't know why this girl wants to come out through my abdomen. Health professionals have to told us at antenatal care about cesarean section, for whom allowed so that we can reset our mind cesarean section as an option."**(Village B mother)**

"We need more children so I prefer normal vaginal delivery for my wife, with cesarean section they are limited." **(Village C husband)**

Most of the participants replied cesarean section saves the life of mother and fetus and the main reason for mothers to refuse in decision is they don't know well about cesarean section. They heard about cesarean section from the community and the information they get can be correct or incorrect, its better if

health professionals teach about cesarean section during antenatal care so that mothers cannot refuse decision of seniors.

Discussion

Three hundred eighteen (95.2%) of the participants were aware of cesarean section. This is similar with study done in Ghana 304 (96%) had ever heard about cesarean section. This finding is also similar with study done in Nigeria in which 376 (93.8%) of the pregnant mothers were aware of caesarean section (12, 18). This similarity can be explained because of all those studies are done in developing countries.

Two hundred thirty five (70.4%) knew that vaginal delivery is possible after caesarean section, but 99 (29.6%) did not know this, which is similar with study done in Nagpur, when asked about C/S 73.4% believe that vaginal birth after caesarean section is possible (15).

In our study educational status of the mother had significant association with awareness towards caesarian delivery, secondary educational status were having 12 times higher awareness than illiterate once (AOR 12.443: 95% CI 1.025-22.905:P= 0.024). This is in line with a study done in Chile by Angeja AC. et. al. which showed that mothers with higher level of degree have higher awareness to the method of delivery including cesarean section (23). This finding is consistent with another study done in Nagpur which shows women who had the highest level of education had higher level of awareness cesarean section (15).

This is also similar with study done in India by Shewli Shabnam (22). Qualitative study in Nigeria showed that women without formal education were nearly 4 times more likely to refuse CS than those with higher degree education (OR 3.6; CI 1.12-11.53) (24). This can be explained by the fact that educated women are more interested in acquiring knowledge about the delivery methods including cesarean section.

Multivariate analysis showed that monthly income had significant association with awareness towards cesarean delivery in our study. Pregnant mothers with monthly income more than 3000 were having around 19 times more awareness than mother with low income once (AOR 18.822: 95% CI 1.463-24.228: P=0.048). This is similar with another study done in India which shows that mothers with higher socioeconomic status had higher awareness to cesarean delivery. They can also easily access and afford the cost of cesarean section. This finding is also in line with study done in Addis Ababa (Ethiopia), CS rate increases with rise in household wealth index CS rate among women from the 'rich' households was significantly higher than those from the 'poor' and 'middle' households P = 0.016 (14). This may be explained by the fact that mother with higher socioeconomic status may have higher level awareness and knowledge towards methods of delivery including cesarean delivery.

Conclusions

In our study, majority of pregnant mothers were aware of cesarean delivery, which is a good experienced in other developing countries like Ghana and Nigeria. Educational status of the mother and monthly income had significant association with awareness towards caesarian delivery in our study. The main reason for mothers to refuse cesarean section is they don't know well about it.

Limitations

Some of the pregnant mothers were not available at home since it was cross sectional study.

Declarations

abbreviation

ANC- antenatal care

C/S- cesarean section

EDHS –Ethiopian demographic health survey

FMOH-federal ministry of health

MMR – maternal mortality rate

WHO– World Health Organization

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Availability of data and material

The datasets during and/or analyzed during the current study available from the corresponding author on reasonable request

Ethics approval and consent to participate

Ethical clearance was obtained from Mekelle University, college of health science; Ethical Review Board. Additionally permission was obtained from enderta woreda health administration. Respondents were provided with written consent and were assured that they have full right to participate or withdraw from the study. All the respondents were assured that information given was treated with strict confidentiality.

Consent for publication

Not applicable for this section

Competing interests

The authors have declared that no competing interests exist.

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Tables

Table 1. Socio-demographic characteristics data of respondents, Enderta, Tigray, 2018 (n = 334)

Variable	Number	Percent
Age		
15-19	7	2.1
20-24	68	20.4
25-29	74	22.2
30-34	86	25.7
35- 40	60	18
>40	39	11.7
Educational status of husband		
Illiterate	193	57.8
grade 1 to 8	114	34.1
grade 9-12	23	6.9
greater than 12	4	1.2
Occupation of husband		
Farmer	231	69.2
civil servant	8	2.4
business man	67	20.1
daily laborer	25	7.5
Educational status of mother		
Illiterate		49.1
grade 1 to 8	164	38.6
grade 9-12	129	10.2
greater than 12	34	2.1
	7	
Occupation of mother		
house wife	235	70.4
civil servant	14	4.2
business women	60	18.0
daily laborer	25	7.5
Marital status		
married	279	83.5
divorced	18	5.4
widowed	37	11.1
Religion		
Orthodox	324	97
Muslim	10	3
Ethnicity		
Tigrian	334	100

Table 2 Obstetric characteristics of the study participants in Enderta, Tigray, 2018 (n = 334)

Gravidity		
one	52	15.6
more than one	282	84.4
Parity		
no	52	15.6
one	64	19.2
more than one	218	65.3
Mode of delivery		
vaginal birth	235	83.3
vaginal assisted with instrument	28	9.9
cesarean section	19	6.7

Table 3. Awareness of the study participants to cesarean section in Enderta, Tigray, 2018 (n =334)

Variable	Number	Percentage
have you ever heard c/s		
yes	318	95.2
no	16	4.8
is vaginal delivery possible after cesarean section		
yes	235	70.4
no	99	29.6
are you willing to undergo cesarean section		
yes	285	85.3
no	49	14.7
Reason for not willing		
fear of death	15	4.5
fear of subsequent infertility	19	5.7
difficult to decide	13	3.9
other	2	0.6
From where did you hear		
Television	28	8.4
health institution	110	32.9
family	152	45.5
radio	28	8.4
For whom c/s indicated		
big baby	107	32.0
vaginal bleeding before delivery	38	11.4
prolonged labor	183	54.8
other	6	1.8
Who will decide c/s		
My self	254	76
My husband	51	15.3
My relatives	29	8.7

Table 4. Bivariate and multivariate logistic regression analysis of factors that affect community awareness towards cesarean section delivery in Enderta, Tigray, 2018

Variables	COR	AOR
Monthly income		
< 1000	1	1
1001 - 2000	0.365 (0.292-7.856)	0.459 (0.361-34.385)
2001 - 3000	0.459 (0.029-6.409)	2.523 (0.849-3.690)
>3000	6.357 (1.165-34.681)*	18.822 (1.463-24.228)*
Educational status of mother		
Illiterate	1	1
1-8 grade	1.382 (0.398-4.796)	0.981 (0.678-34.89)
9-12 grade	2.52 (2.32-76.55)*	12.443 (1.025-22.905)*
Higher education	3.758 (0.561-5.508)	3.440 (0.645-36.978)
Educational status of husband		
Illiterate	1	
1-8 grade	0.606 (0.120-3.052)	
9-12 grade	10.625 (1.92-58.783)*	
Higher education	4.2 (0.798-12.543)	
Parity		
Para one	1.364 (0.499-3.728)	
More than one	1.677 (0.618-4.548)	
Age		
15-19	0.500 (0.044-5.637)	
20-24	1.333 (0.283-6.292)	
25-29	0.944 (0.223-4.001)	
30-34	0.940 (0.230-3.847)	
>35	1.167 (0.247-5.521)	
Marital status		
Married	1.758 (0.561-5.508)	
Single	0.606 (0.120-3.052)	
Mode of delivery previously		
Vaginal	2.090 (0.315-2.983)	
Caesarian section	1.542 (0.243-1.784)	
Gravidity		
One	0.984 (0.374-2.365)	
More than one	3.000 (0.275-3.743)	

*p < 0.05