What are the Complications Associated with Female Genital Mutilation Among Postnatal Women in Chuko Primary Hospital, Sidama Regional State, Ethiopia?

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Abstract

Objectives: - To assess female genital mutilation associated birth complications among postnatal women in Chuko Primary Hospital, Sidama National Regional state, Ethiopia, 2020

Method: An institutional-based cross-sectional study was conducted in Chuko Primary Hospital, Sidama Regional State, Southern Ethiopia from May 1 to June 15, 2020. Two hundred fifty postnatal women were involved in the study. A systematic random sampling technique was used. The data was collected using pretested and structured interviewers administered questionnaire adapted from a validated questionnaire, content validity was checked by experts, and reliability of the scaled tools was tested by Cronbach's alpha test (0.70). Before analysis data was entered and checked using Epi data and exported into Statistical Package for Social Sciences version 25.00. Bivariate analysis was carried out between the dependent and independent to identify candidate variables for multivariable logistic regression. Multivariable logistic regression analysis was made to obtain the odds ratio and the confidence interval of statistical associations between Female Genital Mutilation associational Birth complications.

Result: Two hundred fifty postnatal women were included in the study. The prevalence of FGM was 76.8% with 95% CI: [71.6- 81.6]. Episiotomy (AOR= 7.25[95% CI: 2.27, 23.2] and prolonged labour (AOR= 2.16[95% CI: 0.03, 0.82] were significantly associated with Female Genital Mutilation.

Conclusion and recommendations: The prevalence of female genital mutilation among postnatal women in Chuko Primary Hospital was high. Family members, health and social care professionals have crucial roles in determining FGM and associated birth complication of women. Therefore, Stakeholders who are working on the improvement of maternal and neonatal health during delivery should try to reduce FGM by intervening at the individual level, family and community level to lessen the problem to some extent. Further researches in more detail to fully understand the problems and the findings will be used as inputs for concerned bodies.

1: Introduction

1.1 Background

The exact origin of FGM is not well-known, but documented reports revealed that Greek historians and geographers Herodotus (484– 425B.C.) and Strabo (64 B.C.–23 A.D.) point out that FGM occurred in Ancient Egypt along the Nile Valley at the time of the Pharaohs and thus Egypt is often considered as the source country. The act of FGM/C was also reported a long time ago among other nations of the world including the Romans where it was done to prevent their female slaves from getting pregnant(1).

According to WHO definition female genital mutilation is any surgical modification of the female genitalia, comprising all procedures involving partial or total removal of the external female genitalia or another injury to the female genital organs for cultural or nontherapeutic reasons(2).

WHO interagency group has classified female genital cutting into four types: Type 1 – Clitoridectomy: partial or total removal of the clitoris; Type 2 – Excision: partial or total removal of the clitoris and the labia minora, with or without excision of the labia majora; Type 3 – Infibulation: narrowing of the vaginal opening through the creation of a covering seal.; and Type 4 – Other: all other harmful procedures to the female genitalia for non-medical purposes, e.g. pricking, piercing, incising, scraping and cauterizing the genital area(3, 4).

Female genital mutilation is commonly referred to as female circumcision and one of the deeply rooted, harmful traditional practices. Common reason for FGM is social acceptance, religion, hygiene, preservation of virginity, marriageability, and enhancing of male sexual pleasure(5). Even though it is taken as a cultural entity, it is a form of violence against girls and women reflecting discrimination against these vulnerable sections of the society(6).

According to WHO report 2011 showed there were an estimated 130–140 million girls and women who have been subjected to the operation and 3 million girls are at risk of undergoing the practice every year(7).

In Africa, about 101 million girls age 10 years and above are estimated to have undergone female genital Mutilation in northeast Africa, where the practice ranges from 80 to 97%, while in East Africa it is markedly lower and ranges from 18 to 32% (8). FGM is practiced in many countries in Africa including Ethiopia, the Middle East, and around the world. The practice of FGM is also rampant in Ethiopia with a national prevalence range of 74 to 85% (9). A Study conducted in Bale zone, Ethiopia; birth complications of FGM reported as prolonged labor (57.1%), perineal tear (43.2%), cesarean section (35.8%), excessive vaginal bleeding during birth (27.1%), neonatal distress (26.3%) and fistula (1.7%) among women who had undergone female genital mutilation (10).

The deliveries of women who had undergone genital mutilation were significantly more likely to be complicated by cesarean section, postpartum hemorrhage, and prolonged maternal hospitalization. Women who had undergone the most serious form of genital mutilation (type III) had a 30% higher risk for delivery by cesarean section. Similarly, women with type III mutilation(severe FGM) had a 70% more likely to suffer hemorrhage after birth. The rates of infant resuscitation and perinatal death were higher among infants born to women who had undergone genital mutilation than among those born to mothers who had not, and the severity of the adverse outcomes increased with the severity of female genital mutilation(11).

Its common birth complications are: mechanical obstruction caused by the scarring covering the urethra and vagina, bleeding, perineal tear, unnecessary operative delivery, fetal distress, wound infection, and fistula (9, 12).

The researchers also found there was an increased need to resuscitate babies whose mother had experienced FGM, and the death rate among babies during and immediately after birth is also higher(7). In all, the study estimated that in the African context an additional one to two babies dies per 100 deliveries as a result of the practice(11).

FGM physically removing and damaging normal female genital tissue, and interferes with the natural functions of girls and women's bodies, Psychologically, the trauma leaves a scar that seldom, if not never, heals (9).

Females' genital mutilation is one of the harmful traditional practices affecting the health of women and children. It has a long-term physiological, sexual, and psychological effect on women. Females' genital mutilation still remains to be a serious problem for a large proportion of women in some parts of Africa (13).

In Ethiopia, there are some reasonable interventions and strategies that are ongoing to eliminate FGM, but the magnitude of FGM is very high in many Regions and districts including the SNNPR district, still, there is a gap of information and little researches were done to identify the one women on postnatal care service provision. Therefore, this study aimed To assess Female Genital Mutilation associational Birth complications among postnatal women in Chuko Primary Hospital, Sidama regional state, Ethiopia. The study would provide helpful information on female genital mutilation and birth complications among women on postnatal care. Besides, it may help to reduce morbidity and mortality associated with FGM. It may also provide helpful information to modify and design clinical interventions for women undergone FGM during labor and delivery service providers. Additionally, it may give a baseline of data for interested researchers, policymakers, and scientific knowledge.

2. Objectives

2.1 General Objective

- To assess the prevalence of female genital mutilation associational birth complications among postnatal women in Chuko Primary Hospital, Sidama Regional State, Ethiopia, from May 1- June 15, 2020 G.C

3.2 Specific Objectives

- To determine the prevalence of female genital mutilation among postnatal women in Chuko Primary Hospital, Sidama Regional State, Ethiopia.
- To identify the association of female genital mutilation and birth complications among postnatal women in Chuko Primary Hospital, Sidama Regional State, Ethiopia

3. Methods And Materials

3.1 Study Setting and Design

An institution-based cross-sectional study was conducted from 1/January – 15/ February /2020 in chuko primary hospital, Sidama regional state, Ethiopia. Chuko twon is located in Sidama reginal state,southern Ethiopia.The town is located 295 Km from Addis Ababa the capital city of Ethiopia and 76 km from Hawassa the capital city of the Sidama regional state. Its geographic coordinates of latitude, North: 5°45' and 6°45' and longitude, East: 38° and 39°. The town has total of 22,953 resident ,from total resident 11,252 were males and 11,701 females. The Chuko Primary Hospital found in Chuko twon and it was established in 1993 E.C as Chuko district health center and that was changed to Chuko Primary Hospital in 2010 E.C. The hospital has 8 departments such as Inpatient Department (IPD), Outpatient Department (OPD), Maternal Neonatal Child Health (MNCH), Emergency Outpatient Department (EOPD), Pharmacy, Laboratory, Operation Room (OR) and Clinical governance and quality unit. Chuko town administration has One Primary Hospital, two Health Post, six Private Clinic, two Rural drug vendors, and four drug stores(14).

3.2 Source population and Study population

The source population was all reproductive-age women living in catchment areas of Chuko Primary Hospital and all women coming for the delivery service to Chuko Primary Hospital was study population. Inclusion and exclusion criteria: All women coming to Chuko Primary Hospital for the delivery services were include in the study while those who were unable to listen, speak, or critically ill were excluded from the study. Study variables: The dependent variables were female genital mutilation whereas the independent variables were sociodemographic factors (Age, Resident, Religion, Ethnicity, Marital Status, Educational Status, and Occupation), Maternal Complications(Episiotomy, Prolonged labor, Instrumental Delivery, CS, Retained placenta, and PPH) and Newborn complications: (Asphyxia, Low birth weight, Preterm Baby, and Neonatal Death)

3.3 Sample size determination and Sampling Technique

The sample size was calculated by using a single population proportion sample size calculation formula, then the final sample size was 250. The prevalence of female genital mutilation ($p = 82\%$) was taken from an institution-based study conducted in Hadiya Zone, Southern Ethiopia [10]. Then the study participant was systematically selected from the delivery registration logbook of the Hospital. The first postnatal woman was selected based on the lottery method and the rest were selected every six intervals.

3.4 Data collection procedure and instrument

Data were collected using the interviewer-administered structured questionnaires by reviewing different published literature and guidelines. The data were collected by two midwife nurses, and the principal investigator supervised the whole data collection process. All data collectors took a one-day intensive training before data collection about the objectives of the study, the issues of verbal assent, and the rights of the respondents.

3.5 Data Quality assurance

Data collectors were trained on how to collect and handle data. The questionnaire prepared in English was translated into Amharic and was translated back to English to assess consistency and the Amharic version was used while carrying out the interview. Questionnaires were pretested on 5% of the postnatal women in Kebado Primary Hospital. Some modifications and updating of tools were done based on the result of the pretest. Reviewing the filled questionnaires at the end of data collection every day for completeness, consistency, and taking corrective measures were contentiously managed during the data collection periods.

3.6 Data analysis procedures

Data were entered with Epi data version 3.1 and exported to SPSS version 23 for analysis. Data explorations were done to examine different characteristics of the data. After cleaning data, descriptive statistics like frequencies were computed for the categorical variables while measures of central tendency and dispersion were summarized for continuous data. Bivariable logistic regression was carried out to select a candidate for multivariable logistic regression analysis with a p-value < 0.25 at 95% confidence. Then, candidate variables were entered into a multiple logistic regression model using the backward elimination method. The degree of association was assessed using odds ratio and statistical significance was declared at 95% of confidence level and p-value of less than 0.05. Hosmer & Lemeshow's test as well as its significance status was checked to assess the fitness of the model.

4: Result

4.1 Socio-demographic Characteristics of the Respondents

Two hundred fifty postnatal women were included in the study. The respondents with Age of 25–34 years constitute 109(43.6%) and the median age of the respondents was 29 years with an interquartile range (IQR) of 6 years. One hundred seventy-four (69.6%) of the women were born in the rural area and most were Protestant (47.6%) and from Sidama(60%) ethnic group. Two hundred-seven(82.8%) of the respondent were married. One hundred thirty (52.0%) of the respondents completed grades 1–8 and ninety-nine(36.7%) were housewives. One hundred nineteen(42%) of the respondents were in the middle-income class and one hundred sixty-eight (62.2%) of them had a family size of 1–3 [Table 1].

4.2 Obstetrics Characteristics of the Study Populations

From two hundred fifty postnatal women, one half (50.8%) of the respondents were gravida II-IV, followed by gravida I(35.2%) of the respondent. One hundred seventy-one (68.4%) of the women's had 1–3 four alive children [Table 1].

4.3 Maternal and Newborn Related Birth Complications

This study revealed that the prevalence of birth complications among the study participants was (71.9%) 95% CI: [66–78.2]. The maternal related birth complications were episiotomy (58.0%), prolonged labor (38.8%), and post-partum hemorrhage (PPH) (6.8%) of the respondents respectively. On the other hand, one hundred-five (42%) 95% CI: [35.2–

47.9] of the newborn babies were developed complications. The most common observed birth complications were: asphyxia (34%) of the child complication followed by low birth weight (13.6%) [Table 1].

Table 1
Socio-demographic Characteristics and Female genital mutilation associated birth complications
among postnatal women in chuko primary hospital, Sidama regional state, Ethiopia, 2020.

Variables		Frequency	Present (%)
Age of Respondent	15-19yr	27	10.8
	20-24yrs	94	37.6
	25–29	109	43.6
	30–34	15	6.0
	35 and above	5	2.0
Resident	Rural	174	69.6
	Urban	76	30.4
Religion	Orthodox	80	32.
	Protestant	119	47.6
	Muslim	47	18.8
	Other	4	1.6
Ethnicity	Sidama	150	60.
	Amhara	22	8.8
	Gurage	70	28.
	Other	8	3.2
Marital Status of respondent	Single	21	8.4
	Married	207	82.8
	Divorced	22	8.8
Educational status of the respondent	Illiterate	130	52.0
	Can read and write	60	24.0
	Primary school	25	10.0
	Secondary school	21	8.4
	College and above	14	5.6
Occupation of respondent	Housewife	99	36.7
	Civil servant	52	19.3
	Merchant	57	21.1
	Student	29	10.7
	Daily labor	13	4.8
The family income per month	< 500 birr	11	4.1
	500–1000 birr	119	44.1

	1001–1500 birr	99	36.7
	> 1500 birr	21	7.8
Family size	Less than 4	168	62.2
	4 and above	82	30.4
Age at marriage	14–19 yrs	80	29.6
	20-24yrs	123	45.6
	25-29yrs	30	11.1
	Other	17	6.3
History of Circumcision	Yes	192	76.8
	No	58	23.2
Who did the procedure	TBA	132	68.4
	Health-professional	29	15.0
	Non-medical practitioner	32	16.6
Age at circumcision	Less than 10yrs	147	76.2
	10-15yrs	38	19.7
	15 and above	8	4.1
Gravidity	Only one	88	35.2
	2–4 times	127	50.8
	5 and above	35	14.0
Parity	Less than 2	88	35.2
	2–4	127	50.8
	5 and above	35	14.0
Number of alive children	Less than 4	171	68.4
	4–7	59	23.6
	7 and above	20	8.0
Maternal Complications	Yes	179	71.9
	No	70	28.1
Episiotomy	Yes	145	58.0
	No	105	42.0
Prolonged labor	Yes	97	38.8
	No	153	61.2
Instrumental Delivery	Yes	7	2.8
	No	243	97.2

CS	Yes	18	7.2
	No	232	92.8
Retained placenta	Yes	5	2.0
	No	245	98.0
PPH	Yes	16	6.8
	No	234	93.2
Newborn complications	Yes	105	42.0
	No	145	58.0
Asphyxia	Yes	85	34.0
	No	165	66.0
Low birth weight	Yes	34	13.6
	No	215	86.0
Preterm Baby	Yes	14	5.6
	No	236	94.4
Neonatal Death	Yes	7	2.8
	No	243	97.2

4.4 Prevalence Of Female Genital Mutilations

One hundred ninety-two (76.8%) 95% CI: [71.6–81.6] of the respondents were circumcised and (68.4%) of the circumcision was performed by a traditional birth attendant (TBA). One hundred forty-seven (76.2%) of the respondents were circumcised at the age of fewer than 10 years old [Fig. 1].

4.5 FGM Associated Birth Complications among Postnatal Women

Among all variables, episiotomy, prolonged labor, and asphyxia have shown a significant association with FGM related birth complication in bivariate logistic regression (LR) analysis had p-value < 0.25. After adjusting for other confounders, in multivariate logistic regression analysis; episiotomy, prolonged labor were found to be significantly associated with FGM related birth complication (P-value < 0.05). Having female genital mutilation (FGM) increases the risk of episiotomy seven times (AOR = 7.25(95% CI: 2.27, 23.2) more likely compared with counterparts. On the other hand, having female genital mutilation (FGM) increases the risk of prolonged labor two times (AOR = 2.16(95% CI: 0.03, 0.82) more likely compared with counterparts [Table 2].

Table 2

Logistic regression of the FGM Associated Birth complications among Postnatal women in Chuko Primary Hospital, Sidama National Regional State, Ethiopia, 2020

Variables		History of circumcision		COR (95% CI)	P- Value	AOR (95% CI)	P- Values
		Yes	No				
Birth Complications	Yes	172(95.6%)	8(4.4%)	5.3.(0.21, 12.9)	0.050		
	No(Ref)	20(28.6%)	50(71.4%)				
Episiotomy	Yes	139(95.9%)	6(4.1%)	22.7(9.22, 56)	0.000	7.3(2.3, 23)	0.001
	No(Ref)	53(50.5%)	52(49.5%)				
Prolonged labor	Yes	88(90.7%)	9(9.3%)	4.6(2.2, 9.9)	0.000	2.2(0.03, .82)	0.028
	No(Ref)	104(68.0%)	49(32.0%)				
Instrumental Delivery	Yes	5(71.4%)	2(28.6%)	0.75(0.2, 4.0)	0.734		
	No(Ref)	187(77.0%)	56(23.0%)				
CS	Yes	13(72.2%)	5(27.8%)	0.7(0.3, 2.26)	0.634		
	No	179(77.2%)	53(22.8%)				
	No(Ref)	180(77.6%)	52(22.4%)				
Retained placenta	Yes	4(80.0%)	1(20.0%)	1.2(0.13, 11.1)	0.864		
	No	188(76.7%)	57(23.3%)				
PPH	Yes(Ref)	10(62.5%)	6(37.5%)	0.48(0.17, 1.4)	0.169		
	No	182(77.8%)	52(22.2%)				
Newborn complications	Yes	93(88.6%)	12(11.4%)	3.6(1.8, 7.22)	0.000		
	No(Ref)	99(68.3%)	46(31.7%)				
Asphyxia	Yes	75(88.2%)	10(11.8%)	3.08(1.47, 6.5)	0.003		
	No(Ref)	117(70.9%)	48(29.1%)				
LBW	Yes	27(79.4%)	7(20.6%)	1.2(0.5, 2.9)	0.698		
	No(Ref)	165(76.4%)	51(23.6%)				
Preterm Baby	Yes	11(78.6%)	3(21.4%)	1.12(0.3, 4.14)	0.872		
	No(Ref)	181(76.7%)	55(23.3%)				
Neonatal Death	Yes	5(71.4%)	2(28.6%)	0.749(.14, 3.9)	0.734		

5: Discussion

The study assessed the prevalence of female genital mutilation and associated birth complications among postnatal women in chuko primary hospital, Sidama regional state, Ethiopia. The overall prevalence of female genital mutilation among postnatal women was (76.8%), 95% CI: [71.6–81.6]. This result was found to be in line with the prevalence among Postnatal women in the Hadiya zone (82.2%), the pooled prevalence in Ethiopia (87.5%), and Hossana (92.2%) (15–17). On the other hand, the study findings in Sierra-Leone 2013 (63%), Kersa district of Ethiopia ((38.5%) were less than the findings of this study (18, 19). The possible explanation for this difference might be due to the difference in Socio-demographic characteristics of study participants and sample size.

This study also revealed that episiotomy and prolonged labor had a significant association with female genital mutilation (FGM) at P-value < 0.05. The likely hood of the occurrence, women who had a history of FGM were seven times more likely to have Episiotomy (AOR = 7.25(95% CI: 2.27, 23.2) when compared with counterparts. This reflects that having FGM increases the likelihood of Episiotomy among women. This finding was in line with the study conducted at Hossana(16). The possible explanation for this difference might be the difference in socio-demographic characteristics of study participants and sample size.

On the other hand, women who had a history of female genital mutilation (FGM) were two times more likely to have prolonged labor (AOR = 2.16(95% CI: 0.03, 0.82) when compared with counterparts. This reflects that having FGM increases the probability to develop prolonged labor among women. This finding was in line with the study conducted in the Hadiya zone(17). The possible explanation for this difference might be the difference in socio-demographic characteristics of study participants and sample size.

The overall prevalence of the FGM and associated birth complications among postnatal women in Chuko Primary Hospital was high. Family members, Health and social care professionals have crucial roles in determining the FGM of women. Therefore, Stakeholders who are working on the improvement of maternal and neonatal health during delivery should try to reduce FGM by intervening at the individual level, at the family or community level, and at levels beyond the community to lessen the problem to some extent. Researchers should do similar researches in more detail to fully understand the problems and the findings will be used as inputs for concerned bodies.

Limitations of the study

This study should have been quite completed and it employed only qualitative methods and hence, some important scenarios about the problem were not explored deeply. Another limitation of the study was related to the duration of time for which the subjects were asked about FGM and associated birth complication status since the prevalence period is short, there might be false positive; those women who have prevised episiotomy might be counted as circumcised women. On contrary, social desirability bias may underestimate the current prevalence of FGM and associated birth complications.

Acronyms/abbreviation

EOPD: Emergency Out Patient Department; **FGM:** Female Genital Mutilation; **HTTP:** Harmful; **TP:** Traditional Practice; **IAC:** Inter African Committee; **IPD:** In-Patient Department; **KMC:** Kangaroo Mother Care; **MNCH:** Maternal, Newborn and Child Health; **NICU:** Neonatal Intensive Care Unit; **OPD:** Out Patient Department; **PNC:** Post Natal Care; **PPH:**

Postpartum Hemorrhage; RVF: Recto-Vaginal Fistula; SNNPR: Southern; Nation Nationalities of People Region; TBA: Traditional Birth Attendant; UNFPA: United; Nations Fund for Population Activities; UNICEF: United Nation's International Children's Emergency; Fund VVF: Vesico-Vaginal Fistula; WHO: World Health Organization; YFHS: Youth-Friendly Health Services

Declarations

Consent For publication

Not applicable.

Availability of Data and Materials

The datasets generated and/or analyzed during the current study are not publicly available as consent for the sharing of this data was not sought from the participants as there was no data sharing requirement at the time.

Competing interests

The authors declare that they have no competing Interests

Ethical Approval and Consent to Participants

Ethical clearance and official letter were obtained from, Dilla University College of Health Science and Medicine Institution Review Board with reference number M/S/963/2012 to Dilla university medical school research and emergency management directorate. A formal letter from Dilla University department of Medicine was written to Cuko Primary I hospital and the study was carried out after obtaining permission from hospital authorities. The whole objective of the study was briefly explained to the maternity head as well as those assigned in the Labour and delivery department.

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Authors' contribution

Study design and protocol development: YY, AB, and SA. Implementation of the research: YY, AB, and SA. Statistical analysis: YY. Interpretation of findings: YY, AB, and SA. Writing the first draft of the manuscript: YY, AB, and SA. All

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Figures

Figure 1

The Prevalence of Female Genital Mutilation among postnatal women in Chuko Primary Hospital, Sidama National Regional State, Ethiopia, May 1- June 15, 2020 G.C