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Research Paper

PREVALENCE AND RISK FACTOR FOR POOR PREGNANCY OUTCOME AMONG MARRIED WOMEN, IN FAFAN ZONE, SOMALI REGION, EASTERN ETHIOPIA

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ABSTRACT **Introduction: Worldwide, over three hundred fifty thousand women of childbearing age die every year due to complications of pregnancy. Poor pregnancy outcomes are higher in poor**

e higher in poor countries as compared to developed countries. Objective: To asses prevalence and risk factor for poor pregnancy outcomes among married women, in Fafan zone, Somali regional state, eastern Ethiopia. Methodology: To conduct the study, community based retrospective cross-sectional study design was employed and systematic random sampling was used. Data was entered and analyzed by using SPSS version 21. The result of the study revealed that, 10.9% and 9.3% of the women had history of a still birth and abortion respectively in their reproductive life. R esult: Overall, half of studied women (51.9.0%) fall under category of poor pregnancy outcome. Approximately one third (32%) of women had at least one type of chronic medical pregnancy related medical disease during pregnancy. For majority women (90.4%) included in the study FGM had been conducted. Another significant proportion of women (27%) were overweight (25.00–29.99). About, one third (34.7%) of respondents reported that they got pregnant at age less than 18 years. Being Somali in ethnicity (AOR=6.601; 95% CI 2.890-15.078), history of FGM (AOR=3.579; 95% CI 2.118-6.050) and pregnancy at ageless than18 years (AOR=2.4941; 95% CI, 0.753-3.547) were independent women. Conclusion: In conclusion, the study showed high prevalence of poor maternal and fetal pregnancy outcome and risk factor among studied women. Concerned bodies were recommended to focus on identification of potential risk factor, and intervene through preconception care before pregnancy.

KEYWORDS :Pregnancy outcome; Risk factor; Married women. Abbreviation: AOR:

INTRODUCTION

Worldwide, about half a million women of childbearing age die every year due poor pregnancy outcomes, while over 15 million suffer long-term illness or disability [1]. Poor maternal health during pregnancy; contribute to at least 1.4 million stillborn babies. The risks of poor pregnancy outcomes are much higher in poor countries as compared to developed countries of the world [2]. Out of 205 million pregnancies occurring worldwide annually, about 20% end in abortion [3]. Birth defects are also one of the causes of infant mortality globally and affect an estimated 1% to 3% of all births [4]. Number of risk factors could contribute to poor pregnancy outcome, which may include; Female Genital Mutilation (FGM), teenage pregnancy, maternal sub-optimal weight, maternal pre-pregnancy health and other socio-demographic factors.

Women with severe form of FMG have been shown to have increased risk of episiotomy; caesarean delivery, postpartum hemorrhage and stillbirth [5]. Women with chronic medical disease are at risk adverse pregnancy outcome. Pre-gestational diabetes are at increased risk of developing serious complications compared with the non-diabetic pregnant women, including spontaneous abortion, preterm labor, hypertensive disorders, and delivery by cesarean section [6]. Teenage pregnancy impacts pregnancy outcomes. Perinatal deaths are 50% higher among children born to mothers under 20 years of age compared to mothers aged 20–29 years. Up to 35% of pregnancies among women with untreated gonococciinfections result in low birth weight infants and premature deliveries, and up to 10% result in perinatal death [7].

Ethiopia and there is promising progress in reducing maternal and child mortality [8]. However, to date, emphasis on only antenatal care and postnatal care has not brought satisfactory result in national improvements in pregnancy outcome, leading to the realization that pregnancy risk identification is, of paramount importance for primary prevention. Moreover, there is substantial differential in the maternal and child health indicator among the Somali region and other region of the country [9]. For instance, according to the data obtained from Ethiopian Demographic Health Survey (EDHS), teenage childbearing and FGM are most prevalent in Somali region as compared to other regions [10]. Therefore, the study of prevalence of poor pregnancy outcome among women and associated risk factor in the study area was timely to recommend concerned body for possible intervention.

Methods and Material

A community based retrospective cross-sectional study design was conducted in Somali Fafan zone. Somali regional is one of the nine regional states that make up the Federal Democratic Republic of Ethiopia. The region is located in the eastern part of the country on about 632 Km away from Addis Ababa capital city of Ethiopia. There are nine zones that are further divided into 68 Woreda and four city administration. Fafan zone is located on north western border the region, where capital city of the region Jigjiga is found. Among the zones of the region, the population densities are highest in agropastoral zone of Fafan [11]. Source population was all married women in childbearing age in Fafan zone and study population all married women in child bearing age in the selected Woreda. Single population proportion formula was used to determine sample size, considering; P=50%, 95% CI and 3% marginal error. Then, final sample size was distributed over the selected Woreda using proportional allocation. Three Woreda from Fafan zone were purposely selected and sample of eligible households was drawn from the Woreda using systematic random sampling.

Data Collection Procedures

The tool was designed after reviewing different literatures. The tool was developed in English and translated to Somali Language to insure the clarity of questions for the respondents. Pretest was conducted before actual data collection on women outside study area. The data was collected using face to face interview.

Statistical methods

Filledin questionnaires were checked for completeness and consistency of the responses. Data was entered and analyzed by using SPSS version 21. Associations between dependent variable and independent variable were examined in logistic regression models and are expressed as crude odds ratios (COR) and adjusted odds ratio (AOR) and their corresponding 95% confidence intervals (CIs) were obtained from logistic regression models. Odds ratios (OR) were reported together with their 95% confidence intervals (CI). Significance was assessed at 95% CI with p-values less than 0.05.

Results

Socio-demographic characteristics

The total number of married women included in the study was 1068 with a response rate of 98.3%. The majority of subjects were between age group of 25-34 years (56.8%). The mean age of the study population was 28.07 (SD=+5.84). Majority (97%), of the respondent was Muslim in religion and 95 % of them were Somali in ethnicity. Socio-demographic characteristics of the respondents were summarized (**Table 1**).

Table 1 Socio-demographic characteristics of the study population (n=1050), Fafan zone, Somali region, Ethiopia, 2017.

Characteristics	Category	Frequency	Percentage (%)
Age	15-24	284	27
	25-34	596	56.8
	35-49	170	16.2
Religion	Muslim	1018	97
	Non-Muslim	32	3
Ethnicity	Somali	998	95
	Non-Somali	52	5
Residency	Urban	433	41.2
	Rural	607	57.8
Occupation	House wife	875	83.3
	Civil servant	20	1.9
	Farmer	84	8
	Merchant	71	6.8
Educational status	Unable to read write	728	69.3
	Able to read and write	76	7.2
	Primary school	133	12.7
	Secondary school	63	6
	College and above	50	4.8
Woreda	Jigjiga	542	51.6
	Kebrebaya	288	27.4
	Awubare	220	21

Poor pregnancy outcome among married women

In this study, if the mother had history of at least one of poor fetal outcome (i.e., stillbirth, abortion and congenital defect in her reproductive life); or, if the mother had at least two of poor obstetrics and delivery outcome (i.e., pregnancy related chronic medical disease, c-section, instrumental deliveries and episiotomy in her most recent pregnancy), the outcome was categorized as poor, otherwise it is good. Accordingly, overall, half of studied women (51.9.0%) fall under category of poor pregnancy outcome. Among studied participant, 114(10.9%) of the women had history of a still birth and 98 (9.3%) of the subjects had experienced abortion in their reproductive life. Only 15 (1.4%) of the study subjects had ever certain type of congenital defect. Related to obstetric and delivery outcome; approximately, one third (32%) of the women had at least one type of chronic medical problem during pregnancy last pregnancy. Among total participants, 96(9.1%) and 81(7.9%) delivered by instrument and C/S respectively during last delivery. Only for 64(6.1%) of respondents episiotomy were performed in their most recent delivery. Poor Pregnancy Outcome among married women was summarized (**Table 2**).

Table 2 Poor pregnancy outcome among married women (n=1050), Fafan zone, Somali region, Ethiopia, 2017.

Characteristics	Category	Number (n)	Percentage (%)
Chronic medical disease during pregnancy	Yes	336	32
	No	714	68
Abortion	Yes	98	9.3
	No	952	91.7
Stillbirth	Yes	114	10.9
	No	936	89.1
C-section	Yes	81	7.9
	No	969	92.1
Instrumental delivery	Yes	96	9.1
	No	954	89.9
Episiotomy	Yes	64	6.1
	No	986	95.9

Congenital defect	Yes	15	1.4
	No	1035	98.6
Pregnancy outcome	Poor	545	51.9
	Good	505	48.1

Risk of Factor poor pregnancy outcome among married women

For majority women (90.4%) included in the study FGM had been conducted. The height (in cm) and weight (in KG) of the respondents were measured and BMI were calculated from it. Accordingly the more than half of women (58.9%) were found to be normal (18.50–24.99). Another significant proportion of women (27%) were overweight (25.00–29.99). The rest 7.8% and 6.4% were underweight and obese respectively. The majority (93.9%) of subjects were multigravida (93.9%).Approximately, one third (34.7%) of respondents reported that they started child bearing at age less than 18 years **(Table 3)**.

Binary and multiple logistic regression analysis were conducted. Accordingly, Multiple logistic regression analysis showed that women who were Somali (AOR=6.601; 95% CI2.890-15.078) and who got pregnant at age less than 18 years (AOR=2.4941; 95% CI 0.753-3.547) were more likely to have poor pregnancy outcome in their reproductive life **(Table 4)**.

Table 3 Distribution of risk of factor poor pregnancy outcome among married women (n=1050), Fafan zone, Somali region, Ethiopia, 2017.

Characteristics	Category	Number (n)	Percentage (%)
Female Genital Mutilation(FGM)	Conducted	949	90.4
	Not conducted	101	9.6
Body Mass Index(BMI)	Underweight	82	7.8
	Normal	618	58.9
	Overweight	283	27
	Obese	67	6.4
Age at first pregnancy	Less than 18 years	364	34.7
	Greater than 18 years	686	65.3

Table 4 Relationship risk of factor and pregnancy outcome among the study population (n=1050), Fafan zone, Somali region, Ethiopia, 2017.

	Pregnancy outcome		
Factors	Positive	Negative	COR(95% CI)	AOR(95% CI)
	N (%)	N (%)		
Age				
15-24	147(29.1%)	137(25.1%)	0.772(0.527-1.130)	
25-34	281(55.6%)	315(57.8%)	0.928 (0.65-1.307)	
35-49(Ref)	77(15.2%)	93(17.1%)		
Religion				
Muslim	484(95.8%)	534(98.0%)	2.106 (1.005-4.41)*	
Non-Muslim(Ref)	21(4.2%)	11(2.0%)		
Residency				
Urban	227(45.0%)	203(37.2%)	0.727(0.568-0.930)*	
Rural(Ref)	278(55.0%)	342(62.8%)		
Ethnicity				
Somali	463(91.7%)	535(98.2%)	4.853(2.408-9.781)*	6.601(2.890-15.078)**
Non-Somali*(Ref)	42(8.3%)	10(1.8%)		
Occupation				
House wife	432(85.5%)	443(81.3%)	0.795(0.488-1.294)	0.159(0.073-0.347)
Civil servant	10(2.0%)	10(1.8%)	0.775(0.287-2.094)	0.879(0.210-3.671)
Farmer	32(6.3%)	52(9.5%)	0.751(0.380-1.484)	0.154(0.054-0.438)
Merchant(Ref)	31(6.1%)	40(7.3%)		
Educational status				
Unable to R and W	30(62.5%)	39(75.0%)	1.945(1.084-3.489)	3.495(1.368-8.92)
Able R and W	4(8.3%)	3(5.8%)	1.091(0.528-2.255)	1.437(0.486-4.250)
Primary school	9(18.8%)	4(7.7%)	0.668(0.340-1.313)	0.603(0.220-1.648)
Secondary school	2(4.2%)	4(7.7%)	2.795(1.298-6.020)	2.347(0.750-7.344)
College and above(Ref)	3(6.2%)	2(3.8%)		
Woreda				
Jigjiga	275(54.5%)	267(49.0%)	1.187 (0.866-1.625)	1.023(0.676-1.548)
Kebrebaya	109(21.6%)	179(32.8%)	2.007 (1.405-2.867)	1.533(0.966-2.432)
Awubare (Ref)	121(24.0%)	99(18.2%)		
Body Mass Index				
Underweight	20(4.0%)	62(11.4%)	1.516(0.740-3.104)	4.829(1.837-12.68)
Normal	315(62.4%)	303(55.6%)	0.470(0.276-0.802)	0.495(0.267-0.918)
Overweight	148(29.3%)	135(24.8%)	0.446(.255-0.781)	0.345(0.178-0.667)
Obese(Ref)	22(4.4%)	45(8.3%)		
FGM status				

	Conducte435(86.15%14(9.4.6.3%)1.713.547.9(2.1)18-6.050)**			
Not conducted(Ref)	70(13.9%)	31(5.7%)		
Age at 1st pregnancy				
<18 years	178(35.2%)	186(34.1%)	1.051(0.815-1.355)	2.494(1.753-3.547)**
>/=18 years(Ref)	327(64.8%)	359(65.9%)		

Discussion

The present study revealed that half study population was found to be under category of poor pregnancy outcome. Accordingly, 10.9% of the women had history of a still birth and 9.3% of them had history of abortion in their reproductive life. This prevalence is higher as compared to the study done west Gojjam, northwest Ethiopia in which there was 5.6% history of abortion and 1.5% history of still birth [12]. The reason for high rate of still birth could be the prevalence of the severe form of female genital mutilation in the study area which results in prolonged labor and fetal distress. Low utilization of maternal health care service like institutional delivery and antenatal care could also be other reasons. The rationale for relatively higher prevalence of abortion as compared the study done in Gojjam could be low utilization of family planning method which prevents unintended pregnancy. This could also be due to psychological effect of the mutilation since infibulated women have a sense of deep fear of pregnancy and childbirth [13].

The finding from our study confirmed 83%, 9.1% and 7.9% gave birth by SVD, instrumental and C-section respectively in their most recent delivery. For 6.1% respondent's episiotomies were performed in their last delivery. This finding is different from secondary analysis which showed that the majority of births were spontaneous vaginal deliveries (90.0%) with assisted vaginal delivery (vacuum or forceps) accounting for 2.7% of births, and assisted breech deliveries 1.1%. The reason could be Women with FGM had significantly narrower introituses when compared with women without FGM which is very common in the study area [14]. Only 1.4% of the study subjects reported presence of certain type of congenital defect in their last delivery and this finding is line with study done in Ethiopia and other countries [12,15].

In the current study 90.4% of studied married women reported that FGM has been conducted for them. This result is almost similar with another study conducted in Ethiopia [16]. Our study revealed that more than half BMI of women (58.9%) were found to be normal (18.50–24.99). Another significant proportion of women (27%) were overweight (25.00–29.99). The rest 7.8% and 6.4% were underweight and obese respectively. This finding is different from the study conducted in China which revealed women (24.8%) were underweight (66.1 %) had normal weights, (7.7%) were overweight and (1.3%) were obese [17]. This discrepancy could be due to difference in feeding and lifestyle.

Although the study has tried to improve the validity and reliability of the information generated, it has its own limitations. The study was based on respondents' self- reporting in both and pregnancy outcome and risk factors. Recall bias and bias related to social desirability; since the study is self-reporting, because no clinical inspection were done, there is more likelihood of the participants to give culturally acceptable answer. The lack of literature for comparison is another limitation of this study.

CONCLUSION

In general this study revealed that approximately half of study participant had negative pregnancy outcome. A Somali woman with FGM and those women who started bearing a child teen age were at risk of having poor pregnancy outcome. Concerned bodies were recommended to focus on identification of potential risk factor and intervene through preconception care before pregnancy.

Authors' Contribution MM designed the study. JB, GT approved the design. KB, AT, MK and MK participated in data collection, analysis and interpretation. All authors participated and approved the final manuscript.

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Ethics Approval and Consent to Participate A formal letter was written from Jigjiga University to selected Woreda and Woreda wrote letter to selected kebeles. Verbal consent was obtained from study participants after the objective of the study is explained. All matters of confidentiality were assured.

Availability of Data and Materials Data will not be shared. During Ethical review it was approved only to analyze data for study objectives and stated that it will never be shared except authors analyzing.

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