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Research Article

FACTORS ASSOCIATED WITH OBSTETRIC FISTULA AMONG WOMEN ADMITTED TO MENDEFERA NATIONAL FISTULA CENTER, ERITREA

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ABSTRACT

Introduction: Obstetric Fistula is a medical condition that causes significant maternal suffering and mortality. This study was aimed to identify the different cultural and health system related factors associated with obstetric fistula cases.

Methods: This was a cross-sectional study conducted at the National Fistula Center in Mendefera, Eritrea. Data was collected by interviewing a total of 49 cases with obstetrical fistula admitted to the fistula center in the period from November 2013 to February 2014.

Results: Age at first intercourse, age at first pregnancy, the number of pregnancies, parity, circumcision, place of delivery, educational status, residence, the order of pregnancy, duration of labor, and the distance of the nearest delivery service from home were associated with the fistula status of the participants.

Conclusion: The Eritrean Ministry of Health and other concerned bodies should strengthen their efforts to increase awareness of the community, expand antenatal care to the remote places, and implement low-cost community interventions to reduce or control the impact of the cultural, and health system related factors with obstetric fistula.

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INTRODUCTION

Obstetric fistula is a medical condition in which an abnormal opening occurs between the vagina and bladder (vesicovaginal fistula) or between the vagina and rectum (rectovaginal fistula). A woman with a fistula experiences an uncontrollable leakage of urine and/or feces from her vagina [1,2].

Obstetric Fistula is a public health issue for many countries. The condition has been eradicated in the developed world primarily due to improved access to and quality of obstetric care. Developing countries in general and sub-Saharan countries, in particular, have been significantly affected by this burden [3]. Approximately two million women were living with obstetric fistula in 2006, mainly in Sub-Saharan Africa, the Middle East, and southern Asia. Approximately 50,000 to 100,000 new cases occur each year, mainly in women between the ages of 14 and 19 [4].

There are many factors associated with obstetric Fistula. Socioeconomic disadvantages, adverse cultural practices like early marriage and delivery at home, and prolonged labor are

the major factors. [3-8] Adverse cultural practices, in addition to exposing women to obstetric fistula, can be reasons for the under report of the condition. Therefore, it is difficult to estimate the prevalence and incidence of the medical condition. Due to this, the problem remains undiscovered but affecting a huge portion of women [9].

There is no clear estimate of the burden of obstetric fistula in Eritrea. Previously published researches about fistula in Eritrea have assessed the different dimensions of fistula. One study has assessed the role of counseling to fistula patients [10]. Another study has assessed the experience of women seeking for obstetric fistula [11] and another study has tried to see the surgical management of complex fistula [12]. Moreover, a national needs assessment was conducted in 2003 [13]. This study enriched the available knowledge about obstetric fistula, enabling health planners and decision makers to design health promotion activities to combat obstetric fistula in Eritrea. This study identified the different cultural and health system factors associated with the obstetric fistula cases.

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METHODOLOGY

Study design and study area

This is a cross-sectional study conducted at the National Fistula Center in Mendefera, located 54 kilometers south of Asmara in the Southern region of Eritrea. The National Fistula Center was established by the collaboration of Women and Health Alliance International (WAHA) and Ministry of Health of Eritrea. The hospital serves as the national reference center for obstetric fistula treatment. It provides follow-up care in the form of physiotherapy and psychological support to the patients with fistula as well as transport to the hospital and back home [14].

Sampling, data collection methods and analysis

Census sampling was used in which all the 49 cases with obstetrical fistula admitted to the Fistula Center in the period from November 2013 to February 2014 were interviewed. Data was collected by interview using structured questionnaire.

RESULTS

The study participants were from all the six regions of the country. The majority (83.67%) of the participants was aged 19-40 and 93.87 % were unemployed. With regard to residence, 81.63% of the participants live in rural areas and the rest 18.36% live in urban areas. The study also documented the marital status of the participants, and 73.46 % were married, 18.36% were single and 8.16% were widowed. The ethnic composition of this study was composed of 46.93% Tigre, 24.48% Tigrigna, 16.32% Saho, 4.08% Afar, 6.12% Nara and 2.04% Kunama. The educational level of respondents' shows that 75.51% were illiterate, 8.16% elementary, 14.28% junior and secondary school graduates, and 2.04% college graduates. Height measurements indicated that 42.85% of the subjects were shorter than or equal to 150cm, 34.69% were 151cm to 160cm and 22.44% were taller than 160cm.

Table 1 Factors associated with the obstetric fistula status

| Factors | Categories in each factor | Participants Number (%) | P value |
|---|---------------------------------------|-------------------------|---------|
| Age at first intercourse | 10-14 | 15 (30.61) | P<0.001 |
| | 15-18 | 27 (55.10) | |
| | 19-24 | 4 (8.16) | |
| Age at first pregnancy | Older than 25 | 3 (6.12) | P<0.001 |
| | 10-14 | 8 (16.32) | |
| | 15-18 | 27 (55.10) | |
| | 19-24 | 11 (22.49) | |
| Number of pregnancies | Older than 25 | 3 (6.12) | P<0.001 |
| | 1 | 27 (55.10) | |
| | 2 | 9 (18.36) | |
| | 3 – 5 | 10 (20.40) | |
| Parity | > 5 | 3 (6.12) | P>0.05 |
| | Gave only one live birth | 27 (55.10) | |
| | Gave more than one live birth | 22 (44.89) | |
| Circumcision | Circumcised | 48 (97.95) | P<0.001 |
| | Uncircumcised | 1 (2.04) | |
| Antenatal care during the last pregnancy | No visit | 19 (38.77) | P>0.05 |
| | 1 – 3 visits | 17 (34.69) | |
| | > 4 visits | 13 (26.53) | |
| Place of delivery at which fistula occurred | At home | 15 (30.61) | P<0.05 |
| | Hospital/health center | 33 (67.34) | |
| | On the way to health center/ hospital | 1 (2.04) | |

The mean age of the participants during their first intercourse was 16.3 with a standard deviation of 4.04. Out of the 95.91% who developed fistula secondary to childbirth, the majority (57.45%) developed the problem during their first delivery, 17.02% during their second, 4.25% during their third and 21.27% during their fourth pregnancy and above. The order of the delivery at which fistula occurred was highly associated with the fistula status ($p<0.001$). Moreover, 22.20% of the urban residents and 42.10% of the rural residents did not visit antenatal care centers.

In 4.08% of the participants, the duration of labor lasted for less than 24 hours and in 36.73% of the participants it lasted for 1-2 days; however, in the majority (59.18%) of the participants, labor lasted for three or more days. The duration of labor was highly associated with the fistula status ($p<0.001$). The study revealed that out of the 46 participants who could remember the delivery at which fistula occurred, 24(57.17%) were normal vaginal deliveries, 21 (45.65%) were by cesarean section and 2.17% (i.e. a single case) had instrumental (forceps) delivery. The overwhelming majority (95.65%) of pregnancy at which fistula occurred were stillbirths and only 4.34% were live births.

The distance of the nearest delivery service was significantly associated with duration of labor (p -value<0.05). Furthermore, the time of arrival at a health facility for delivery and employment status of the participants had a significant association (P -value<0.05). Educational level of participants was not significantly associated with the self-reported antenatal care visits, time of arrival at health facility seeking medical care, and place of delivery.

DISCUSSION

This study assessed factors associated with obstetric fistula in Mendefera National Fistula Center in Eritrea. In this study, age at first intercourse, age at first pregnancy, the number of pregnancies, parity, circumcision, place of delivery, educational status, residence, the order of pregnancy, duration of labor, and the distance of the nearest delivery service from home were associated with the obstetric fistula status of the participants.

The national fistula needs assessment survey conducted in 2003 clearly elicited the association of obstetric fistula with many of the factors confirmed in this study. The study showed that the literacy level, employment status, birth order, and height of patients were closely associated with fistula [13]. Therefore, this study strengthened the previous findings and supplemented additional factors which are associated with the fistula status of the cases.

Educational level can prevent the risk of obstetric fistula because educated mothers know more about the reproductive process and will take all the necessary care during their pregnancy. Educated community, in turn, will prevent early marriage. A pooled survey in Sub-Saharan Africa showed that post-primary education has a significant association with vaginal fistula [15]. The present study shows the highest percentage of obstetric fistula among the illiterate group. This result could strengthen the previously initiated campaign to increase the literacy of women in Eritrea.

Central solution to the majority of the factors associated with fistula can be appropriate antenatal care. The current antenatal care follow-up system in Eritrea documents risk factors of mothers to pregnancy complications. This approach could be helpful to assist mothers with documented risk factors to attend skilled delivery service. Eritrea has achieved remarkable success in the reduction of maternal mortality. Reports show that maternal mortality ratio declined from 998 per 10⁵ live births in 1995 to 486 10⁵ in 2010 [16]. This could be due to the improved antenatal and delivery care services. Parallel to this, the results of the current fistula study showed that there are still hard to reach communities. Therefore, efforts should be coordinated to increase the coverage of antenatal care services in the country mainly in the far remote places.

Traditional and cultural practices like early marriage, circumcision, traditional birth care as opposed to skilled delivery services are the bottle-neck to improvements in maternal health. Circumcision is one of the major risk factors of fistula [17]. Although there are no current studies to assess the prevalence of circumcision, studies have shown that circumcision is a common practice among mothers in Eritrea [18, 19]. The prevalence of this practice varies with woman's religion as well as by their ethnic group [20]. Eritrea has progressed to prevent the medical complications of circumcision and outlawed circumcision in the proclamation of 158/2007 [21]. With regard to early marriage, a report in 2016 shows that marriage before age of 15 and 18 was 13% and 41%, respectively [22]. This is significantly high as this study and other studies have reported the negative impacts of early marriage on fistula [11, 15, 23]. Therefore, designing health promotion activities to combat the practice should be one of the ingredients of the fistula prevention campaign. Another cultural practice is delivery at home, which can be a risk for pregnancy complications leading to prolonged labor. Prolonged labor, in turn, will be a risk for obstetric fistula. As traditional birth attendants continue to function as an option, they need to be aware of the danger signs of pregnancy and promptly refer complications [24]. The effect of culture can be lessened through communication with community leaders and intensive health education programs. Moreover, in Eritrea, low-cost community interventions were found to be effective to increase knowledge of safe motherhood practice and use of essential maternity service, which could be beneficial to combat the harmful cultural practices [25]. This approach could also be applicable to the other interventions to combat obstetric fistula. Since this study was largely dependent on interviews, there could be a recall and interviewer bias. The fact that interviewers were trained public health students could partially address the concern of interviewer bias. Some of the questions like the distance of nearest health facility and time to reach nearest health facility during delivery were dependent on educated guess of the participants and so could not give an exact measurement for some of the variables. Moreover, although the study included all the registered fistula cases in the National Fistula Center, the findings could not be generalized to all fistula cases in the country.

CONCLUSION

Economic, cultural and health system factors were associated with the obstetric fistula status of cases in this study. Increasing awareness of the community, expanding the antenatal care to

the remote places, and implementing low-cost community interventions could potentially help to combat the problem. Therefore the Eritrean Ministry of Health and other concerned bodies should strengthen their efforts to reduce or control the impact of the factors associated with obstetric fistula.

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