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Maternal Health Service Utilization and Women's Health Care Decision-Making Autonomy in Ethiopia

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ABSTRACT: Maternal health service utilization and its association with women's health care decision-making autonomy were examined from a nationally representative sample. Adequate use of maternal health services is critical in maintaining the well-being and health of mothers and prevent maternal and neonatal mortalities. Women's health care decision-making autonomy has been cited to influence the uptake of maternal services among women in resource-poor countries. A secondary data collected in 2016 by Demographic and Health Survey, Ethiopia, was used. Three maternal health services measurement indicators and their associations with women health decision-making autonomy were examined (number of prenatal visits, birth attended by skilled health personnel, and delivery at health facilities) from a sample of women aged 15-49 years (n=11023) were included. SPSS ver. 27 was used to analyze the data after taking into account survey design effects and sampling weights. Results showed that maternal health utilization services in the study population was inadequate. However, the association between women's health care decision-making autonomy and births attended by skilled health care professionals and birthing at health care facilities were significant. The significant and positive association between women's health care decision-making autonomy and the two critical maternal health services (access to skilled birth attendants and delivery at health facilities) may indicate that enhancing women's autonomy could have a potential to reduce maternal mortalities among Ethiopian women.

KEYWORDS: Women, maternal health services, health care decision-making autonomy, Africa, Ethiopia

I. INTRODUCTION

Access to and the utilization of maternal health services are critical in maintaining the health and wellbeing of mothers and their newborns. Maternal mortality defined as the number of deaths caused or worsened by pregnancy (WHOa, n. d.) and is an important global health issue (WHO, 2024). In 2020 alone, 287 000 maternal deaths related to pregnancy and childbirth were reported (WHO, 2024). The burden of maternal mortality, however, is not uniformly distributed across the world as women from developing countries account for 95% of all maternal deaths globally (WHO, 2024). Specifically, bearing the brunt were women from subSaharan Africa, who accounted for 70% of all maternal mortalities in the world in 2020 (WHO, 2024).

According to the United Nations Population Fund (n. d.) although maternal mortality rate has declined over the years in Ethiopia, it currently stands at 267 maternal deaths per 100,000 live births, far higher than the target of the sustainable development goal of 70 deaths per 100, 000 live births (United Nations Population Fund, n. d.; WHO, 2024).

Women's autonomy and empowerment have garnered significant interest around the world because of its relevance to women's human rights and its impact on health service uptake (Kishor & Gupta, 2019; Lee, Kumar, Al-Nimr, 2017). Specially, in patriarchal societies, women's lower social position put them at a disadvantage in accessing resources, including health services (Sado, Spaho, & Hotchkiss, 2014). Ability to utilize health care services, among other factors, may be related to women's decision-making autonomy (Osamo & Grady, 2016). It particularly resonates with women living in developing nations because women's lower status limits their independence and abilities to make decisions, affecting their lives including the use of health care services (Osamo & Grady, 2016). Health care decision making encompasses the ability and freedom to make decision for oneself and their dependents in matters related to health care service utilization (Dyson & Moore, 2016). The assumption why women's autonomy is considered pertinent in affecting maternal health service utilization is that highly independent women can make decisions related to use and utilize health care services that could impact their lives (Ameyaw et al., 2016). However, several research findings from developing nations had shown inconsistencies in the relationship between the use of maternal health services and women's autonomy to making decisions in diverse women populations (Kamiya, 2011; Khatir et al., 2024; Moyer et al., 2014;

Rizkianti et al., 2020) and might be context dependent. The current study, which is based on a nationally representative sample, may provide valuable information specific to Ethiopian with the purpose of examining the association between births attended by skilled health personnel, prenatal care, and birthing at health facilities and women's health care decision making independence.

II. METHODS

Sample Design

The study is cross-sectional in which secondary data collected in 2016 by Demographic and Health Survey, Ethiopia, was used. The data had numerous socio-demographic and health measures (Central Statistical Agency (CSA) [Ethiopia] and ICF International, 2017). The sampling method employed was a two-step stratified cluster sampling that included participants from rural and urban areas (Central Statistical Agency (CSA) [Ethiopia] and ICF International, 2017). During the data collection phase, the safety of study participants was ensured by following the guidance of World Health Organization and the data collection procedure was approved by the relevant institutions (Central Statistical Agency (CSA) [Ethiopia] and ICF International, 2017). Data set under children in EDHS-2016 that included responses from a sample of women who gave live births in the five years before the survey and who aged 15-49 years (n=11023) were used in the analysis.

Measurements

Three variables (frequency of prenatal care visits for the recent live births, birth attended by skilled health personnel and child delivery place (home vs health facility) were used as maternal health services indicators. The frequency of prenatal care visits was dichotomized as "0" for 0 to 3 visits of prenatal care visits during the pregnancy, and "1" for 4 or more prenatal care visits during pregnancy (at least four prenatal visits are considered adequate coverage per WHO) (WHOb, n. d.). Births attended by skilled health personnel (doctors, nurses, midwives, health officers, and health extension workers) were coded "1" and "0" if births were not attended by skilled health personnel. Birthing at health facility was coded "1" and birthing at home coded "0." The main explanatory variable, women's health care decision-making autonomy, was assessed from this question: Who usually decides on respondent's health care? (1) respondent only, (2) respondent and husband/partner, (3) respondent and other persons, (4) husband or partner alone, (5) someone else and (6) others. Women who responded that the decision on health care is made only by the respondent were deemed as having high level of independence in making health care decisions (high health decision-making autonomy) and coded "1" and other responses were coded as "0" and deemed to have low level of making health care decisions (low health care decision-making autonomy).

Data Analysis

Complex survey analysis module in SPSS ver. 27.0 was used to analyze the data after taking into account survey design effects and sampling weights. From the summery of descriptive statistics, prevalence of maternal health service utilization in the study population was assessed. The relationships between maternal health service measures and women health care decision autonomy were estimated by multivariate logistic regression models, adjusting for socio-demographic variables such as age, residence type, wealth index, level of education and employment status. Statistical significance was determined using a p-value of less than 0.05.

III. RESULTS

Among women in the study sample, only 13%, 95% CI=11.8, 14.4, had shown high level of health care decision-making autonomy as the vast majority, 87%, 95% CI=85.6, 88.2 had low health care decision-making autonomy. As well, only one-in-three women (31.9%, 95% CI=29.6, 34.2) had four prenatal visits for their recent live births while 27.7%, 95% CI=24.9, 30.7, of women who reported live births, were assisted by skilled health personnel during child birth. Among women who had live births, only 27.4%, 95% CI=24.7, 60.4, gave birth at health facilities (Table 1). In the multivariate analysis, the association between women's health care decision-autonomy and prenatal visits was not significant. However, the association between health care decision-making independence (autonomy) and births attended by skilled health personnel was significant and so for birthing at health care as well (Table 2).

Table 1. Prevalence of maternal health services and women's health decision-making autonomy

Maternal health service utilization & Women's health care decision-making autonomy	N	Estimate %	95% Confidence interval
Number of prenatal visits* 0-3	5160	68.1	65.8-70.4
4+	2415	31.9	29.6-34.2

Total	7575	100	-
Births attended by skilled health personnel †			
Yes	3053	27.7	24.9-30.7
No	7970	72.3	69.3-75.1
Total	11023	100	-
Delivery place			
Health facility	3026	27.4	24.7-60.4
Home	7997	72.6	69.6-75.3
Total	11023	100	-
Women health decision-making autonomy‡			
Low	9100	87.0	85.6-88.2
High	1362	13.0	11.8-14.4
Total	10462	100	-

* Number of prenatal visit for the most recent live births, †= Live births in the five years before the survey. ‡=For all women, 15-49 years of age. Numbers were weighted.

Table 2. Adjusted odd-ratios (OR) and 95% confidence interval (CI): Women's health decision-making autonomy and maternal health service utilization

Variable	Prenatal visits†		Birth attended by skilled health personnel		Birthing at health facility	
Health decision making autonomy	OR	95%CI	OR	95%CI	OR	95%CI
Low	1		1		1	
High	1.17	.94-1.45	1.33*	1.09-1.63	1.27*	1.04-1.55

Adjusted for women's age, residence type, wealth index, educational level and employment status. *p<0.05. †=four or more prenatal visits.

IV. DISCUSSION

Overall, the overwhelming majority (87%) of women in the study sample had low level of making independent health care decisions. The lower level of decision-making independence (autonomy) in matters related to their health and other family issues among women have previously been reported [(Kashahun & Zewdie, 2022; Tesfa et al., 2022; USAID, 2012). Similarly, reports showed that women in many sub-Saharan African countries also have low level of decision-making autonomy (Adriano Behrman, & Monden, 2021; Sougou et al., 2017). Women who have low level of autonomy in making decisions may encounter difficulties in accessing health services (Imo, 2022), thus, enhancing women's autonomy could improve mothers' and children's well-being as well as the adoption of reproductive health services (Rahman, Mostofa, & Hoque, 2014; Saaka, 2020; Salvador & Ebrahim, 2024). Among study participants, only 32% of women had four or more prenatal visits. More recent report, however, have shown 43% of women had four or more prenatal (Ethiopian Public Health Institute [Ethiopia] and ICF, 2021). In contrast, 84.5% of Filipino women had four or more prenatal visits for their recent live births (Salvador & Ebrahim, 2024). Similar lower coverage of prenatal visits has been reported for women in Western and Central Africa (UNICEF, 2024) As well, only 27.7% of women received the assistance of health personnel during birthing, although the proportion has increased to 50% in recent years (Ethiopian Public Health Institute [Ethiopia] and ICF, 2021). Skilled health personnel are professional who are trained to recognize complications that may endanger mothers and their newborns and take actions that can save the lives thus, access to skilled birth attendant is critical in reducing maternal mortality (UNICEF, 2022). However, wide variations in medical skills exist among health professionals providing maternal services in Ethiopia (for example, extension health workers are considered skilled birth attendants), nonetheless, coverage is still far below the average (64%) for sub-Saharan African region (UNICEF, 2022). Mirroring

the low coverage of prenatal visits and professional birth attendants, the proportion of women who delivered at health facilities was only 27.4% in the study sample, but the coverage has increased, and in recent years, almost half of women delivered at health facilities (Ethiopian Public Health Institute [Ethiopia] and ICF, 2021), although wide variations are observed among health care facilities in providing comprehensive labor and birthing care in Ethiopia (Bayou et al., 2022).

Results from the multivariate analysis have shown that women with high level of health decisionmaking autonomy had significantly higher odds of receiving assistance from health care professionals during birthing process and deliver their babies at health care facilities. Women's health care decision-making autonomy (independence in making decisions related to health matters) may play a valuable role in improving women's use of maternal health services. The results agree well with previous studies from various women populations in sub-Saharan Africa (Ameyaw et al., 2016; Dickson, 2021; Sougou et al., 2020). Given the low prevalence of maternal health service use in Ethiopia, the significant association between access to critical maternal health services (such as births attended by health professional and giving birth at health facilities) and
health care decision-making autonomy, may mediate their uptake and ultimately help reduce maternal mortalities. Enhancing women's independence could be achieved through women's economic empowerment, which is instrumental in fostering independence in making decisions that benefit them (UN Women, n. d.).

V. CONCLUSION

The use of maternal health services examined in the study population were inadequate and need improvements. The significant and positive association of women's health care decision-making autonomy with the two critical maternal health services (access to skilled birth attendants and delivery at health facilities) may indicate its potential role in reducing maternal mortality. Thus, enhancing women's independence in making decisions about their health could be one of the pathways to improving the adoption of maternal services in the study population.

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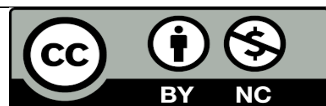

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