WOLKITE UNIVERSITY

COLLEGE OF MEDICINE AND HEALTH SCIENCE DEPARTMENT OFPUBLIC HEALTH

WOMEN'S AUTONOMY ON MATERNAL AND CHILD HEALTH SERVICE UTILIZATION AND ASSOCIATED FACTORS IN GURAGE ZONE, CENTRAL ETHIOPIA, 2025: ACOMMUNITY BASED CROSS-SECTIONAL STUDY

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MAY 2025

WOLKITE, ETHIOPIA

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A thesis submitted to Wolkite University College of medicine and health science department of public health for the requirement of partial fulfillment for master's degree of public health in reproductive health.

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May, 2025

WOLKITE, ETHIOPIA

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I certify that I have thoroughly read & evaluated this thesis entitled Women's autonomy on maternal and child health service utilization and associated factors in Gurage zone, central Ethiopia. Prepared under my guidance by Workineh Dendir. I recommended that it can be submitted as a fulfillment of thesis requirement.

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As a member of board of examiners for MPH Thesis Open Defense Examination, I hereby certify that I have read and evaluated this thesis submitted by workineh Dendir and have participated in the examination of the candidate. Based on the quality the work presented as well as the defense provided, I recommended that the thesis be accepted as fulfilling the requirements for the degree of masters of public health in Reproductive health.

External examiner: Name ----------signature ----------Date---------

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Final approval and acceptance of the thesis is contingent up on the submission of its final copy to the council of post graduate program through the candidates department or school of graduate committee (DGC OR SGS).

May, 2025

Wolkite, Ethiopia.

Declaration of this thesis

By my signature below, I declared and affirm this thesis entitled **"**WOMEN'S AUTONOMY ON MATERNAL AND CHILD HEALTH SERVICE UTILIZATION AND ASSOCIATED FACTORS IN GURAGE ZONE, CENTRAL ETHIOPIA" is my own work and I declare that this thesis has not been submitted to any other university for the award of an academic degree and I have cited and referenced all sources and materials used in this document.

Submitted by: Workineh Dendir

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Date ----------

May, 2025

Wolkite, Ethiopia.

ACKNOWLEDGMENT

First, I would like to express my gratitude to Wolkite University, college of medicine and health science, department of public health for giving me this interesting chance and support to do this thesis. I would like to acknowledge my sponsor Wolkite University for this given opportunity to conducting my all-academic course and to perform this thesis. I am also very thankful to Dr Agize Asfaw (PHD in human nutrition) and Mr Girma Alemayehu (MPH in epidemiology, Ass't professor) for their genuine and constructive input starting from the inception of the proposal to the end. The meaningful cooperation provided for data collectors and study participant deserves special recognition. Lastly but not the least I extend my appreciation to the district administrators and Health Extension Workers for providing me the necessary information in study area and for all individuals those who supported me throughout this study.

LIST OF ACRONUM AND ABREVATIONS

AOR	Adjusted odd ratio
BSC	Bachelor of science
CI	Confidence interval
COR	crude odd ratio
EDHS	Ethiopia demographic health survey
ETB	Ethiopia birr
GDP	Gross domestic capital
MCH	Maternal and child health
MHC	Maternal health care
MMR	Maternal mortality rate
MPH	Master of public health
PHD	Doctor of philosophy
RH	Reproductive health
SDG	Sustainable developmental goal
SNNPR	South nation nationality people and republic
SRH	Sexual and reproductive health
SSA	Sub-Saharan Africa
UN	united nation
VIF	variance inflation factor

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ABSTRACT

Background: women status often has impact on their autonomy and decision making ability about different aspects of their own lives. While women's autonomy is basic for prevention of maternal and child mortality, it has not been given more attention. Beyond that maternal mortality is still remains as a public concern, it is necessary to assess women's autonomy and associated factors on the use of maternal and child health care services in the Gurage zone.

Objective: To assess women's autonomy on maternal and child health services utilization and associated factors in Gurage Zone, central Ethiopia in 2025.

Method: A Community-based cross-sectional study was employed on 601 participants from December 15/2024 to January 15/2025. Women's autonomy is the capacity and freedom of women in the reproductive age group to act independently and make decisions. Epi data version 3.2 was used to store the collected data, which was then exported to SPSS 25 for analysis. Multi-variable and bi-variable logistic regression models have both been applied. A P-value of < 0.05 was used as statistically significant at a 95% confidence interval.

Result: - Respondent rate of this study was 98 %. About 355 (59 %, 95% CI: 56 % - 62 %) of women had higher autonomy. women who had attended primary school (AOR: 2.28, 95% CI: 1.40-3.69), secondary school and above (AOR: 3.40, 95% CI: 2.03, 5.69), Women of aged 36-49 years (AOR: 3.68, 95% CI: 2.18, 6.21), having media exposure (AOR: 4.71, 95% CI: 3.13-7.09), women whose wedding ceremony practice were by partners agreement (AOR: 4.12, 95% CI: 1.95-5.02) ,who married by their custom based ceremony (AOR: 2.55, 95%CI: 1.39-4.66),and women who have selected their boyfriend by their own decision (AOR: 2.85, 95% CI: 1.61-5.02) were significantly associated with women's decision-making autonomy.

Conclusion: The prevalence of women decision making autonomy regarding maternal and child health service utilization in this study was 59 %. But, still which found to be low. Women education and media exposure are necessary for their health service utilization at the community level.

Recommendation: An inclusive strategy needs to be applied in order to empower women to have access and health services utilization and to enhance women decision making ability in household performances through education and media exposure.

Keywords: women's, autonomy, decision making, maternal health service utilization, Ethiopia.

1. INTRODUCTION

1.1 Background

The concept of autonomy is multifaceted and can be difficult to evaluate; it relates to the capacity and opportunity to act and make choices independently, including the ability to acquire and manage resources and make crucial choices (1). In this context, women's autonomy is defined as the ability and freedom of women of reproductive age to make decisions and act on their own behalf, with regard to their own and their children's welfare, access and control over resources, and freedom of movement without requesting permission from others (2,3). Women status often has impact on their autonomy and decision making ability about different aspects of their own lives (3).

While there are calls for women's empowerment and greater independence for women worldwide in terms of consuming maternal health care, studies conducted in 57 countries show that there are still differences in the ways that women make decisions about their sexual and reproductive health, with less than 40% in Middle and Western Africa and 80% in Europe, Latin America, and South-eastern Asia (4). Even participation of labor force among men and women has a great disparity 80% and 52.6% respectively, so it also creates a question why this difference occurs (5). Moreover, a number of research carried out globally demonstrate that women's decision-making influences maternal healthcare consumption in a positive way; however, this effect is limited by limiting their involvement in decision-making, mobility, and financial capability (6).

The United nation (UN) claims that women's autonomy over their sexual relationships, reproductive health, and use of contraception is essential to human dignity and should be considered a fundamental human right (7) . The ability of women to visit health care facilities and receive treatment depends on their capacity to make their own decisions, which is why women's autonomy is also seen as a critical factor in determining the health, well-being, and longevity of both individuals and societies (8). Women who are empowered are more autonomous and have the capacity to seek timely and adequate maternal health care, which strengthens their empowerment (9).

Lack of autonomy, however, might make it difficult for women to get high-quality care, which can have a negative impact on maternal health outcomes (10). Couples must fully participate in health care decision-making. Since empowering women is essential to

achieving sustainable development. This is acknowledged as a critical method to improve gender equality and productivity in economic growth, particularly in Africa (11). Despite this, women experience double powerlessness and are always subservient to males, spending a portion of their lives in a position below men (12). But recently maternal health interventions have been successful in increasing access `to and utilization (13).

Furthermore, a lot of violence against women occurs because misogyny is so accepted in many of our society Unreported, unnoticed, and unapproved (14). Despite the fact that mother autonomy is essential for preventing maternal and child deaths, it does not receive enough attention (15) . Better maternal and child health outcomes depend on women making their own decisions about reproductive health issues; however, women's access to reproductive health services is restricted when open conversation and decision-making are prohibited (16).Ethiopia has made recent strides in tackling gender inequality, but it still faces challenges such as underdevelopment in the health sector, unbalanced allocation of unpaid care labor, and unequal access to economic opportunities(17).

The majority of women in third-world countries have very limited freedom of movement; they require their partners' consent to seek medical attention for themselves and their children, leave the family compound, and visit relatives. This lack of autonomy hinders access to health care and increases the risk of anxiety, depression, and malnutrition, as well as the risks of domestic violence against women receiving maternal health services (18). From the standpoints of human rights and healthcare outcomes, research on women's autonomy for their health is becoming increasingly significant (19), The purpose of this study is to assess how women's autonomy affects the use of maternal and child health services as well as associated factors among married women of reproductive age in the Gurage zone, central Ethiopia.

1.2. Statement of problem

Even though most of maternal deaths are preventable, based on WHO 2017 estimation globally maternal mortality ratio (MMR) was 295000/100,000 live birth from maternal causes, developing regions account for 99% of maternal deaths (20). Majority (94%) of these deaths occurred in low- and middle-income countries (21), Sub-Saharan African (SSA) countries share the largest portion of maternal mortality (66%) of global maternal mortality rate (22).

Despite that, it is rare in absolute numbers in the community, possibly due to under reporting by healthcare providers and managers (23). However maternal mortality remains a public concern (21).Women without independent funds are less powerful in negotiating their own and their children status with family, without resources also they may find it impossible to leave difficult marriages (24) .

The position of women at marriages in developing countries also has made it possible for women to have unequal access to nutrition, education, healthcare as well as the opportunity to earn income for themselves (25). This limits their health services utilization which affect's outcome of reproductive health and creates problem through their families, communities and nations at large. Beyond nearly half of married women in the world are under low autonomy, in low-income country like Nepal still they do not have freedom to decide on the utilization of SRH services autonomously, because of harmful and discriminatory social norms and practices and a lack of financial resources. Even as outlined by sustainable developmental goal (SDG) 5: factors affecting women's autonomy in decision-making about SRH are not analyzed still in Nepal (26).

Movements of African women are leading many of the efforts to enhance women's political participation. Following this half of the countries in Africa have adopted quotas to increase the numbers of women in legislatures with the result that Africa has some of the highest representation of women in parliaments in the world (27). Based on Gahanna demographic health survey women's autonomy in healthcare decision-making is 30% reduced odds of seeking healthcare for childhood illnesses when comparing with those who did not decide alone and half (49.6%) of women were able to take their children to a health facility (28). About 15% of Egyptian women makes decision by them self for their own health care with no requisite of permission from anyone else (29), Ghanaian women also exercised their autonomy either alone or jointly with their husband on health care matter only 25% and 53% respectively (30).

As Ugandans analytical Report Fathers were most commonly decider where a mother gave birth (54.3%) but 31.1% of mother were common decision makers (31). Most of the women (72.3%) in Gahanna did not decide on their healthcare alone (32).Additionally as analysis performed by Nigerian demographic health survey greater than half (60%) of women had low autonomy (33), Older maternal age, exposure to mass media, higher socioeconomic and educational status and knowledge of maternal and child health were positively associated

with women's autonomy (34). Based studies in Iran Cultural & social values, norms, marital satisfaction, behavioral factors and health system have a major impact on women's decision-making about reproductive issue (35).

Ethiopia has one of the highest MM rate in the world, with 20,000 maternal deaths annually and an MMR of 401 per 100,000 in 2017 (36). According to several researches conducted in Ethiopia, only 11–18% of women participated in decision-making processes alone, while 66–68% of them collaborated with their spouse to use maternity and child health services (37). Based on EDHS 2016, also autonomous of women in household activities and use of health service were only 15.4% to meet reproductive health goals (14). Contrastingly, regarding maternal and neonatal health, other social and economic aspects of women's autonomy is in southern part of Ethiopia 58.5% (38), in Debre-tabor 75.1% (39), an EDHS 2019 also reveals 74.4% (40) , in Addis Ababa especially on health service utilization (73%) (41).It tells us there is discrepancy even in Ethiopia.

A married woman needed permission from their husband to leave the socio-cultural practices and to visiting healthcare (42). Instead that male involvement and encourage women to health care access are limited (43). Beside that on analytical study from EDHS 2016 reported that about 71% of reproductive age women had at least one serious problem related to accessing health care in emerging regions of Ethiopia. Of these, difficulty to obtain money and getting permission to go for treatment (57.3% and 30.6%) were the most frequently mentioned problems in the regions respectively (44). Based on statistical analysis in Gurage community women's autonomy is limited , not only on practical activities, proverbs through societies still have influences on women to accept the dominance of men and ignores strong women's role. Mostly it reflects that "women come to this world to spend her life at home and women are born to raise children, to keep the house, to prepare food, and to do house works like a servant".

In addition to women are restricted to work at home, they didn't have any opportunity to work outside the home so that they are urged to stay at home until death (45) . Empowering women in healthcare decision-making and adequate utilization can reduce morbidity and mortality rates in mothers and their children, in contrast consequence low autonomy are high maternal and mortality, slow rate of fertility and poor overall reproductive health status (46). Besides achieving 2030 Sustainable Development Agenda especially SDG5 achieve gender equality and empower all women and girls (47), plan to work on women's autonomy.

Ethiopia has been implemented many policies, programs, and laws that contribute to women's empowerment, ensure healthy lives & promote well-being (48). Despite these measures, gaps in women's empowerment persist. For example, a significant proportion of women in key areas like household purchases (21%), healthcare decisions (18%), and visits their family (16%) still lacks decision making power. Additionally, a considerable number of women (63%) disapprove of wife-beating for any reason (49). These evidences emphasized the continuing challenges in achieving right gender equality and sustaining women's decision making power in Ethiopia. These programmatic level interventions especially on health care services have been based on inadequate systematic evidence that describe the determinant factors of women's autonomy which might be due to scarcity of data on women's autonomy.

Women are not able to exercise their autonomy on their health issues due to harmful and discriminatory social norms and practices and their lack of agency and financial resources, these Poor girls are more than twice as likely to marry in their childhood age as those who are wealthy. Due to this reason they face potentially life-threatening risks from early pregnancy, and often lost hopes for an education and a better income. Work on women's and girls' empowerment and achievement of equality between women and men for eliminate of discrimination has a great effect on human rights, humanitarian action and beneficiaries of development (50) .

In order to enhance the use of maternal health services in Ethiopia, few research have looked at women's autonomy in the home. However, these studies have not taken into account certain factors, such as the influence of certain traditions (wedding type, substance use). Therefore, the purpose of this study is to examine the autonomy of women's decision-making capacity and related aspects about the use of maternity and child health care in the Gurage zone.

1.3 Significance of the study

The greatest benefit of comprehending the variables influencing women's autonomy and inequalities in various sociocultural contexts is that it can help with the development and execution of health initiatives and regulations to avoid maternal health care issues brought on by women's low status and autonomy (8). Therefore, the purpose of this study was to evaluate the degree of and variables related to women's autonomy on the use of maternity and child health care by women in the Gurage zone in central Ethiopia.

It has been hoped that the study's findings have given program managers and policymakers at all levels crucial information to focus on the pertinent elements of interest for potential intervention.

For health sectors it might lessen the workload for medical experts, serve as a plan input and to take measures on maternal and child death reduction. For Gurage Zone's Women Affairs and Gender Office might have used the data from this study to guide their strategy for addressing the issue of women's autonomy. It could give women of reproductive age the chance to use their resources and rights to maintain their own and their children's health. Used to identify what has to be done at the community level in order to raise awareness among the populace and encourage participation in government. The results of this study may also serve as secondary data for future researchers.

1.4 Scopes of the research

This study was quantitative, community based cross-sectional. From December 15/2024 to January 15, 2025, evaluate the autonomy of women and the factors that are related to the use of maternity and child health services by married women in the reproductive age group in the Gurage zone in central Ethiopia. It might make it easier for future planners and policymakers to prioritize their mother and child health care intervention programs. Even while other researchers from outside the field of study had previously examined aspects related to autonomy, none had attempted to look at the consequences of women's decisions on type wedding for women and substance use and non-use of husband those may have negative impact on women’s autonomy. Therefore, this research has been tried to fulfill this gap.

2. REVIEW OF LITERATURE

2.1 The Idea of autonomy on women's utilization of health care service

Autonomy is the capacity to obtain information and make choices regarding one's own health issues. Mother's autonomy is necessary, and in many conditions, better health outcomes have strong relationship with their freedom on health care decision making. It also makes it easier to obtain material resources and other types of riches as well as social resources like status, power, and expertise within the family and community (39). To say woman is autonomous, she can determine on events in live, such as control on financial resources (access to sources of money and ability to spend it without consulting anyone), freedom of movement (the ability to move to health care facility without seeking permission from others) for their own health care and opportunity to take part in decisions making process (the ability of women to make decision regarding her own health where to seek for maternal health services) even if others opposed them (2).To measuring the women's autonomy previous studies were focused on couple's education, occupation and other socio demographic behaviors like age at marriage, spousal age difference, numbers and sex of children.

In addition to this it also measured by women's participation of decision making in domestic, attitudes in relation to wife beating and refusing sex with husband, and whether she said that needs permission to seek medical services is a big problem (42). Women's autonomy in healthcare decision- timber is pivotal for perfecting motherly health care- seeking geste and health issues (51). Multitudinous factors, similar as gender inequality, artistic morals, and a lack of support from their misters and families, contribute to poor health service application (49). As a result, women's decision- making places have been linked to their operation and access to health care services. Likewise, women's and children's health is told by women's status (50). Indeed while women's autonomy is impacted by both particular characteristics and artistic morals and beliefs, it's essential for the well- being of women, their children, and the family as a whole (46).

2.2 Decision making power of women on utilization health service.

Women's autonomy has been viewed as significantly necessary in decision making from different health care perspectives, starting from seeking and utilizing medical care to selecting a course of treatment but the degree of their autonomy is being expressed in varieties of situations joining to health care mostly depends on several factors including socio-demographic as well as other related factors (19).For this matter based on survey done in India 53.6% of women have high decision making autonomy ,the main reason behind was increased age at marriage, being urban residency, media exposure , increased wealth status and education of couples have positive effect on Level of women autonomy because they increase awareness on accessing and utilization of maternal care service (6).

Approximately 80% of women in Middle Africa are able to indicate that they refuse to have sex, and half of them make decisions regarding their health care. However, despite the fact that certain variables show high levels of individual decision-making, disparities in women's autonomy nonetheless persist (52). According to a study conducted in southern Africa, however, women experience poor autonomy and power imbalances within married couples' households, which impacts their use of health care and other health outcomes (53). Despite their differences, women's high decision-making authority is only 15%, 25%, 9%, and 16% in four rural sub-Saharan African (SSA) countries: Uganda, Ghana, Tanzania, and Kenya (3529, 1814, 4223, and 2662) respectively (54).

A study carried out in the Bale zone of our setup in Ethiopia showed that less than half (41.4%) had greater autonomy when it came to choosing how to use their own health care (55). Research conducted in southern Ethiopia also shows that 48.5% of women had high decision-making autonomy regarding the use of health care services for both themselves and their newborns, 46.3% had the ability to choose whether to visit a medical facility for their own medical care, 39% had freedom of movement, and 46.1% had greater financial controls (56). Additionally in Metu districts of Ethiopia, concerning about their healthcare, make decisions themselves 5.3%, made by their husbands 42.1% and 47.4% of jointly (57).

Even though maternal health services had strongly associated with women's autonomy based on analysis in Ethiopia also 69% of women getting permission to go for medical care (58).

On other hand study conducted in Debre tabor, three-fourths of women had higher decision-making autonomy in the household and on maternal and neonatal healthcare utilizations (39). Women's autonomy on health care decision-making had declined from 18.7% to 17.2 % in

2005 and 2011 respectively, but it had risen to 19.1% in 2016 (46). A significant proportion of women in key areas like household purchases (21%), healthcare decisions (18%), and visits their family (16%) still lacks decision making power. Additionally, a considerable number of women (63%) disapprove of wife-beating for any reason (49). These evidences emphasized the continuing challenges in achieving right gender equality and sustaining women's decision making power in Ethiopia.

2.3 Women's autonomy-related factors that affect the use of maternal and child healthcare

Women's autonomy has influential factor both on personal attributes of women and socio cultural norms of the society (59). Analysis in Nepal showed that women's autonomy in decision-making and exercise of their sexual reproductive (SRH) is highly associated with different factors like women with higher education have 1.5 times have autonomy when comparing from illiterates , richest quintile also have 1.5 times higher autonomy than from their counterpart, women who have media exposure at least once a week have 2 times higher autonomous than less or do not have exposure, and Women of 15–19 years have 0.155 times have low autonomy in decision-making compared to 35–49 years old women and even socio cultural background like ethnicity has significant relationship with health care decision making (60).Furthermore, analysis in India the involvement of parent decision on selection of spouse is still preferred (61).

Additionally, research conducted in Bangladesh found that women's autonomy in applying for health care services was significantly correlated with age, income, occupation, gender-based mindfulness, and advanced educational attainment (62). The location of the hearthstone, age above 35, education, religion, occupation, household power, and husband's occupation are all characteristics that alone affect a woman's ability to make her own decisions, according to empirical evidence from Nigeria. Which means predictor in Nigeria, maternal health-care services utilization is linked to women's autonomy (63).As study done from low and middle income countries on women's decision-making autonomy regarding maternal health service utilization age, 1^0& 2^0 educational levels, being urban residency, and higher wealth were positive factors for women autonomy on maternal health service. Which implies that age group above 35(2.7 times) than less than 20 years, primary level education (1.8 times) higher & a secondary level of education (2 times) higher than with no education on their decision making toward health service utilization (3).

The most influential demographic and social determinants across all areas of indicators in sustainable developmental goal are level of women's and her husband education, household wealth status, urban residency and access to media and the decision-making dynamic is influenced by the husband's or partner's position on the subject (64). Based on EDHS regarding to associated factors of women's autonomy in health service utilization, resides in urban areas was 98.7% more likely higher than rural residents, in comparison employed women have more autonomous than housewife's, not only that there is variation even in urban levels of women's autonomy who reside in Addis Ababa city administration, Tigray, and SNNPR were (3.8, 2.9, and 1.9) times more likely higher than women who reside in Dire Dawa city administration, respectively (65).

According to a study conducted in southeast Ethiopia, having a husband who works, having a monthly household income of more than 1000 ETB, being in a nuclear family, and being in a monogamous marriage were all independently linked to higher levels of women's autonomy, as were mothers' awareness of MCH and their favorable attitudes toward MCH care services (57). Additionally, a study carried out in Jima revealed that the final determinants of women's autonomy were the mother's monthly income, her educational background, her work, her media exposure, her age at marriage, and the societal expectations around gender roles (66).

In addition, the odds of women who had a family size of less than or equal to five were 2.5 times more likely to have decision-making autonomy on maternal healthcare services compared with women who had more than five members (67).Based study done in Ambo, western Ethiopia those women who were exposed to any media a minimum of once a day were more likely empowered on economic decision-making than those who were not exposed and even there is difference in medias i.e. obtained information via television has more participation in economic decision-decision making than from radio marriage, age on (53).Generally as study done in Ambo town reveals that women's factor (educational status , parity, number of living children), Socio economic factors like media exposure , being in a monogamous marriage, age on marriage being ≥18 years old were positively associated with women's autonomy (68) . Finally as a research done in southern Ethiopia women educational and occupational status, marriage type (monogamous), low number of children ,mode of delivery (cesarean section) were associated with women's higher autonomy (56).

2.4. Conceptual frame work

This study contributes to the investigate women's autonomy and the relationship between certain cultural elements and women's autonomy in choosing to use maternal health services. It makes the assumption that women's socio-demographic, socio-cultural, and personal traits all have an impact on their autonomy. Equal weighted binary (1 for high autonomy versus 0 otherwise) and two input variables (1 denoting women who could make decisions on their own or in conjunction with their husbands and 0 denoting otherwise) were added to build a composite measure for each construct. Women who weigh the same or more than the mean have high levels of autonomy, while those who weigh less than the mean have low autonomy. It is reviewed from published and grey literature on women's autonomy on utilization of maternal health care services and associated factor.

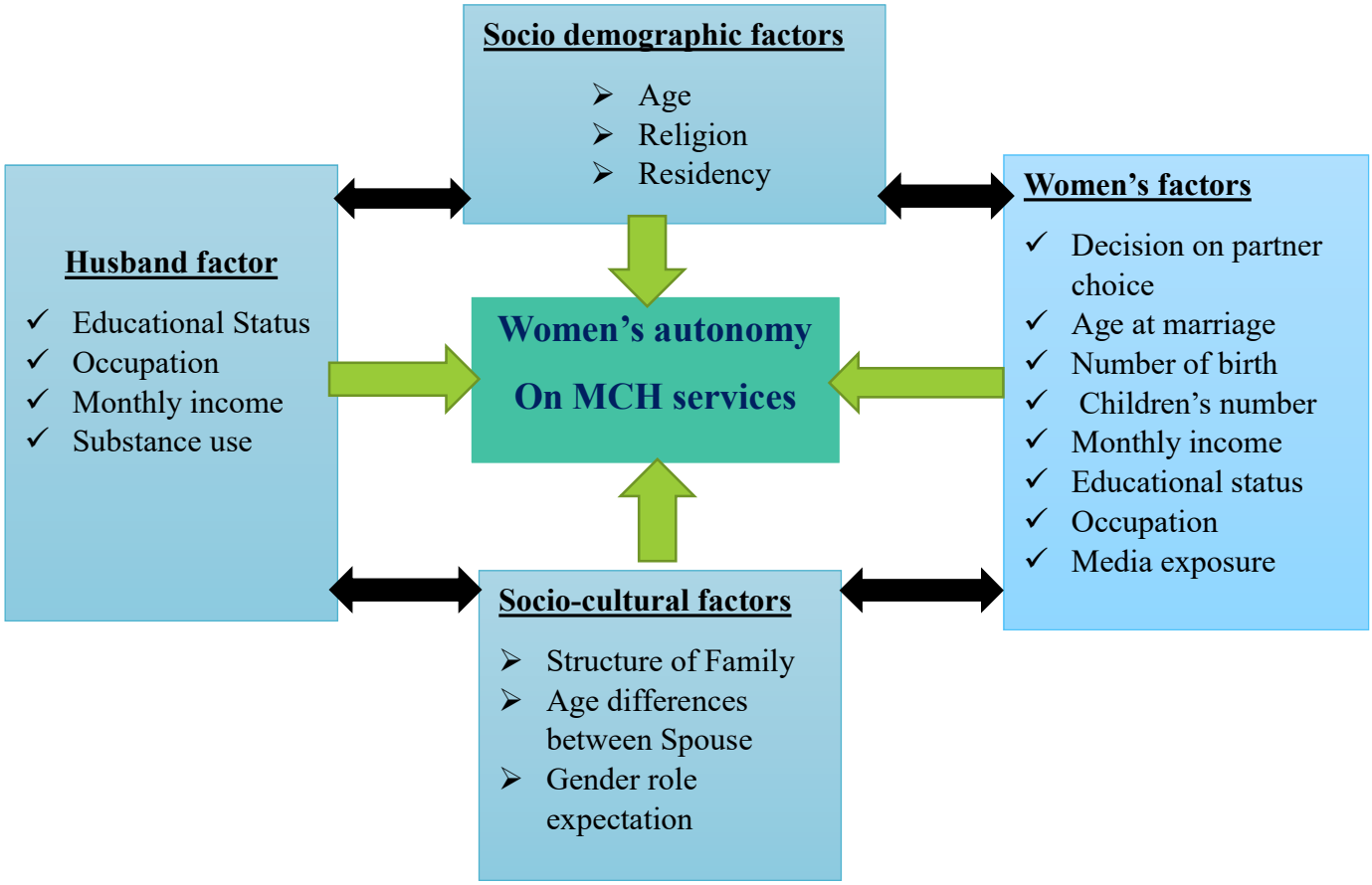

Figure 1 :-conceptual frame work on factors associated with women autonomy on MCH utilization adapting from ((2, 19, 46, and 53)**.**

3. STUDY OBJECTIVES

3. 1 General objective

To assess women's autonomy on maternal and child health services utilization and associated factors in Gurage Zone, central Ethiopia from December 2024 to January 2025.

3.2 Specific objective

1).To assesses women's autonomy on maternal and child health services utilization in Gurage Zone, central Ethiopia from December 2024 to January 2025.

2).To identifies factors associated with women’s autonomy on maternal and child health service utilization in Gurage zone, central Ethiopia from December 2024 to January 2025.

4. METHODS AND MATERIALS

4.1. Study setting and period

This study was done in the Garage Zone, located in central Ethiopia, away 158 kilometers from Addis Ababa and 127 kilometers from Hosanna, the capital of the central Ethiopia. The capital city is wolkite. It includes 10 woredas and three city administrations. Gurage zone is located in the rift valley region in latitude 8^0 17 N and longitude 37^0 47 E, with a meteorological condition of woynadega. About 84 of the occupants live in rural areas. In the utmost sections of Gurage," Kocho"(thick bread made from" ENSET") is an artistic food rounded with cabbage, cheese, butter, and cereals. Teff and other cash crops are also cultivated. Gurage is bounded to the southwest by Hadiya zone and Yem Special woreda, to the northwest by Kebena Special Woreda, to the north and east by the Oromia region, and to the southeast by Silt'e and west Gurage.

It has estimated population is 1,283,789, of whom 654 732 female and 629057 are males. In research areas such as Cheha, Mihur Aklil, and Abeshge woredas and Wolkite city administration also there are a total population of 140563, 129050, 90714 and 90166 and reproductive age groups of 32751, 30069, 21136, and 21009, respectively. Totally there are nine hospitals, kindly one specialized, two general (one private and one under construction) and six primaries. Furthermore there are 53 heath centers, 90 clinics (33 medium, 57 primaries), 236 functional health posts including 269 kebeles and 262,000 households in this district. The study has been performed from December15/2024 to January 15/ 2025.

4.2 study design

Community based, cross sectional study have been conducted among married reproductive age group women.

4.3 populations

Source population: All reproductive age group women in Gurage zone were source population.

Study population: consists of a random sample of married women of reproductive age group who match the eligibility requirements, live in selected kebeles of the Gurage zone, and have at least one under five kids.

Study unit. The study units for this study were households in Gurage zone districts and town administrations.

4.4 Criteria for inclusion and exclusion

Inclusion criteria: All married women in the reproductive age range with under five children who have a history of using maternal health services during that time are eligible to participate (66). In this study attention have been given to women who are married and living with their partners. This is because the power inequalities at the household level between women and husbands may restrict the health decision-making autonomy of women than other women.

Exclusion criteria: Married Women having at least one <5 children were included, then among included widowed, divorced and critically ill were excluded in this study.

4.5. Study variable

4.5.1 Dependent variable: Level of women autonomy.

4.5.2 Independent variable
Socio-demographic factors: Age, religion, residency.

Socio-cultural factors: Family structure, spousal age differences, gender role expectation in the family.

Woman's status: Educational status, Occupation, monthly income, exposure to media, parity, number of living children, age at marriage, decision on partner choice and types of wedding .

Husband's status: Education status, occupation, monthly income, substance use or non-use.

4.6 Sample size determination and technique

4.6.1 Sample size determination

objective 1: The sample size was calculated using a single population percentage (Cochran 1977) computation, accounting for the 95% confidence level, the 5% margin of error, and the estimated proportion of women's autonomy on maternity and child health concerns of 58.2 (p = 0.58).Where Zα/2 is the critical value/normal distribution at 95% cl = 1.96 (z value at α=0.05) and P is the proportion of women who have the freedom to make their own health decisions (2).

n is the required sample size, and D is the error margin (0.05).

n= (zα/2)2 × p (1-p)/d2 = (1.96)2x.582 (1-582)/ (.05)2 **= 374**

Objective 2:- sample sizes for the second objective was determined by Epi info software version 7.2 using significant factors from the study conducted in southern , western and eastern Ethiopia by considering the following assumptions made: two- sided confidence level of 95%, power of 80%, exposed to unexposed ratio of 1:1 and AOR accordingly below **(Table 1).**

Table 1:-sample size determination for factors affected with women's autonomy regarding maternal and child health care service.

Associated factors	CI %	Power (%)	%outcome in exposed	%outcome in Unexposed	AOR	Sample Size	Reference
Monthly income	95	80	62	40	0.76	108	(66)
Occupation of mother	95	80	65.3	44.4	1.102	196	(66)
Educational status	95	80	13.3	36.7	3.221	122	(2)
Age at marriage	95	80	52	68.3	2.175	306	(55)

The factors considered were taken from studies conducted in different parts of Ethiopia d (2, 55,66) accordingly, from factors 306 and since the source populations are above 10,000, it does not need correction. Instead, we have taken directly the largest (prevalence of objective one). After multiplying by the design effect of 1.5, the calculated sample size was adjusted for a possible non respondent rate of 10%, resulting in a final sample size of **616.**

4.6.2. Sampling technique and procedure

A multi-stage sampling technique has been employed to select the study subjects. In the first stage by using simple random sampling method, among ten woredas and three city administrations of Gurage zone we have taken about 30% of woredas and city administration (totaly three woredas and one city administration) selected **(fig 2)**, then two kebeles from each woredas and one city administration selected by using lottery method**.** Then after households were selected by using folders in health post of each seleced kebels and also sample size was allocated according to each kebeles population number. Sampling interval was take in the form K=N/n (k=constant, N=studied population and n= sample size allocation for that population). A woman in the reproductive age group was interviewed from selected households, and if there were more than one woman in the selected households, a lottery method was used to select only one. To assure representativeness calculated sample size was allocated proportionally according to the size of each kebeles population in the same way.

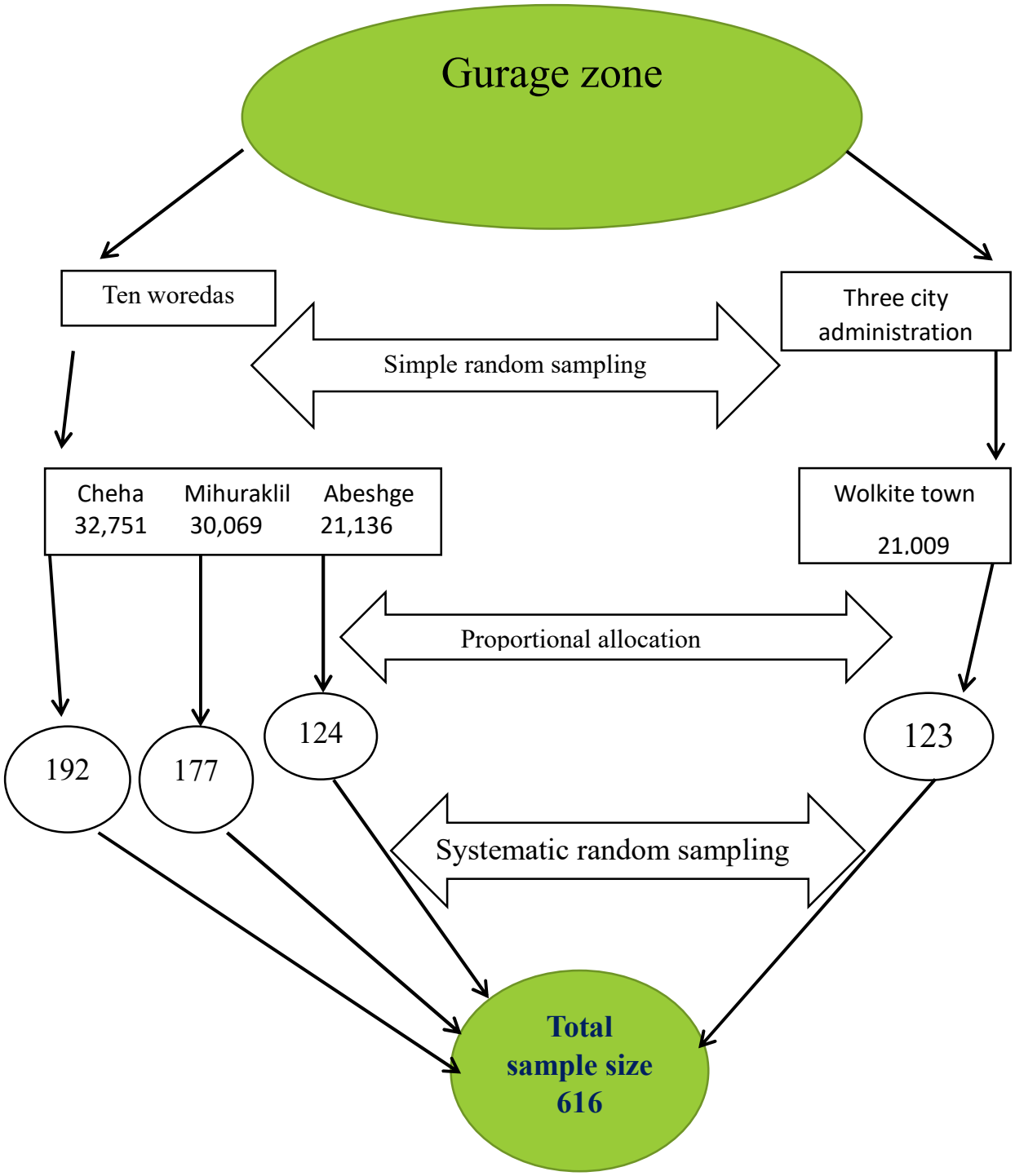

Figure 2:- schematic presentation for sampling producer.

4.7 Data collection procedure

4.7.1 Data collection instrument

Reviews of pertinent literatures (55, 66) were conducted before developing structured questioner. The tool incorporates socio-demographic information, socio-cultural aspects of women and their husbands, and markers of women's autonomy (financial control, decision-making authority, and degree of mobility), all of which were modified from earlier comparable studies conducted in Ethiopia (8, 55). By asking women who makes decisions regarding their own health care, the autonomy of women in making health care decisions has been evaluated. Their answers have therefore been categorized into one of five groups: "Another individual", "Husband only" "Participant and another individual", "Participant and husband" and "Participant sole". Therefore, it was believed that a woman was autonomous in making decisions about her health care if she typically made those decisions by herself or in conjunction with her husband.

4.7.2 Data collection technique and procedure

Data collection was carried out Face to face interviewing of eligible subjects at their home by using pre-tested structured questions modified from related studies; suitable respondents were interviewed in-person at their homes (8, 53, 55). Using a basic random sample procedure, the necessary number of participants was chosen. In the typical residence of the study participants, the interview was held. In houses with multiple suitable women, a lottery approach was used to choose a lady for the interview. Two BSC nurses were designated to act as supervisors and received two days of training on objective of study, confidentiality and way of data collection. Four BSC nurses and health extension workers collected the data to guarantee women's safety and information confidentiality. Following data collection, each questionnaire has been reviewed to ensure it is comprehensive.

4.8 Data quality control

In order to verify the instrument's clarity, language, logical sequence, and skip pattern, a pre-test was administered one week before to the real data collection on 31 (5% of the overall sample size) in Ezza woreda on November 30, 2024. After being produced in English, the questionnaire was translated into Amharic and then, to ensure consistency, translated back into English. We used frequency tables to examine the data and gain a sense of the correlations between the variables during data entry.

Epi-data version 3.2 was used to verify double entry, and the data was then exported to SPSS version 25 for analysis. Reliability of questioner has been checked by using internal consistency test of cronbach alpha coefficients. During data collection supervisors have been checked completeness and consistency of administering questionnaires taken daily and timely corrections, at random to ensure quality of data.

4.9 processing and analysis data

After cross-checking, coding, editing, and entering all data into EPI-data version 3.2, they were exported to SPSS version 25 for analysis. To determine whether or not there is an inter-relation or correlation between two or more independent variables, amulti-colinearity test was conducted. The variance inflation factor (VIF) was employed for this test. Descriptive statistics have been used to describe frequencies, percentages, proportions, means, and standard deviation in relation to continuous and categorical variables.

The data distribution was displayed via cross tabulation, which was done and displayed in tables and figures. Logistic regression models with both bivariable and multivariables were employed to evaluate the relationship between the independent and dependent variables. Multiple logistic regression models were used to control cofounders and only variables with a p-value <0.25 in bivariable analyses were included as factors in the final multivariable model. To judge how strongly dependent and independent factors are related, the odds ratio and 95% confidence intervals have been calculated. For statistical significance, a p-value of less than 0.05 was used. Using Hosmer and Lemeshow goodness of fittest, the model's fitness was assessed.

4.10 How can we measure women’s autonomy?

This study has used the definition of women’s autonomy as the composite index of the three constructs of women’s autonomy: decision-making power, control over finance, and extent of freedom of movement. The index for maternal autonomy in this study was composed of seventeen total questions which categorized into three constructive components of women’s autonomy. The first eight-question were used for addressing maternal decision-making power, five questions were used for addressing control over finance and the last four questions were used for addressing maternal freedom of movement. Responses to all these questions were measured using the following 5 responses that range from a maximum of 5 & a minimum of one.

Five are assigned if the decision is taken by the woman alone; four if the decision is taken by the woman and husband; three if the decision is taken by the woman and another person; two if the decision is taken by the husband alone; one if the decision is taken by someone else. Then after recoded to one if women are involved either alone or jointly with her husband in decision-making and other wise recoded to zero which means women are not involved either alone or jointly with her husband in the decision-making. Regarding control over finance and freedom of movement assessing questions, there are six Yes/ No questions. This is recorded in the way that 1 represents mothers had control over finance and had freedom of movement while 0 if the mothers' responses to both questions of respondents. Adding those questions under decision-making power, control over finance, and freedom of movement components gives the maximum total score of 17 while the minimum score is 1, when the mean is 8.5. The overall maternal autonomy was classified as high if decision-making autonomy score above or equal to the mean and Low decision-making autonomy score is below to mean using composite score analysis as used by other studies (2, 55).

4.10.1 Decision-making power on health care utilization

There are five components in each of the eight criteria that comprise the health care utilization decision-making power index. Women have been asked, "Who in her family normally has the final say on the following decisions?" 1) Your health visit? 2) Your child health visit? 3) On desired number of children? 4) The use of contraception? 5) Use of ANC service? 6) The choice of delivery site? 7) Use PNC service? and 8) use of immunization service for your children are the first eight factors. The respondent alone, respondent and her spouse, respondent and another person, husband alone and another person are the possible responses for each topic.

A woman's decision-making power as revealed by many studies has been represented by the sum of scores for each item. A woman was received a score of 1 if she takes decisions alone or in conjunction with her husband, 0 otherwise (56). The decision-making power maximum score was 8. As a result, women with scores $\geq$4 were classified as having high autonomy, whereas those with scores below 4 were classified as having low autonomy (2).

4.10.2 Decision making power over finance

Women's access to sources of money and freedom to use it without permission of anyone for their and their child health care purpose. There are five components that make up the index of control over finances (8). In this section also Women have been asked that: 1) Do you have consistent access to a source of income from work and financial help from relatives)? 2) Are you able to use this money without checking anyone? 3) Who in your family usually makes the final decisions about money you earned? 4) Who in your family usually makes the final decisions about money your husband earned? 5) Who in your family usually makes the final decisions about major household purchases? A possible response for the first two items binary responses (yes or no) was scored as 1 if yes and 0 other wise. A possible response or the last three items are respondent alone, respondent and husband jointly, respondent and someone else, husband alone & someone else. The response after computing was scored as 1if a woman made decision sole or jointly with partner 0 if she is involved with someone else. Since the total score on control over finance is 5, those women with a score of mean and above were considered as having high control over finance, while those women who scored less than mean had low control over finance (68).

4.10.3 Decision making power on freedom of movement

The women's autonomy to join health institutions without seeking any permission from others for their own and their kid's health care. Autonomy regarding freedom of movement was estimated from questions related to woman independent autonomy to leave house without seeking permission from others: 1) To attend a medical facility for her own and her child treatment, 2) go out to visit relative, 3) go to public meeting and 4) go to market out of village (55) .The answers to these questions will be either yes or no. As a result, people who answer "yes" receive a score of 1, and people who answer "no" receive a score of 0. Four is the overall score for freedom of movement. Women with scores of 2 or more are said to have high autonomy of freedom of movement, while those with scores below 2 are seen to have low autonomy of freedom of movement (66).

4.11 Operational definition

Maternal health care utilization: refers to the medical care a woman receives throughout her pregnancy, childbirth, and the first few days after giving birth, including family planning, which is crucial for the mother's and the baby's health (2).

Children's health: In this study, the mother's autonomy in making health-related decisions is assessed based on the child's health from birth to age five (68).

Reproductive age mothers: Mothers from age of 15 to 49 years (46, 55).

Women's autonomy: is the capacity and freedom of women in the reproductive age group to act independently and make decisions i.e. is dictated as "Yes" on the options women are participating in health service utilization, if she have the right to use health care, freedom of movement and if she has right to use household purchases. If a woman decides alone and with their husband jointly they are autonomous if only husband and someone give decision she is not autonomous in decision making (1, 3).

Decision making power: women's ability to make decisions on their own and their child health (1, 2, 41).

Freedom of movement: the women's ability to move to health care facility without seeking permission from other adult (husband's or someone else) for their own health care (41).

Control over financial resources: women's access to sources of money (her own earning, husbands/partner's earning and other sources) and ability to spend it without consulting anyone for their own health care concern (66).

Nuclear Family Structure: is made up of a married couple and their offspring, who may be born or adopted (2).

Extended Family: collateral kinship in addition to the nuclear family. For example, grandparents, uncles, aunts, nieces, nephews, and so on (2)**.**

Media exposure: If a person is exposed to print, radio, or television media on a daily basis, at least once a week, or less than once a week (60).

Substance use: the use of selected substances like alcohol, tobacco products, drugs, inhalants, and others that can be consumed, inhaled, injected, or otherwise absorbed into the body with possible dependence and other detrimental effects (EDHS 2016).

Higher autonomy: according to this study, it denotes a woman who received a score of at least 17 out of the possible three aspects (2, 66).

Lower autonomy: - In this study, a lady who received a score of less than 17 on the three dimensions (2, 66, 68).

Wedding is a ceremony in which two people are united in marriage/ "the state of being married".

No formal education: someone who can read or write or not but he cannot attain formal education (44,60).

Primary education: a person who attains elementary school or between grade one and eight (44).

Secondary and above: a person who attains from grade nine to twelve or he has been graduated from college to university one or more time (44).

Number of living kids: self-report from mother at data collection period and grouped in to 1, 2-4 and >4 child for analysis.

Age groups: Self-reported age of the mother at the time of data collection and grouped into 15–25 years, 26–35 years and 36–49 years for analysis (6).

4.12 Ethical consideration

Ethical clearance has been obtained from institutional review board of Wolkite University and college of medicine and health science. Ethical permission letter also have gotten from selected woreda and city administrators. Prior to gathering any information, we have the respondent's signed consent. Only the lead investigator and the data collection facilitators are permitted to evaluate the data that has been gathered, and respondent confidentiality has been maintained.

Husbands and other participants in the data collecting process were informed in detail of the study's objectives and that the data collection from respondents was conducted at a prominent location a few meters away.

4. 13 Data dissemination plan

The study's finding has been shared for Wolkite University School of Public Health. As much as possible it will be accessible in Wolkite town health office, Gurage zone women affairs and gender office and other relevant governmental and non-governmental organizations that focus on maternal health in order to partially fulfill the requirements for a master's degree in reproductive health. In order to publish it in a peer-reviewed, respectable journal and to show it at different seminars and workshops, conditions will be changed as much as feasible. Graduate students, WUSH employees, and other interested parties will be able to access both hard and soft copies in the Wolkite University library.

5. RESULT AND DISCUSSION.

5.1 Respondents socio - demographic and socio -cultural Characteristics

Among 616 randomly selected married women 601 respondents were participated, resulting in 98% of response rate. The age of all participants was found in between 18 and 45 years. Majority (34.6%) of them was ranges from 26 to 35 years of age. Based on their religion about 34.8 % of them were orthodox religion followers. Majority (71 %) of participants in this study were from rural areas. Regarding educational status of respondent 39% of respondent have no formal education where as 47% of their husband had attained primary school. Majority of the women [42%] were housing wife and 30% of their husband were farmers. Economically 33.4% of women and 34.4% of their husband status ranges between 2001 - 5000 ETB per month (**see table 2 below).**

During marriage most of (41.3%) of respondent's partner choice was decided jointly with their husband. Most of (75.2%) of women have married after the age of 18 years. Nearly two third (63.9 & 65.6 %) of participants have had 2-4 parity and number of children respectively. More than half (62%) of women were living in nuclear family structure. During married for nearly half (49%) of women age difference from their spousal was below 5 years, whereas 46.6 % of women have been used customary type of wedding. About half of (50.2%) respondent's husbands have not a habit of either type of substance use but from 49.8 % of substance user's maximum of 26.8 % were chat users. Among chat user 24 .6% were used at least once a day. Regardless of media service 54.6 % of women have exposure of media at least once a week. Based on attitude more than half (52.6 %) of women believed that as men have the right to dominate women (**see table 3 below**).

Table 2:- socio demographic character tics of participant in Gurage zone central Ethiopia May 2025, n=601.

Variables	Categories	Frequency	Percent
Age	*15-25*	*206*	*34.3*
	26-35	*208*	*34.6*
	36-45	*187*	*31.1*
Religion	*Orthodox*	*209*	*34.8*
	Muslim	*163*	*27.1*
	Protestant	*91*	*15.1*
	Catholic	*67*	*11.1*

	*Others**	*71*	*11.8*
Residency	*Urban*	*176*	*29.3*
	Rural	*425*	*70.7*
Respondent educational status	*No formal education*	*234*	*39*
	First cycle	*184*	*31*
	Second cycle and above	*183*	*30*
Husband educational status of	*Not formal education*	175	29
	First cycle	283	47
	Second cycle and above	143	24
Monthly incomes of respondent	*<1000.*	112	18.6
	1000 -2000.	165	27.4
	2001-5000.	201	33.4
	5001 -10000	101	17
	>10000	22	3.6
Monthly incomes of husband	*<1000.*	*42*	*7*
	1000 -2000	*106*	*17.6*
	2001-5000	*207*	*34.4*
	5001 -10000	*168*	*28*
	>10000	*78*	*13*
Occupation of husband	*Merchant*	*110*	*18.3*
	Day laborer	*130*	*21.6*
	Farmer	*178*	*29.6*
	Gov.t employee	*145*	*24.1*
	Others #	*38*	*6.3*
Occupation of respondent	*House wife*	*251*	*41.8*
	Day laborer	*100*	*16.6*
	Gov.t employee	*95*	*15.8*
	Merchant	*145*	*24.1*
	Others#	*10*	*1.7*

Note: @ = wolita, kebena, hadya, kembata, * = jova ,adventis , # = guard, private employer

Table 3:- Sociocultural characteristics of study participants in Gurage zone central Ethiopia May 2025, n=601.

Variables	*Categories*	*Frequency*	*Percent*
Decider of your partner choice	Others **&**	200	33.4
	Jointly	248	41.3
	Myself only	153	25.5
Types wedding used	By civil	83	13.8
	By customary	280	46.6
	By religion	137	22.8
	By agreement with husband	101	16.8
Age at married	< 18 years old	149	24.7

	≥18 years old	452	75.2
Parity	1	62	10.3
	2-4	384	63.9
	>4	155	25.8
No of living kids	1	*78*	*13*
	2-4	*394*	*65.6*
	>4	*129*	*21.5*
Structures of family	Nuclear	373	62.1
	Extended	228	37.9
Age differences between spousal	< 5 years	295	49.1
	6-10 years	229	38.1
	>10 years	77	12.8
Media exposure in a week	No	273	45.4
	Yes	328	54.6
Husbands substance use	No	302	50.2
	Yes	299	49.8
Types of substance used by husband	Alcohol	99	16.5
	Chat	161	26.8
	cigarette	28	4.7
	Others**!**	9	1.5
Frequency of substance use	More than Once a day	82	13.6
	Once a day	149	24.8
	Once a week	48	8
	More than Once a week	20	3.3
Expectation of gender role in a society	Dominancy of male	316	52.6
	Equality of male and female	285	47.4

Note: - &= friends, relatives! = tej, hashish

5.2 Autonomy of participants on decision making, financing and freedom of movement.

Almost one third of respondent decide jointly with their husband i.e. about their health (30%), delivery site selection (31%) and their child health (33%). Beyond that the remaining women on other variables can decide them alone like ANC (32%), contraceptive (31%), PNC (27.3%) and their child vaccine (29%) service utilization. But On desired number of children majority (31.3%) were decide husband alone. Based on financial autonomy about 34% and 29% of participants can decide alone on their own earn and major house hold purchase respectively, but 43% their husbands earn is decided by the husbands alone (**see table 4 below)**.

About more than half (55%) of respondent have not regular access of money, among them only 33.3 % were spending their money without consulting any one. Most of study participant have freedom of movement when they are visiting health facility, vising their family and moving market out their village (61.2%, 62.4% and 64.6%) without asking permission from any one respectively. Contrastingly more than half of women in this study have not freedom of movement toward public meeting without asking permission from any one**.**

Table 4:- Distribution of participants response on autonomy related roles of women in Gurage zone, central Ethiopia may 2025, n= 601.

Autonomy questions	**frequency (percent)**				
	Another individual	Husband only	Participant & individual	Participant & husband	Participant sole
who finally say on your health	28(4.7)	158(26.3)	70(11.6)	181(30.1)	164(27.3)
who final say on your child Health care	16(2.7)	193(32.1)	35(5.8)	197(32.8)	160(26.6)
who final say on desired number of children	14(2.3)	188(31.3)	48(8.0)	176(29.3)	175(29.1)
Who final say on your contraception use	12(2.0)	138(23.0)	99(16.5)	165(27.5)	187(31.1)
who final say on ANC utilization	10(1.7)	149(24.8)	98(16.3)	153(25.5)	191(31.8)
Who final say on preference of delivery site	10(1.7)	149(24.8)	88(14.6)	179(30.5)	176(28.5)
who final say on PNC utilization	38(6.3)	158(26.3)	107(17.8)	134(22.3)	164(27.30
who final say on your child vaccination use	25(4.2)	158(26.3)	81(13.5)	164(27.3)	173(28.8)
Who decides is your earned	12(2.0)	167(27.8)	43(7.2)	176(29.3)	203(33.8)
Who decides on how to use husbands earned?	10(1.7)	256(42.6)	29(4.8)	190(31.6)	116(19.3)
Who decides about making major household purchases	18(3.0)	144(24.0)	99(16.5)	169(28.1)	171(28.5)

5.3 .Status of women on three index of women autonomy

Generally the overall powers decision making on status of women 355 (59.3%) (95%CI = 56 .3%- 62. %) of respondents have high autonomy. As well concerning women's decision-making autonomy, 57 % of respondents have high autonomy. Regarding financial autonomy

majority (62%) of women have higher autonomy and finally (59%) of participants have high autonomy on their freedom of movement autonomy (**see fig 3 below**).

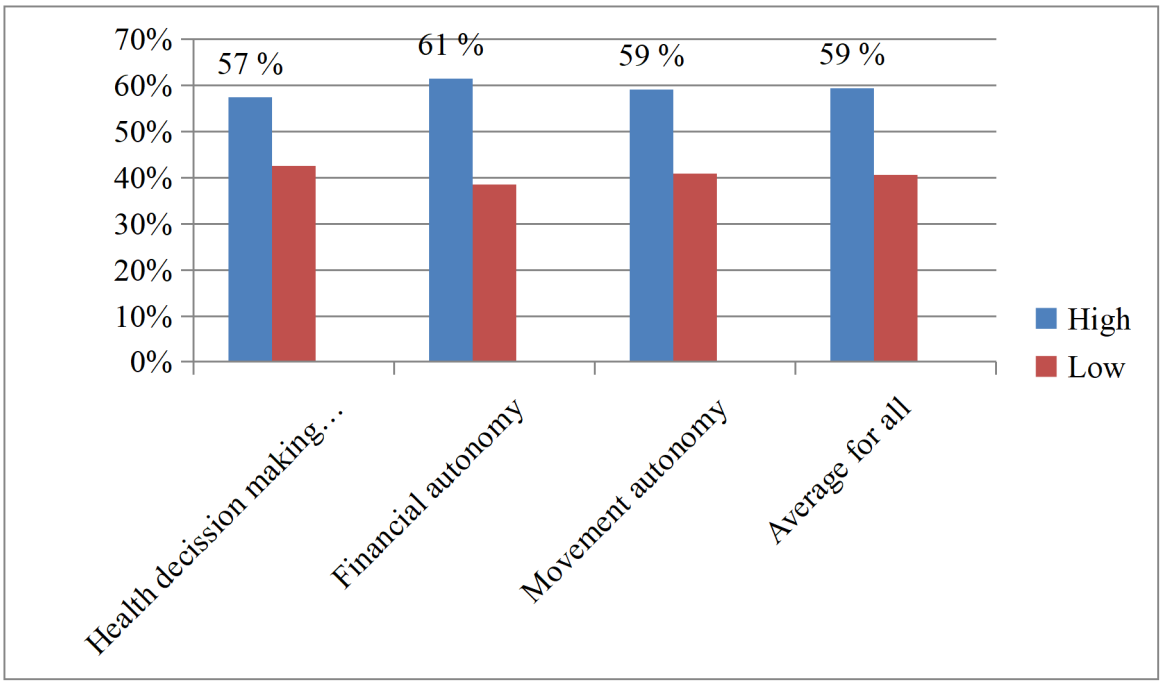

Figure 3 :- prevalence of overall women's autonomy in Gurage zone central Ethiopia May 2025, n=601.

5.4 Factors associated with women's autonomy on maternal and child health service.

In order to find candidate variables for multivariable logistic regression, binary logistic regression analysis was conducted first. Then after Eight variables were afford eligibility criteria (their score were <0.25 in bivarible analysis) for multivariable analysis, including respondents' current age, income, educational status, decision-making regarding partner choice, wedding type, media exposure, and age at marriage of women and husband's educational status.

Table 4:- Bivariable analysis of women's autonomy with socio demographic factors in Gurage zone central Ethiopia may 2025, n=601.

Variables	Low autonomy	High autonomy	COR(95% CI)	P-value
Age of mother				
15-25 year	121(49.2%)	85(24%)	1.00	
26-35year	101(41%)	107(30%)	1.50(1.02,2.22)	0.60
36-49 year	24(9.8%)	163(46%)	9.70(5.80,16.10)	0.00*
Income of mothers				
<1000	91(37%)	28(7.9%)	1.00	
1000-2000	54(22%)	70(19.7)	4.76 (2.69,8.41)	.26

2001-5000	55(22.5%)	104(29.3%)	6.79 (3.89,11.84)	.95
5001-10000	37(15%)	112(31.5%)	14.74(8.29,26.23)	.27
>10000	9(3.7%)	41(11. %)	17.68 (7.59,41.14)	.29
Incomes of husbands				
<1000.	17(6.9%)	25(7%)	1.00	
1000 -2000	34(13.8%)	72(20.3%)	1.44(.68,3.01)	.33
2001-5000	82(33.3%)	125(35.2%)	1.037(.52,2.03)	.91
5001 -10000	78(31.7%)	90(25.4 %)	.785(.39,1.55)	.48
>10000	35(14.2%)	43(12.1%)	.835(.39,1.78)	.64
Religion				
Orthodox	87(35.4%)	122(34.4%)	1.00	
Muslim	56(22.8%)	107(30.1%)	1.36(,89,2.08)	.35
Protestant	44(17.9%)	47(13.2%)	.76(.46,1.24)	.28
Catholic	27(11.0%)	40(11.3%)	1.05(.60,1.85)	.84
Others	32(13.0%)	39(11.0%)	.86(.50,1.49)	.61
Educational status of women				
Not formal education	135(55%)	99(28%)	1.00	
Primary	69(28%)	115(32%)	2.27(1.53,3.38)	0.01*
Secondary and above	42(17%)	141(40%)	4.56(2.97,7.05)	0.00*
Educational status of husband				
No formal education	83(33.7%)	92(25.9%)	1.00	
Primary	122(49.6%)	161(45.4%)	1.19(.82,1.74)	0.14*
Secondary and above	41(16.7%)	102(28.7%)	2.24(1.41,3.59)	0.89
Residency				
Urban	72(29.3%)	105(29.6%)	1.00	
Rural	174(70.7%)	250(70.4%)	.98(.68,1.40)	.93
Occupation of respondent				
House wife	88(35.8%)	162(45.6%)	1.00	
Day laborer	50(20.3%)	50(14.1%)	54(.33,.86)	.31
Gov.t employee	38(15.4%)	58(16.3%)	.82(.51,1.34)	.44
Merchant	65(26.4%)	80(22.5%)	.66(.44,1.01)	.51
Others	5(2.0%)	5(1.4%)	.54(.15,1.92)	.34
Occupation of husband				
Merchant	46(18.7%)	64(18.0%)	1.00	
Day laborer	55(22.4%)	75(21.1%)	.98. (58,1.63)	.93
Farmer	75(30.5%)	103(29.0%)	.98(.61,1.59)	.95
Gov.t employee	60(24.4%)	85(23.9%)	1.01(.61,1.68)	.94.
Others	10(4.1%)	28(7.9%)	2.01(.89,4.54)	.33

Table 5: Bivariable analysis of women's autonomy with socio cultural factors in Grage zone central Ethiopia may 2025, n=6

Variables	Higher autonomy	Lower autonomy	COR(95% CI)	p-value
Decider on partner choice				
Others	99(40.2%)	101(28.5%)	1.00	
Jointly	119(48.4%)	129(36.3%)	1.06 (.73, 1.54)	.02*
Myself only	28(11.4%)	125(35.2%)	4.38(2.67,7.18)	.00*
Types of wedding				
By civil	41(16.7%)	42(11.8%)	1.00	
By customary	113(45.9%)	167(47%)	.33(.18,.63)	.13*
By religious.	67(27.2%)	70(19.7%)	.34(.20,.60)	.61
By agreement	25(10.2%)	76(21.4%)	.49(.29,.81)	.00*
Exposure of media				
No	144(58.2)	84(23.7%)	1.00	
Yes	102(41.5%)	271(76.3%)	4.6(3.2,6.5)	.00*
Age at married				
<18	94(38.25%)	49(14%)	1.00	
>18	152(61.8%)	306(86%)	3.68(2.60,5.74)	.49
Parity				
1	28(11.4%)	34(9.6%)	1.00	
2-4	144(58.5%)	239(67.3%)	1.36(.79,.34)	.258
>4	74(30.1%)	82(23.1%)	.91(.50,1.64)	.76
No of children				
1	35(14.2%)	43(12.1%)	1.00	
2-4	154(62.6%)	240(67.6%)	1.26(.77,2.07)	.34
>4	57(23.2%)	72(20.3%)	1.02(.58,1.81)	.92
Family structure	145(58.9%)	227(63.9%)	1.00	
Nuclear	101(41.1%)	128(36.1%)	.81(.58,1.14)	.29
Extended				
Substance use				
Yes	136(55.3%)	166(46.8%)	1.00	
no	110(44.7%)	189(53.2%)	.71(.51,.98)	.40
Age differences between spousal				
< 5 years	133(54.1%)	161(45.4%)	1.00	
6-10 years	78(31.7%)	151(42.5%)	1.59(1.11,2.28)	.31
>10 years	35(14.2%)	43(12.1%)	1.01(.61,1.67)	.95
Gender role				
Dominancy of male Equality of	125(50.8%)	191(53.8%)	1.00	
male &female	121(49.2%)	164(46.2%)	.88(.64,1.22)	.47

After adjusting for the potential confounders in multivariable logistic analysis educational status, current age, decider of partner choice, media exposure and, types of wedding of respondents were found to be significantly associated with the level of women autonomy.

Accordingly women of aged between 36-49 years old (AOR: 3.68, 95% CI: 2.18, 6.21) were more likely to have autonomy on decision-making compared to the women of 15-25 years. Women who had attended primary school (AOR: 2.28, 95% CI: 1.40-3.69) and secondary school and above education (AOR: 3.40, 95% CI: 2.03, 5.69) had higher odds autonomy than those have not formal education. On other hand women who had selected their boyfriend by their own decision (AOR: 2.85, 95% CI: 1.61-5.02) were more autonomous than those who can't select their partner by their own decision or those who are judged by others. The women who have use media at least once a week were (AOR: 4.71, 95%CI: 3.13-7.09) having more autonomous than those who have less or do not have exposure to media. The odds of having higher decision-making power of women who had married by the agreement with her husband (AOR: 4.12, 95% CI: 1.95-5.02) and those who married by their custom ceremony (AOR: 2.55, 95%CI: 1.39-4.66) were having more autonomous than from those who have married by civilian.

Table 6: Multivariable analysis of women autonomy with associated factors in Gurage zone,

Variable	Women autonomy		AOR (95% CI)	P-value
	Low	High		
Age of mother				
15-25 year	121(49.2%)	85(24%)	1.0	
26-35year	101(41%)	107(30%)	1.31(0.82-2.10)	.25
36-49 year	24(9.8%)	163(46%)	3.68(2.18,6.21)	.00*
Income of mothers				
<1000	91(37%)	28(7.9%)	1.00	
1000-2000	54(22%)	70(19.7)	.48(.18,1.28)	.143
2001-5000	55(22.5%)	104(29.3%)	.40(.16,1.04)	.059
5001-10000	37(15%)	112(31.5%)	.51(.20,1.34)	.173
>10000	9(3.7%)	41(11. %)	.53(.19,1.49)	.228
Educational status of women				
Not formal education	135(55%)	99(28%)	1.00	
Primary	69(28%)	115(32%)	2.28(1.40,3.69)	.001*
Secondary and above	42(17%)	141(40%)	3.40(2.03,5.69)	.000*
Decider of partner choice				
Others	99(40.2%)	101(28.5%)	1.00	
Jointly	119(48.4%)	129(36.3%)	1.17(.73,1.86)	.498
Myself only	28(11.4%)	125(35.2%)	2.85(1.61,5.02)	.000*
Types of wedding				
By civil	41(16.7%)	42(11.8%)	1.00	
By customary	113(45.9%)	167(47%)	2.55(1.39,4.66)	.002*
By religious.	67(27.2%)	70(19.7%)	.94(.48,1.84)	0.87
By agreement	25(10.2%)	76(21.4%)	4.12(1.95,5.02)	.0.00*
Exposure of media				
No	144(58.5%)	84(23.7%)	1.00	
Yes	102(41.5%)	271(76.3%)	4.71(3.13,7.09)	.000*
Age at marriage				
<18	94(38.25%)	49(14%)	1.00	
>18	152(61..8%)	306(86%)	1.30(.81,2.09)	.27
Educational status of husband				
No formal education	83(33.7%)	92(25.9%)	1.00	
Primary	122(49.6%)	161(45.4%)	.63(.37,1.06)	.08
Secondary and above	41(16.7%)	102(28.7%)	1.42(.76,2.66)	.26

central Ethiopia, May 2025, n=601.

Note: *=significance at p<0.05, COR= crude odd ratio, AOR= adjusted odd ratio, CI=confidence interval, 1.00= reference.

5.5 Discussion

Women's decision-making power is crucial for the well-being of family, particularly for the improvement of maternal and child heaths especially in countries with limited resource like Ethiopia. The status of women's autonomy has variation according to different characteristics of the individual, interpersonal, community as well as society. In this study, married women of reproductive age living in Gurage zone of central Ethiopia were interviewed to rate their autonomy in accessing maternity and child health services as well as the factors associated with these services.According to our assessment 59 % (95% CI: 56 % - 62 %) of study participants have exercised high autonomy on women's and their child health service utilization either alone or jointly with their husband/partner.This finding is in lining with studies conducted in south and East Ethiopia with prevalence of 58.4%, and 57.1% respectively (8, 68).This similarity is may be due to the ways of study used to assess woman's autonomy including study design. However which was lower than study done in western Ethiopia (66.2%), northern Ethiopia (75.1%), EDHS 2019 (74.4%) and Addis Ababa (73%) (39, 40, and 41). The presence of low prevalence of women decision making in this study could be due to the difference in the sample size.

But it was higher when compared with studies done in western, south east and east Ethiopia which implies 55.6%, 48.5%, and 47.4 % respectively (2, 55, & 66) .The presence of high prevalence of women decision making in this area might be due to the time period of variation in the studies, measures taken for promotion of women's empowerment and equality of gender from varies interventions and socio-cultural differences between societies of regions.

In multivariable analysis of this study, Participants whose age ranges from 36-49 years were three times autonomous in decision making than age between 15-25 years. This finding has been supported by study done in Nepal which showed that increased age have significant role on women's decision making power, Women age of 15–19 years having less autonomy on their decision power compared to the women of age 35–49 years (59). Additionally survey analysis in Nigeria reveals that women of age above 35 years were having two time power of decision making by them self than younger women (33). Such like, finding in north Ethiopia also stated that women whose age above than 30 years old were having two times probabilities of participating on decision making in their access and health care use (55) .This

similar judgment from different scholars might be due to that age gets increased their educational status and exposure to different life experience will be increased with age.

According to educational status of respondents this finding showed that women those who attained primary and secondary school and above were having 2.2 and 3.68 times higher autonomy than comparing with those have not formal education respectively. This is comparable with the study conducted in Nepal, it describes that the Women who had higher education were almost 1.5 time more likely having autonomy than from those who have not formal education (59). It has also corresponding to Study done in Nigeria revealed that women of having primary and secondary educational status were 2 times made own decisions without others interfere when compared with those have not formal education (33).

Likewise other study in western Ethiopia determined that the odds of women of having primary and $+2^0$ educational statuses were two and three times higher autonomy than women without formal education respectively (2). EDHS 2016 also approved this relationship as such 87% of women with more than secondary education participate in all three decisions, when compared with 68% of women of illiterate (48). This is because education has power to bring opportunity for women's, empowerment, providing them to increase autonomy and it creates awareness almost in every context of maternal healthcare service utilization.

That means education can help to increase knowledge, carry out abilities, and enhance self-confidence. There for this indicates that improving education has a significant impact on later- life on decision-making participation of maternal healthcare services.

Another important determinant factor for women's decision making autonomy was their own power on decision during their partner selection. Based on this study outcome woman whose marriage decided by their own self were 3 times more autonomous than from those who were decided by their peers or relatives. This finding has been supported by multilevel analysis from EDHS 2016.Which implies that, the odds for women decision making power from women who had married by the decision of their family was reduced by 24% when comparing from their counterpart (53).

It could be explained women who were able to express their opinion and part of the decision making for their own marriage, then they might be confident full in communicating and negotiating with their husband once married. This mean when they involve in their marital decision may enhance their decision making autonomy throughout all household activities.

Women who have media exposure at least once a week had 4.7 times higher autonomy than from women's who have not exposure. This finding has similarity with a study done in Assosa western Ethiopia which reveals that the women having odds of media exposure were 15 times higher autonomy than their counterparts (67). Similarly another study done in Ambo town western Ethiopia also assessed that Women who had not exposure of media 99.2% having odds of lower autonomy than as compared to women those who had access of media (68).This might be due to that accessibility of media can increase attitude and awareness of women's toward their autonomy and the benefit of their health care service utilization.

Surprisingly, other important factors for women's decision making ability wedding types. Even most of study participants were married by customary based wedding ceremony; the odds of having higher decision-making autonomy among women who had marriage by agreement with her husband either or not ceremony were having four times autonomy than from women of marriage by civilian. Similarly women who have had marriage by custom based ceremony were three times autonomous than from those of marriages by civilian. Unfortunately we have not compared this variable with other results. Because, previous studies of the same topic that we have referred were not included this variable. But this may be due to that freedom at the beginning of adolescent girl's life has a power to be autonomous at the later age of them.

5.6 strength and Limitation

This study tried to demonstrate important factors influencing women's decision-making autonomy in maternal healthcare service utilization mostly in rural setting. Additionally it also tried to add some cultural events like types of wedding, which was not added in previous peer papers that we have referred; this variable may help to minimize dominancy of male and family. Despite this our study has also limitations; firstly as it is cross- sectional study design, it does not show causality between dependent and independent variables in maternal healthcare utilization. Secondly mother might have recall bias, because of longer time history of health care visit for own and child health problems, to minimize recall bias: we have given enough time, tried to asked questions of the most recent history and in stable manner on house hold activities.

Third participants in this study were only women, there remains a potential for bias/discordance regarding the level of autonomy answered by women, as this is to a large extent a subjective phenomenon. As a better way of understanding data was corrected by

trained data collectors about the importance of the study and as their participation play role on the importance of this study results. Finally autonomy is complex concept and has not universally agreed definition and difficult to measurement. To compensate this, this study tried to address the most frequently used dimension of autonomy measures by different scholars (2, 3, 8, 46 & 55).

6. CONCLUSION AND RECOMMENDATION

Conclusion: - Even though every woman have the right to involve on her healthcare service decision making, the prevalence of women decision making autonomy regarding maternal and child health service utilization in this study was 59%, still which found to be low. Women education and media exposure are necessary for their health service utilization at the community level. This study have concluded that higher educational level, current age, media exposure, wedding type and freedom of women during partner selection have significant association on women's autonomy to utilize maternal health service. Educating women, exposure of media at most daily or at least once a week and freedom of girls during partner selection are necessary for women's health service utilization in the community level and help to increase the status of autonomy in maternal health care service.

Recommendation:

For policy makers: - An inclusive strategy needs to be applied in order to empower women to have access and health services utilization and to enhance women decision making ability in household performances through education and media exposure. Ethiopian policy and school curriculum are still supporting gender equality and women empowerment. However, attention needs to be given for women living in remote and rural areas by addressing education and media.

For public health Practitioners: - Women should get regular health education especially for young and non-educated girls to support their autonomy in making decisions about the use of maternal health services, regardless of their sociocultural or personal backgrounds.

For Community leaders: - There is need for integrated work to strength women's decision-making power, thereby increasing maternal and child healthcare utilization. Mechanisms such as community capacity building and awareness creation are necessary on some traditional practices like wedding type and freedom of girls during partner selection; these have greater effect on women autonomy as well as MCH service utilization on later life of women.

For researchers - mixed studies design should be conducted to explore precise data furtherly and include additional variables like partner's discussion and availability and source of health education.

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APPENDICES

Annex I. participant information sheet (English version)

I'm ----------. In order to complete the requirements for his master's degree in reproductive health from Wolkite University, I am conducting a study in this community as a data collector on the assessment of women's autonomy on maternal health service utilization and related factors. All of the information you provide will be kept private and used to create a general report. I would like to ask you some questions about this study. The report won't contain any names, and there won't be any way to identify you as one of the informants. It is entirely voluntary for you to participate in the study, and you can leave at any time. Feel free to ask me any questions you may have on the study. We respectfully ask that you pay attention during the thirty to forty minute interview. You can reach the investigator at the following location if you need to:

Name: Workineh Dendir; Phone: 251-0910731076; Email: workinehdendiry@gmail.com

Annex II: English version of the Informed Consent Form

I am well aware that Workineh D. is the designated primary investigator for this research project, which is being carried out in partial completion of an MPH degree and is fully supported and directed by the WKU College of Health Sciences, Department of Medicine and Health Science.

I have received comprehensive information about the goals of the study project in a language I can understand. I've been told that the interviewer will keep all of the information I provide them private. I realized that there is no composition and no risk associated with the investigation. I have guaranteed the right to contact Office with any questions regarding the research before or during the stud Wolkite University, College of Health Sciences Office at Tel. ____

Principal Investigator's: workineh Dendir Tel: 0910731076

Name of Advisors: 1. _____Address: _____2_____Address:----------

I agree to participate by completing the consent form because I have read it, or it has been read to me in a language I understand, and I understand the terms mentioned above. Consented to take part in the research: Yes __ No__ the clock struck _____time is over.

Annex III: Instrument for Data Collection

This survey is designed to gather information on the evaluation of women's independence regarding the use of maternal health services and related factors in the Gurage zone of central Ethiopia, 2025.

Data Collector's Name: _____ Signature_____ Date: _____

Supervisor's Name: _____ Signature_____ Date: _____

Kebele: _____ Codes of house _____

Part1. Socio- demographic characteristics of respondent (encircle the response in the column)

S.no	Question	Response options	Rem a
101	Age	----------	
102	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. others	
103	Residency	1. Urban 2. Rural	
104	Educational status of respondent	1. No formal education 2. Primary 3. Secondary and above	
105	Educational status of husband	1. No formal education 2. Primary 3. Secondary and above	
106	How much Your Monthly income?	1. <1000. 2) 1000 -2000. 3) 2001-5000. 3). 5001 -10000 4). >10000	
107	How much your husband Monthly income?	1) <1000. 2) 1000 - 2000. 3) 2001-5000. 3). 5001 -10000 4). >10000	
108	Yourcurrent occupation	1. Merchant 2. Day laborer 3. Farmer 4. Gov.t 5. Others	
109	Your Husband's current occupation	1. Merchant 2. Day laborer 3. Farmer 4. Gov.t employee 5.Others specify-------	

II. Socio cultural factors

1010	Who was the decider of your partner choice?	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1011	How you have marriage /wedding?	1. By civil 2. By customary 3. By religious. 4. Abduction	
1012	Age at married	1. < 18 years old 2. ≥ 18 years old	
1013	Parity	----------	
1014	No of kids	1). 1 2). 2-4 4). >4	
1015	structure of family	1. Nuclear 2. Extended	
1016	Age differences between spousal	1. < 5 years 2. 6-10 years 3. >10 years	
1017	Exposure to media	1. No 2. Yes	
1018	Your husband's ever use substance?	1. No 2. Yes	If no skip to 1021
1019	If question no 1018 yes Which types of substance use he?	1. Alcohol 2. Chat 3. Tobacco 4.others specify -----	
1020	If question no 1018 yes how often?	1. More than Once a day 2. Once a day 3. Once a week 4. More than Once a week	
1021	Expectations gender role in a society	1. Dominance of male 2. There is equality in every aspect n of making decision	

Part III: Decision making related questions to your role on you and your child health care.

1022	Who in your family usually makes the final decisions about your health?	1.Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1023	Who in your family usually makes the final decisions about child Health care?	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1024	Who in your family usually makes the final decisions about desired number of children?	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1025	Who in your family usually makes the final decisions about	1 .Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	

	contraception utilization?		
1026	Who in your family usually makes the final decisions about ANC utilization	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1027	Who in your family usually makes the final decisions about preference of delivery site?	1 Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1028	Who in your family usually makes the final decisions about PNC utilization	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1029	Who in your family usually makes the final decisions about your child vaccination utilization	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	

Part IV. Women's autonomy on control over finance

1030	Do you have consistent access to a source of funds (income from work and financial help or gifts from relatives)?	1. No 2. Yes	If no go to 1032
1031	Are you able to use this money without checking with anyone?	1. No 2. Yes	
1032	Who in your family usually makes the final decisions about money you earned?	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1033	Who in your family usually makes the final decisions about money your husband earned?	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	
1034	Who in your family usually makes the final decisions about major household purchases	1. Another individual 2. Husband only 3. Participant and another individual 4. Participant and husband 5. Participant sole	

Part V. women's autonomy on freedom of movement

1035	Can you go to a medical facility for your own treatment without getting permission from another adult (your husband, partner, or someone else)?	1.No 2.Yes
1036	Can you visit family or relatives without getting permission from another adult (your husband, partner, or someone else)?	1, No 2. Yes

1037	Can you leave the house without getting permission from another adult (your husband, partner, or someone else) to attend a public meeting	1.No 2.Yes
1038	Can you leave the house without getting permission from another adult (your husband, partner, or someone else) to go to markets outside of this village?	1.No 2.Yes