MATERNAL HEALTH SERVICE UTILIZATION IN THE CONTEXT OF COVID-19 IN RURAL JIMMA ZONE

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Maternal Service Utilization in the context of COVID -19 in Rural Jimma Zone: A cross sectional study

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DECLARATION

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Abstract

***Background**: Ethiopia is one of the developing countries charatcterized by high maternal mortality ratio (412/100,000 live births]. The toll of high maternal mortality ratio is largely attributed to poor access and utilization of basic maternal health care services. The status of basic maternal health service utilization during the time of COVID-19 focusing on how pre existing factors are shaped with COVID-19 relatecd factors were not well studied in Ethiopia, particulary in Rural Jimma Zone. So the current study investigated the status of maternal health service utilization its predictors.*

***Objective** This study aims to assess maternal health care services utilization during COVID-19 in Rural Jimma Zone, Ethiopia.*

***Methods**: A cross-sectional household survey data from ongoing (cRCT) and the study was conducted from June 28 to July 28, 2013, among women aged 15–49 years who gave birth in the last 12 months (July 2012-June 2013) in rural Jimma zone. Data were collected using an interviewer-administered questionnaire. Descriptive analysis, Bi-variate logistic regression with stratification analysis was done to assess the modification effect of COVID-19 as a co-variable on other independent variables.*

***Results**: The response rate was 99.8%. The prevalence of maternal service utilization was found to be 14.3%. The proportion of mothers who had ANC4+, institutional delivery and early PNC were 57.5%, 70.7% and 22.7% respectively. Covid-19 were found to modify the effect 10 variables; the modification effect of COVID-19 varied from history still birth (7%) to) marital status. (67%. Attitude of mothers to MHSU was found to be an independent predictor of maternal health service utilization.*

***Conclusion**: Maternal Health service utilization has been drastically dropped during the time of COVID-19 (14.3%); pre-existing factors were found to be magnified with COVID-19. Noticeably, there is strong synergy between preexisting factors and some of COVID-19 related factors.*

Keywords: COVID-19, delivery, Maternal Health Care, Pandemic, Pregnancy

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I would like to forward my thanks to my study participants, Dedo, Mana and Shabe district health workers for their support during data collection

List of Abbreviations

ANC	Antenatal care
AOR	Adjusted Odds Ratio
ARDS	Acute Respiratory Distress Syndrome
BCC	Behavioral change Communication
COVID	Corona Virus Diseases
CPR	Cardio Pulmonary Resuscitation
EDHS	Ethiopia Demographic and Health Survey
EPHI	Ethiopia Public Health Institute
FMOH	Federal Ministry of Health
HSTP	Health Sector Transformation Plan
HEWs	Health Extension Workers
ICCM	Integrated Community Care Management
IEC	Information Education and Communication
MERS	Middle East Respiratory Syndrome
MHCSU	Maternal Health Care Service Utilization
MNCH	Maternal and New Born Child Health
PCR	Polymer Chain Reaction
PNC	Postnatal Care
PPE	Protective Equipment
SARS	Severe Acute Respiratory Syndrome
WHO	World Health Organizatio

CHAPTER ONE: INTRODUCTION

1.1Back ground

Maternal health refers to the health of women before, during pregnancy, at childbirth and the postpartum period and maternal health care refers to antenatal care (ANC), institutional delivery, and postnatal care (PNC) and improving the well-being of mothers, infants, and children (1).

Maternal health has become a global public health priority because maternal health care services can save the lives of millions of mothers in the reproductive age group. If nothing effective is performed to prevent maternal death, "natural" mortality is probably of the order of magnitude of 1,500/100,000 (2)**.** Despite the significant efforts made to improve the utilization of maternal health care services, maternal mortality remains unacceptably high around the world (3). Global estimates for the year 2017 indicate that there were 295000 maternal deaths; (4). 94 percent of these deaths occurred in developing countries, with Sub-Saharan Africa accounting for more than half (5). More than 90% of these deaths could have been avoided if currently available strategies, especially in relation to skilled treatment during pregnancy, childbirth, and the first few days after birth (7).

World prevalence of ANC4, institutional delivery 62% and 63.1% respectively(3) Furthermore, a variety of risk factors have been discovered to be linked to the use of maternal health care services, which are classified as socio-economic factors, organizational/institutional factors, service quality-related factors, and occurrence of pandemic diseases like COVID-19 (6). The novel corona- virus is a virus causing respiratory illness, commonly known as COVID-19 first noted in December 2019 in Wuhan, China, and has since then spread to countries in the world. The World Health Organization (WHO) has declared the virus outbreak as a global pandemic on March 11, 2020 and the first case reported in Ethiopia on March 13, 2020. The Ethiopian government has quickly adopted WHO's COVID-19 prevention preparedness and response plans (7). However, there is a lack of evidence-based information that could show and examine the best available alternative strategies during this crisis the ongoing preventive measures require a robust evidence-based generation and system approach than a reductionism approach (8).

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

The Sustainable Development Goals agenda is part of the global efforts to improve maternal by challenging countries to make efforts to reduce the global burden of maternal morbidity and mortality. It has been estimated that SDG can be achieved if coverage's of first antenatal care visit reach (ANC_1)(91%), fourth antenatal care visit (ANC_4) (78%), institutional delivery(81%), and skilled birth attendance (87%) by 2030(9). However, Ethiopia is not on the right track to attain the aforementioned goal due to various attributable factors such poor awareness of the community, poor infrastructure (10).. These all factors are magnified by the current COVID-19 pandemic. COVID-19 pandemic affects health system and health service utilization through restrictions of movement and transportation, creating fear in the community, interfering with the capacity and readiness of health facilities(11). Maternal health can be improved by giving prompt, suitable treatment to the women by qualified health practitioners. The recent coronavirus disease (COVID-19) pandemic has had a disastrous effect on the health care delivery system of people of all ages, on a global scale but pregnant women face particular challenges, which lead to maternal morbidity and mortality that can affect plan of SDG. In order to curb the COVID-19 crisis continuum of care for maternal service utilization is mandatory because it is expected to reduce the burden of maternal deaths, particularly in lower and middle-income countries, the continuum of care includes healthcare services for mothers from pre- pregnancy to delivery, postnatal (12).

Towards a positive impact on overall maternal indicators, every woman is expected to continuously receive antenatal care (ANC), skilled birth attendance at delivery and postnatal care (PNC) ,and the WHO recommends that every pregnant woman is expected to have a minimum of four ANC contacts before delivery, this is because ANC helps to identify pregnancy risks, provide appropriate care for women who might be at risk of potentially fatal conditions, provide opportunities for counseling these women and give access to health-promoting services (weight measurement, blood pressure measurement etc), and it also helps to increase subsequent use of maternal health services and (13).The Focussed Antenatal Care model recommends that visits should take place before 12 weeks, at 26 weeks, at 32 weeks, and between 36 and 38week and the WHO recommends that a woman and her baby should be assessed by health professionals within one hour of birth and again after discharge from a

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facility. First visit should be during the first 24 hours after delivery and follow-up contacts are recommended at 2-3 days, 6-7 days and 6 weeks(14)

Since 1948 Ethiopian Federal Ministry of Health has adopted various policies and strategies to maximize maternal health service uptake which intern contributes to the reduction of maternal morbidity and mortality. HSTP, SDG. Besides the many efforts, maternal mortality and morbidity is still a great public health concern in our country, particularly in our study area(15)

There is limited study on the effect of any pandemic disease on maternal health service uptake; the existing studies are limited in their out come which (ANC, Institutional delivery and PNC) not incorporated at the same time. Therefore this study will be undertaken during the initial phase of m-Health formative research Project, to inform the design and delivery of its interventions during COVID-19 crisis in Jimma zone

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1.2. Statement of the problem

The global estimates for the year 2017 indicate that there were 295 000 maternal deaths; 35% lower than in 2000 (4). Most of these deaths occur during pregnancy or within 7 days of termination of pregnancy or about 45% of postnatal maternal deaths occur within the first 24 hours and 66% occur during the first week (16). Globally, three quarters of maternal deaths are caused by postpartum bleeding, sepsis, eclampsia, obstructed labor and complications of unsafe abortions. There was an educated guess that maternal death could rise to 43% in the case of the worst scenario due to the COVID-19 pandemic (11). The vast majority of obstetric complications are in developing countries. Evidence from Bangladesh indicates the majority of maternal deaths occur between the third trimester and the end of the first week after pregnancy (17)Sub-Saharan Africa alone accounted for roughly two-thirds (196 000) of maternal deaths, while Southern Asia accounted for nearly one-fifth (58, 000) in developing countries, maternal death was 15 times higher than in developed countries (5,14).There is a substantial effect of maternal health service utilization on the improvement of the health of mothers and reduction in maternal mortality and morbidity, however, maternal healthservice utilization is at its rudimentary stage in developing countries particularly in Ethiopia. Ethiopian Demographic and Health survey 2019/2020 indicates that the proportion of mothers utilizing any of antenatal care services were 74%, at least four antenatal care visits were 41%, institutional delivery was 48% and postnatal care service utilization was 34%. And maternal mortality was very high, averaging between 412 per 100 000 live births (18).

This indicates that significant proportions of mothers were not getting the basic service which enforces them to give birth with skilled assistance where comprehensive obstetric services were not available; this could lead the mother to death if any complication arises. COVID-19 is another burden that worsens the existing problem (19). The majority of maternal deaths happen at home where they did not access emergency obstetric services; studies revealed that maternal deaths happen due to easily reversible factors such as haemorrhage (34%), abortion (4%), eclampsia or preeclampsia (19.4%), maternal sepsis (10%) and ectopic gestation (8.7%) abortion 4%. These all problems could lead to maternal death if not identified and managed early(20) .

Greater than 90% of these maternal deaths are preventable with existing interventions such as the provision of maternal health service encompassing antenatal care, facility delivery and postnatal care (16). In line with the SDG target in 2015, Ethiopia has designed an ambitious health sector transformation plan (HSTP)with intensified effort to be on track of meeting the SDG targets reducing maternal morbidity and mortality were among priority areas of intervention to achieve excellence in health service delivery strategic team despite progress was seen it was not satisfactory (15). In adition to that during COVID-19 pandemic,the rate of maternal health service utilization was affected (6).MoH's reports showed that essential health services use has started to decline, institutional delivery has significantly decreased due to Covid-19 which might increases the risk of maternal complications, death, and neonatal death (21). Although many studies have been done on maternal service utilization and its predictors in Ethiopia how those predictors work to affect maternal health service utilization during the time of COVID-19 has not been studied well. So this study will uncover maternal health care service utilization during the time of COVID-19 and beneficial to design strategies for prioritizing maternal health-care, even within a pandemic situation. The current study hypothesize that there is a significant difference in maternal health service utilization among those highly exposed to COVID-19 effect and their counterparts.Therefore, this study will answer the following questions

What is the status of maternal health service utilization during COVID-19 pandemic in rural Jimma zone? Is there modification effect between independent variables due to COVID-19?

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CHAPTER TWO: LITERATURE REVIEW

2.1 Overview of Literature

Maternal health service utilization is still at its rudimentarily stage irrespective of many international, national and local efforts to improve maternal health service utilization (12) Underutilization of maternal health care among the women of the reproductive age is one of the leading causes of maternal morbidity and mortality in developing countries including Ethiopia (22)study showed that the institutional delivery result in Bangladesh(56%) , Mozambique(26%), Nigeria (17.1%) south Africa (17%) and also suggested that the proportion of antenatal care (ANC), institutional delivery and postpartum visits were decreased due to COVID-19 pandemic(23,24).

The pooled magnitude of postnatal care utilization in sub-Saharan Africa countries was 52.48% with the highest postnatal care utilization in the Central Region of Africa (73.5%) and the low postnatal care utilization in Eastern Regions of Africa (31.7%)(14) Ethiopian demographic Health Survey of 2019 indicate that ANC 4th (43%), delivery by skilled person (48%) post natal care(33%) before COVID-19 pandemic (19).A research conducted by at rural Haramaya district, Eastern Ethiopia before COVID-19 pandemic indicate that ANC1rst (74.3%),ANC 4th(10%),69% of women visited maternal care for first time in second trimester of pregnancy and 28.7% of women were attended institutional delivery with skilled health professionals and PNC(22.6%) (25).
The research conducted at Hawasa University Demographic Surveillance System site, Southern Ethiopia before COVID-19 pandemic showed that the overall utilization of ANC(69.1%) institutional delivery(32.7%) and PNC (52.1%) (2).

The research conducted at Jimma zone rural area before COVID-19 pandemic at least one antennal care (ANC) visit, institutional delivery and postnatal care (PNC) were 93.3, 77.4 and 92.0%, respectively and Three-forth (74.2%) of the mothers started ANC lately and only 47.5% of them completed ANC$_4$+ visits(26)Research done in west Shea zone Ambo district indicated that the proportion of mothers who used ANC at least once was 89%., 64% of them delivered at health institutional and 47.2% of the mothers used early

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postnatal care(27) : research done in south west Sheoa indicated that Coverage of at least four ANC visits and SBA at delivery were 45.5 and 28.6 %, respectively(28)

2.2 Factors affecting Maternal Health Services Utilization (MHSU)

studies revealed that low utilization of maternal services utilization can be categorized into different factors, which are the epidemic factors(Ebola, COVID-19) personal factor, obstetric factor, socio- economic factors and the health facility factor ,access of health information factors (6).

2.2.1. Epidemic factor (COVID-19 factors)

On maternal care services Ebola outbreak is a perfect example of COVID-19 that shows harmful impacts that can result from an epidemic in the absence of focused responses from governments to protect the gains made in sexual and reproductive health (e.g., contraceptive use, method availability) For example, a study from Sierra Leone's Health Management Information System showed that a decreases in maternal care due to disrupted services and fear of seeking treatment during the outbreak contributed to an estimated 3,600 maternal deaths. Ebola epidemic in West Africa in 2014–2016 caused women unable to access family planning, completed fewer antenatal care visits, and gave birth at home. Some of these women stopped going to facilities due to fear of infection and increased physical and financial barriers The Ebola outbreak led to a 75% increase in maternal mortality in West Africa. This evidence suggests that COVID-19 will have a similar effect on women and girls (29).Many women preferred not to seek healthcare due to the fear of themselves being infected with the COVID-19 or transmitting it to their unborn babies. Additionally, movement restriction has made it difficult for many pregnant women to reach health care facilities. An increase in the number of home births has been reported in New York and different states of Australia Similarly, in developing countries like Bangladesh and Nepal also more women are choosing to give birth at home(30)

Even those who managed to reach health facilities have reported not receiving timely care. As a result, a considerable rise in maternal mortality globally has been estimated

over the next six months. Despite the circumstances, efforts have been made to boost maternal health in both developed and developing countries. This pandemic has highlighted the importance of health preparedness with special attention given to vulnerable people like pregnant women and newborns while planning for such events (11). Although evidence are very limited, emerging studies from low and middle income countries(LMICs) showed that COVID-19 response is impacting the availability of essential health services, especially health services for pregnant women that can be delayed or shifted to other settings (31).

The study conducted in health facilities in Wollo zone, North East Ethiopia, show that (29.3%) pregnant women had fully utilized antenatal care services during the pandemic period (55.5%) respondents missed or were late to start ANC services during the COVID-19 pandemic period (32).

The study conducted at West Shoa Zone, Central Ethiopia showed that, the prevalence of maternal health service utilization during the COVID-19 pandemic was 64.8% and distance, house hold income ,prevention measure, have significantly associated with maternal health service utilization during COVID-19 (10)Research done at Jimma zone Sarbo health center on pregnant mothers indicate that , 63.1% of the visitors had high knowledge about COVID-19 and the majority, 68.8%, felt self-efficacious to control Covid-19 simiraly 83.3% of them believed that Covid-19 pandemic is a stigmatized disease.(33)

2.2. 2.SocioDemographic and Economic factor

Socio-economic characteristics and healthcare access influenced the utilization of maternal healthcare. Compared to the lowest wealth quintile, being in the highest wealth quintile was associated with higher odds of receiving postnatal care(34). The women of rich wealth index were more likely to receive a higher number of antenatal visits(35)

A systematic review and Meta analysis was done in Ethiopia on factors affecting ANC utilization showed that educational status of mothers was significantly associated with home delivery (36). On the other hand, study conducted at Haramaya rural district

showed that Women who had formal education, Women who gave their 4th or 5th births ,Muslim religion follower were significantly associated with maternal health care service utilization (25). Husbands are illiterate, Housewife women ,women working petty trade and labor work ,Women who gave more (six and above) children were significantly associated with maternal health care service utilization during COVID-19 pandemic (36). Mother's education level time of traveling to health facilities, were factors significantly associated to institutional delivery whereas mothers age marital status, were significantly associated factors for PNC utilization(27)

2.2.3. Obstetric Factors

Multilevel analysis of data from 36 sub- Saharan countries.showed that variable that had association with non-institutional delivery was gravida mothers with a history of multigravida significantly associated with maternal health care service utilization (14). Research done in south west Sheoa zone indicated that maternal health service negatively associated with woman's age, parity and time to the health facility, but was positively associated with urban residence, wealth, knowledge of the recommended number of ANC visits,experience of a pregnancy/delivery related problem(28)

2. 2.4. Psychological Factor

Systematic review and Meta analysis conducted in Ethiopia on factors affecting utilization of maternal care showed that, husbands' partial knowledge of complications during delivery was associated with their wives utilization of ANC services. By contrast, husbands with partial knowledge of complications after delivery were 3 times more likely to report the utilization of ANC by their wives than husbands having no knowledge of complications after delivery women who had knowledge on pregnancy complication were by far utilized ANC services 33.49 times as compared to the counter parts and, mothers having plan on pregnacy significantly associated with maternal health service utilization (36).

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2.2.5. Health Facility related factor

Distance and cost barriers distance to the health center has proven to be a major deterrent in women seeking both antenatal care as well as delivery with skilled birth attendant long waiting times at health facilities, poor staff knowledge and skills, poor referral practices and poor staff interpersonal relationships. Previous studies show that pregnant women may not use maternity care services because of poor satisfaction, which emanates from concern about privacy and mothers' previous negative experiences with the health system. Mothers had concerns about their treatment at health clinic ,women feared being mistreated by midwives and birth attendants and experienced slapping, pinches and derogatory remarks and women unable to provide their own soap, blankets and baby cloths due to poverty felt humiliated (17).

WHO Standard 5: Women receive care with respect and preservation of their dignity. All women have privacy around the time of labor and childbirth, and their confidentiality is respected No woman is subjected to mistreatment, such as physical, sexual or verbal abuse, discrimination, neglect, detainment, extortion or denial of services. All women have informed choices in the services they receive and the reasons for interventions or outcomes are clearly explained (37).

2.3. Conceptual Framework

Conceptual framework is developed after review of relevant literature and adapted to my situation. The box used to separate co-variable, independent variables and the direction of arrow shows the relation between co-variable with independent, & IV with dependent (25)

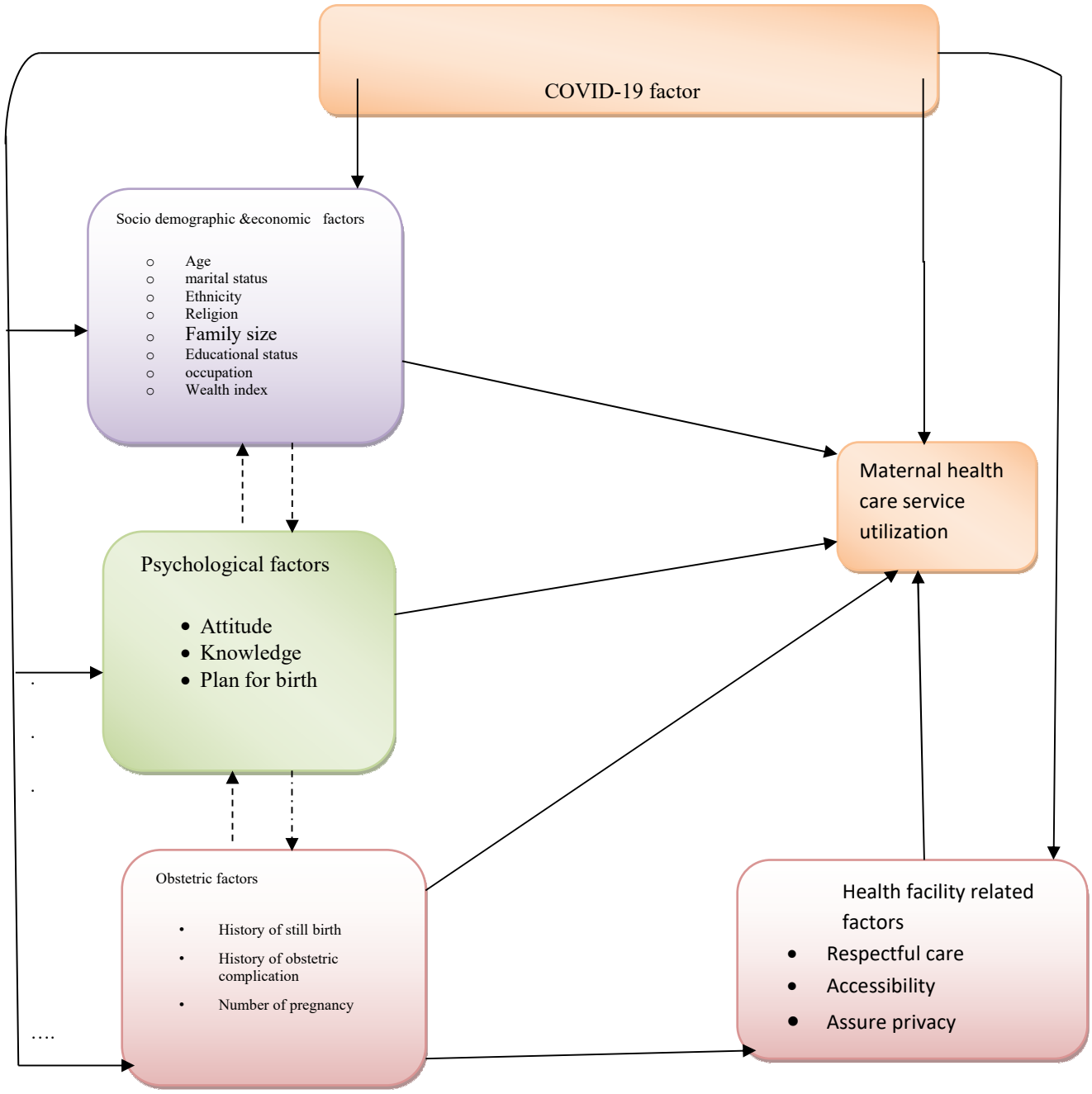

Figure 1Figure 1: Conceptual Framework for the study of Maternal Health Seeking and Service utilization during the time of COVID-19 (3, 7, 24, 26, 31, 39–41)

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2.4. Significance of the study

Understand the status of maternal health services utilization and its associatted factors that hinder services during COVID-19. Improve the health and lives of all women before, during and after pregnancy in rural areas; develop appropriate community interventions to improve utilization of maternal care services; and design of maternal health campaign services in the studied area.

The potential beneficiaries of the results of this study are the society in general and women in particular as the interventions made on maternal health care services improve the utilization of these services. Moreover, governmental and nongovernmental organizations working on maternal health care may use the results of this study as an input in their planning for improving maternal health.

As far as this study assessed the status and factors affecting utilization of rural maternal health service utilization during COVID-19., it contributes to better understanding of the factors that make women less attendance in ANC, Inst. delivery and PNC services. Similarly the study brought up information on the coverage of maternal health service utilization in the study area. The generated information was used as input in decision-making and also contributes its part on reduction of maternal mortality in Rural Jimma zone

Findings of the research can also stimulate the interest of other researchers to further

Investigate the various aspects of the problems which are not fully addressed by this research.

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CHAPTER THREE: RESEARCH OBJECTIVES

3.1. Objective

3.1.1. General objective

To assess maternal health service utilization and its associatted factors during COVID-19 in rural Jimma Zone, Oromia.

3.1.2. Specific Objectives

1. To assess the maternal health service utilization status during COVID- 19 pandemic in rural Jimma Zone.
2. To identify factors (socio demographic, obetetric, psychological, health related) affecting maternal health service utilization during COVID-19 pandemic in rural Jimma Zone.
3. To assess modification effect COVID-19 with others independent variables.

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CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study Area and Period

The study was conducted in three purposely selected districts of Jimma Zone, Oromia, Ethiopia. Jimma zone is one of the 20 administrative zones of Oromia National Regional sate Ethiopia. Jimma Town is the capital of the Jimma zone and is located at 352kms south west of Addis Ababa, the capital of Ethiopia. Jimma Zone has a total of 20 rural districts and one town administration with a total of 46 urban and 512 rural "Ganda" (smallest administrative unit in Oromia). As projected from the 2007 national population and housing census for the year 2020, the zone has a total population of about 3.2 million of which 88.7% were rural residents. The prevalence of ANC4+, institutional delivery and early post natal care of Jimma zone were 57.1%, 58.2% and 55% respectively.

For this study, three districts (Dedo, Mana, and Shabe Sombo) and two health centers per district were randomly selected considering resources available for the study. The total population of Dedo is 244,554 with less than one year children accounts7850 and reproductive-age women account 54120. Based on estimation, the total population of pregnant women was 8486. This district has one hospital, 8 health centers, and 36 health posts. Likewise, the total population of Mana is 203,979. In this district, the population of less than one-year of children, reproductive-age women, and pregnant women accounts for 6548, 45140, and 7078, respectively. Concerning health facilities, there were 7 health centers and 26 health posts. For the Shabe district, the total population was 159988, and the population of less than one-year children, reproductive-age women, and pregnant women accounts for 5146, 35405, and 5528, respectively. In this district, there were 5 health centers and 20 health posts.

The study was conducted over a period of 30 days (**June 28 to July 28, 2013**) in rural Jimma Zone

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Map of study setting and sellected PHCUs

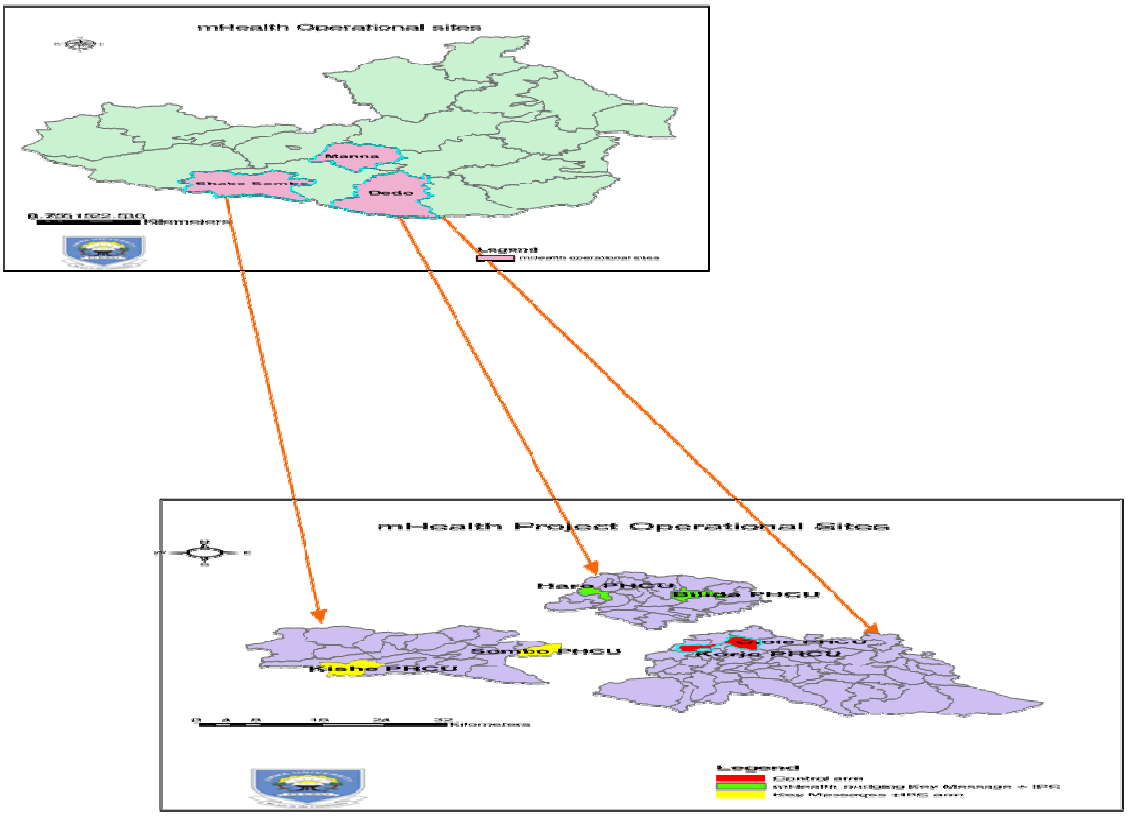

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Figure 2: Map of studying area

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4.2. Study design

A cross-sectional analysis of house hold servey data from on going cluster radamized controlled trial.

4.3. Population

4.3.1 Source Population

All women who gave birth in the last 12 months (July, 2012-June, 2013)

4.3.2 Study population

The study population was the selected actual respondents (n=sample size).

Inclusion criteria: To be included women should have lived in the study community at least for six months and gave birth while residing in the community.

4.4. Sample size and sampling technique

Sample size determination

Sample size for this study was calculated based on research done in Gurage zone(38) . First by determining the sample size for an individually randomized trial using standard methods or stastical formula; to detect a clinically important difference of 10 % between groups of intervention and control, using the proportion of institutional delivery (52.4%) among the control group (1), a two-sided test of 80% power (β) and Bonferroni correction 2.24 which is adjusted 5% of significance level (α) for multiple comparisons with 95% CI an $n = (Z\alpha/2 + Z\beta)2 * (P1(1 - P1) + P2(1 - P2))/ (P1 - P2)2$

Based on this formula, it is determined to be about 460. However, since cluster-randomized trial with repeated cross-sections going to be used, the initial sample size will be multiplied by design effect due to cluster randomization (1.22) which is calculated considering ICC (0.011), design effect due to repeated assessments (0.97), and divided by the cluster size (21) which gives 52 clusters. Then, cluster size (21), cluster no.of partcipants (52), and the number of cross-sections (2) are multiplied to give 2184 for repeated assessment. Thus, 1092 was the sample size for this formative study. Hence by considering 11.5% none response rate due to the pandemic period, the final sample size will be 1220 participants.

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

Sampling procedures

A multi-stage s sampling technique was employed. Three districts namely Manna, Shebe, and Dedo were selected from the other 18 districts in Jimma zone purposely the districts are considered to have common socio-economic, demographic characteristics, maternal and child health service coverage. Then two PHCU from each district was selected as secondary study units. Finally, all mothers who gave birth in the last 12 months(July 2012-June 2013EC) of the study period were identified by doing a census in collaboration with health extension workers as sample frame through the home-to-home visit.

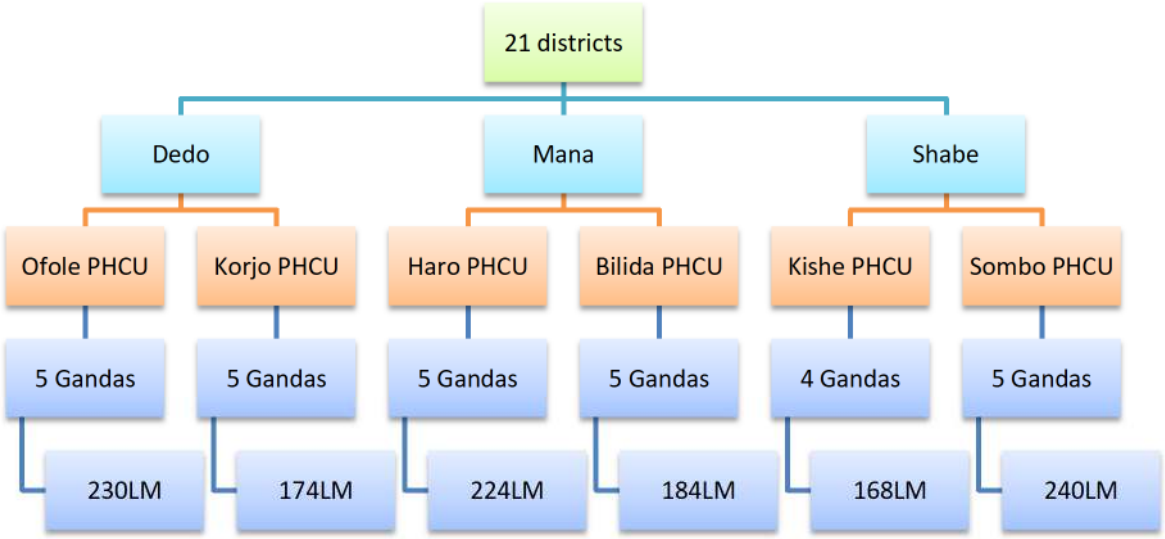

Figure 3: Sampling Procedure

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

4.6. Data Collection method

Data was collected through face-to-face interviewer-administered by twelve trained individuals with a minimum of first degree qualifications, with the assistance of local guiders. The data collectors were trained for 2 days on the purpose of the study, sampling process, ways to approach and interview respondents, and the questionnaire. Data collection tools

The data collection tool was adapted from relevant literature (2,10,19,25,33) and it consists of different sections to capture study variables comprehensively. Accordingly, the questionnaire socio-demographic characteristics, personal factors, obstetric history, COVID-19 related factors, health facility factors, and maternal health service utilization. It was translated into Afan Oromo and prested on 5% of the sample size in similar setting.(kersa district).

Study Variable

- **Dependent variable**

Maternal Health Service Use (ANC, Institutional delivery, and PNC)

Independent variable

- Socio-demographic factors such as age, marital status, religion, ethnicity, family size, educational status, occupation, wealth Index
- Obstetric history: History of still birth, history of obstetric Complication, number of pregnancies
- Personal factors: Attitude towards service, awareness/knowledge on maternal health services, plan pregnancy
- Health system-related factors: Respectful care, accessibility, assure privacy
- COVID 19 related factor: Fear of COVID-19, closed health facility, fear of being stigmatized, fear of being tested Fear of being quarantined Restriction of transport/move, alteration of Health worker's behavior, lack of knowledge about COVID-19, Disease-Related stress and anxiety, self-efficacy, risk perception, self-protective practice.

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4.7 Operational definition

Maternal Health care service utilization in this study is defined as when mothers get at least 4 ANC follow up visits; gave birth at a health facility, and early visit a health facility for PNC follow-up contact from health professionals within7 days of delivery(37)

- **ANC follow-up** is defined as when women receive four or more ANC visits before delivery(39)
- **Institutional Delivery Service use** is defined as giving birth to a child in a health center or Hospital or private facility under the overall supervision of health personnel(19)
- **PNC** service use is defined as when mothers get at least early post natal care follow-up contact from Doctors or Nurse/midwives or Health officers or Health extension workers within 7 (14)
- **Risk perception toward covid-19:** is a belief of one's risk of facing covid-19. it was measured by 5 points likert scale (from strongly disagree - strongly agree)was computed using a principal component analysis and ranked to high risk perception and low risk perception toward COVID-19 category.
- **Self-efficacy toward covid-19:** is a belief in one's capability to do the suggested response (using facemask) to avert the threat (covid-19) it was measured by 3 points likert scale (from high to low) was computed using a principal component analysis and ranked to high self efficious and low self efficaous toward COVID-19 category.
- **The comprehensive knowledge** on maternal health service utilization after normal disterbution checked by p-plot it categorized as mean and above the mean knowledgable and below the mean as not knowlegable.
- **The overall attitude to maternal health service utilization** was categorized mean and above mean as positive attitude and below the mean considerd as negative attitude and the assumption of normal distribution was checked using P-plot
- **The overall self- protecting practicing COVID-19 control and prevention protocol** score was computed using a principal component analysis and ranked to high self protecting practice and low self protecting practice toward COVID-19 category.

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

- **Distance to health facility:** it is deified as a walking time to reach nearest health facility for mothers and if a woman reported than 2hours walk (one-way walk) it is considered as access and if it was equal more than 2 hours it was considered as not access.
- **COVID-19 effect scale** – A total of 16 questions with five Likert scales were developed to assess the effect of COVID-19 on maternal Health Service utilization. To produce a composite score, the items were summed up, and if a participant scores mean and above the mean it was categorized as high effect of COVID-19 and if below the mean it was scored as low effect of COVID-19 .
- **COVID-19 self-protective practice**: A total of 11 questions with three Likert scales were used to assess respondents the self-protective practice regarding COVID-19 and comprehensive self-protective practice was computed by summing up the total score and respondents who scored below the mean value defined as having poor practice and above the mean values as good self-protective practices.
- **Wealth index:** The household wealth level was computed using a principal component analysis by considering 15 household asset properties and categorizing the household wealth index into wealth quintile which is lowest, second, middle fourth, and highest(14).

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4.8 Data Management and Analysis

Data were checked, cleaned, and entered into Epi-data manager software version 3.1 and were exported into SPSS version 25 for analysis. First descriptive analyses were done show the status of maternal health service utilization and characteristics of independent variables. Bivariate analysis were done between socio demographic factors, socio economic factors, psychological factors, obstetric factors, health related factors and maternal Health service utilization.

The overall data were stratified into highly exposed to COVID-19 effect and less exposed to COVID -19 effect after competing a mean for 16 likert scale question prepared to assess the exposure status of mothers to COVID-19, accordingly those scored below the mean were considred as less exposure to COVID-19 and those score mena and above the mean were considered as highly exposed to COVID-19. The assumption of normal distribution was checked using P-plot. Stratum specific bivariate analyses were done to assess the modification effect of COVID on independent variables.

The medifcation effect of COVID-19 were assessed by comaparing the crude odds ratio for the general set data with stratum specific odds ratio, according if crude odds ratio of general data lies between the two stratum and not closer to either of the two stratum odds ratio, it was reported as effect modifier , then stratum specific odds ratio was reported. If the crude odds ratio of general data set is not between the two stratum specific odds ratio and the difference is greater than 10% , the variable were considered as confounding variable and if the corresponding p.value is less than 0.25 it was candidate variable for multivariable logistic regression. If the crude odds ratio of general data set were similar with either of the stratum specific odds ratio and if it lies between the two stratum specific odds ratio and the difference is below 10%, the odds ratio of stratum specific were reported. Finally multivariable logistic regression was done beween candidate variable at bivariate analysis level and maternal health service utilization.

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4.9 Data Quality management

The questionnaire was evaluated by supervisors. Visited houses were marked (given number) to avoid doubling by other data collectors and to enable revisit in case of incomplete and inconsistent responses. Before the actual data collection, questionnaires were pre-tested on 5% of the sample on a similar population.Common understandings were taken about the process of data collection. A questionnaire that is prepared in English was translated in Afaan Oromo and back to English to check its consistency. Data collection was carried out by 12 trained BSc nurses from other units of the health facilities. The collected data were checked for completeness daily by the supervisor and the investigators monitored the overall quality of the data collection process.

4.10 Ethical consideration

A formal letter of permission to conduct the study was obtained from the JU research committee office Ref: No IHRPGJ/823/2020 to communicate with the zonal health office and local administrative body in the Shabe, Mana, and Dedo districts. Permission letter was obtained from Jimma Zone Health Office and the administrative body of the district to communicate with relevant bodies in the Genda. Finally, verbal consent was obtained from the respondents included in the study immediately before the interview.

4.11 .Dissemination of the findings

The final report will be submitted to the department of health behavior and society, the faculty of public health of Jimma University. Also, the study will be disseminated to the Jimma University administrations and other relevant bodies. The final result will be published national or international journal.

Chapter Five: Results

5.1 .Socio-demographic characteristics of the respondents

Socio-demographic characteristics of the study participants are presented in Table 1. From a total of 1220, 1218 study participants were responded to the questionnaire, making the response rate of this study 99.8%. The majority of respondents' age was within the range of 25–34 years. The mean family size of each household was 4.7 persons with an SD of 2.034. The majority1092 (89.7%) of the study participants were from the Oromo ethnic group and 1102 (90.5%) of the study participants were followers of the Muslim religion and 1012 (83.1%) were married. 566 (47%) of the respondents and 707(58%) of their husbands never attended formal education. 582 (47.8%) of study participants were house wife and 891 (73.2%) of the husband were farmers.

Table 1: Socio demographic factors in the study of MHSU in the context of COVID-19 in Rural Jimma Zone, 2021

Variables (N=1218)	**Category**	Number	(%)
Age of respondent	<20 yrs	88	7.2
	20-34	991	81.4
	35-49	139	11.4
	Total	1218	100
Marital Status	Married	1078	88.5
	Others	140	11.5
	Total	1218	100
Religion	Orthodox	86	7.1
	Muslim	1102	90.5
	Catholic	7	0.6
	Protestant	23	1.9
	Total	1218	100
Ethnic	Oromo	1092	89.7
	Amhara	67	5.5
	Yem	23	1.9
	Dawuro	2.6	2.1
	Kefa	10	0.8
	Total	1218	100
Family size	>or=5	644	52.9
	<5	574	47.1
	Total	1218	100
Women Education	illitrate	650	53
	Litrate	568	47
	Total	1218	100
Husband education	Ilitrate	707	58
	Litrate	511	42
	Total	1218	100
Women Occupation	Daily laborer	48	3.9

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	Gov, employer	193	15.81
	House wife	387	31.8
	Unemployed	590	48.4
	Total	1220	100
Husband occupation	Daily laborer	86	7.1
	Gov, employer	177	14.5
	Farmer	886	73
	Unemployed	19	1.3
	Merchant	50	4.1
	Total	1218	100
Wealth Index	Lowest	256	21
	Second	136	11.2
	Fourth	826	67.8
	Total	1218	100

5.2 .Maternal Health Sevice Utilization

Table 7 shows maternal health services utilization during 12 months preceding the survey. Accordingly, n (57.5%) women had four or more visit where as 8.7% of the women had one ANC visit during their last pregnancy. Similarly 8.4% and 15.7% of women had two and three visit respectively and the remaining 9.7% did not make any visit. About **34.6 %** made their first visits during the first trimester (1-3 months) of the pregnancy. But, significant number of the women (55.2%) made their first ANC visit in their second and third trimester of pregnancy which was not recommended. Four out of ten (41.7%) of the respondents utilized ANC service in the health post by Health Extension Workers and 28.5% and 17.5% of respondents were used in the Health Center and Hospital, respectively. The remining 12.5% of respondents attended at their own home and private facilities.

Those who did not make ANC visit were asked their reason for not utilizing ANC service and the main reasons were absence of sickness/ feeling of Healthiness/ (37.8%), fear of being tested for COVID -19 (10.8%), fear of being acquiring COVID-19 (5.8%), distance from home to health facilities (5.2%), poor services at health facility(8.4%) ,long waiting of service (7.2%). Others reasons were as follows; don't think it was necessary (5.2%),family didn't think it was necessary (6.8%) ,lack of transport and cost for transport (12.8%) and the rest of percent was due to don't know where to go and used home remedy.

The study finding revealed that **(70.7%) of women** delivered in a health facility while about 29.3% delivered out of health institutions in the previous one years preceding the survey The study finding indicated that 59.6% of the respondents utilized service in the

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health center,hospital, Health post and private Health facility respectively. The study finding also found that out of home deliveries 37%, 28 % and 22.7% of pregnant women deliver without assistance of health professional personnel due to no transport, Facility too far and fear of being acquiring COVID-19 respectively as the main reasons. The other reasons advanced by the respondents were 4.8 % due to husband refusal, 3.6 due to inconvenient time because of onset of lobar mid night or heavy rain and the rest 3.6 % of women were not attending health institution due to unclean clothes for themselves and for their child. These finding only 67% women visited by health workers before left health facilities and similarly after left health facility or delivered at home and visited by health workers were 24.6 % while 75.4 % had none. The study finding also found that 41%, 32.6 % and 26.3% of pregnant women not attending PNC with 7 days due to no transport, Facility too far and fear of being acquiring COVID-19 respectively as the main reasons.

Table 6a:Maternal Health Sevice Utilization

	Variables	Category	Number	Percentage
ANC	ANC Visit	No visit	119	9.7
		ANC 1-3	400	32.8
		4 and more	700	57.2
		Total	1218	100
	Time of first ANC visit	1st Trimester /1-3 months	421	34.6
		2nd Trimester /4-6 months	634	52.1
		3rd Trimester /7-9 months	44	3.1
		Total	1099	100
	Place of ANC Service Receipted	Health post	509	41.7
		Health center	346	28.4
		Hospital	213	17.4
		Private facility	31	2.55
		Home	119	9.7
		Total	1218	100
	ANC providers	Health extension	631	51.8
		Mid wife nurse and others	587	49.2
		Total	1218	100
	Reason for not Attending ANC	Absence of sickness	57	37.8
		Fear of being tested for COVID -19	12	10.8
		Fear of being acquiring COVID-19	7	5.8
		Long distance from home to facility	7	5.2
		Poor services at health facility	11	8.4
		Long waiting of service	9	7.2
		Don't think it was necessary	7	5.2
		Family didn't think it was necessary	9	6.8
		Lack and cost for transport	16	12.8
		Total	119	100
	Place of Delivery	Health institution	862	70.7
		Other place	356	29.3
		Total	1218	100

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Service Delivery	Place of Institutional delivery Service Receipt	Health center	723	59.6
		Hospital	124	10.2
		Health post	57	4.6
		Private health institution	15	1.2
		Home	294	24.1
		Others	5	0.4
		Total	1218	100

Table 6b: Maternal Health Sevice Utilization in Rural Jimma zone 2021

Variables		Category	Number	Percentage
ANC	Type of Professionals Who Assist	Midwife,other nurse,HO	760	62.4
		Relatives	257	21
		M/Doctors	112	9.2
		HEW	59	4.8
		TBA	30	2.5
		Total	1218	100
	Reason for not Utilizing Health Institution Service	No transport	132	37
		Facility to far	100	28
		Fear of being acquiring COVID-19	81	22.7
		Husband refusal	17	4.8
		Inconvenient hours	13	3.6
		Don't have clean clothes	13	3.6
		total	356	100
Post natal care	Early PNC Visit	Yes	276	22.7
		No	942	77.3
		Total	1218	100
	Place of PNC	Health center	759	62.1
		Home	190	15.5
		Health post	157	12.8
		Hospital	112	9.2
		Total	1218	100
	Who provide PNC	Midwife and other nurse	759	62.1
		Health extension workers	275	22.5
		M/Doctors	112	9.2
	Reason of non -PNC attendance	Far of distance	126	41
		Lack of transport	100	32.6
		Fear of being acquiring COVID-19	81	26.3
		Total	337	100

The current study showed that at early begging of the pandemic the mothers utilized ANC well ANC1+ (91%) but after COVID-19 reported in Ethiopia from March 13/2021 the ANC follow up decline to 57.5% due mass restriction, transport restriction and fear of

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contracting diseases lately house to house mass campaign initiation were done by 'health workers about COVID-19 and the way they prevented themselves during visiting health facility .Again the mothers started to utilized the service at their birth and first PNC which were 70.7% and 67% respectively .How ever early PNC (visit at 24hrs +2-7 days) and Maternal health service utilization(MHSU) drastically dropped due to fear of being acquiring COVID-19 for themselves and for new born babies see fig 4.

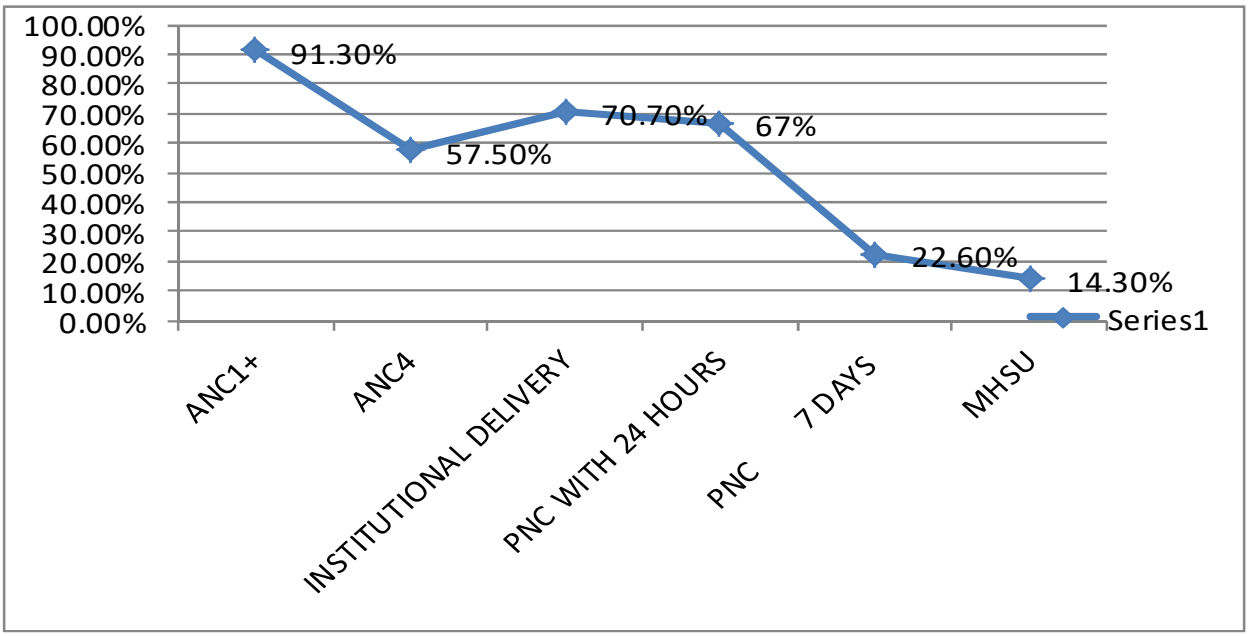

Figure 4: Prevalence of Maternal Health Service Utilization in rural Jimma Zone 2021

5.3. Obstetric conditions

The study indicated that 146(12%) of respondents had history of still birth; 160(13.3%) of respondents had history of obstetric complication and 256(21%) had high numbers of pregnancy (more than five pregnancies).

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Table 2: Obstetric factors in Rura Jimma Zone, 2012

Variables (N= 1218)	Category	Number	(%)
History of still Birth	Yes	146	12
	No	1072	88
	Total	1218	100
History of obstetric Complication	yes	160	13.1
	No	1058	86.9
	Total	1218	100
Number of pregnancy	high	256	21
	Low	962	79
	Total	1218	100

5.4. Health facility related characterstics

Table 3 shows perceived health facility characteristics. Accordingly, 1024(84.1%) of respondents perceived that they served with respect full care at health facility during their recent visits to health facility. Regarding to distance to health facility, 518(42.5%) of respondent reported that they could reach health facility with in less than two hours walk and 1016(83.5%) respondents reported that their privacy was protected during health facility visits.

Table 3: Health facility related factors in Rural Jimma zone 2021

Variables (n=1218)	**Category**	**Frequency**	**%**
Respect full care	Yes	11024	84.1
	No	194	15.9
	Total	1218	100
Accessibility	Yes	518	42.5
	No	700	57.5
	Total	1218	100
Assure privacy	Yes	1016	83.5
	No	202	16.5
	Total	1218	100

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

5.5. Psychological related variables: Knowledge and attitude

This study indicated that that 744(61.1%) of respondents had positive attitude to MHSU and 499(41%) of respondents had high knowledge of MHSU, 797(65.5%) of respondent had plan to give birth at health institution.

Table 4 psychological related factors in Rura Jimma Zone, 2021

Variables (N=1218)	Category	Number	(%)
Attitude toward service	Positive	744	61.1
	Negative	474	38.9
	Total	1218	100
Knowledge on MHCSU	knowledgable	499	41
	Not knowledgable	719	59
	Total	1218	100
Plan on pregnancy	Yes	421	35
	No	797	65
	Total	1218	100

5.6. Perceptions and concerns related to COVID-19

In this study, 759(62%) of respondents had fear of COVID-19 and 494(40.6%) complained close of health facility due to COVID-19. On the other hand, 434(35.6%) of respondents complained about transport restriction whereas 4 34(35.6) of respondents complained alteration of health workers behavior, lack of knowledge 717(58.9%); experienced diseases related stress 731(60) fear of being tested 469(38.5%); fear of being quarantined 560(46%) and self-efficacy 457(37.5%), risk perception 720(59.1%),self-protective practice 431(35.4).

Table 5:Perceptions and concerns related to COVID-19 in rural Jimma Zone 2021

Variables (N=1218)	Category	Number	(%)
Fear of COVID-19	Yes	686	56.3
	No	532	43.7
	Total	1218	100
Closed health facility	Yes	494	40.6
	No	724	59.4
	Total	1218	100
Fear of being stigmatized	Yes	540	44.3
	No	578	55.7
	Total	1218	100
Inhibit facility capacity	Yes	692	56.9
	No	526	43.1
	Total	1218	100

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

Restrictiono transport/movement	Yes	434	35.6
	No	784	64.4
	Total	1218	100
service availability	Yes	725	59.5
	No	493	40.5
	Total	1218	100
alteration of health worker behavior	Yes	344	28.2
	No	874	71.8
	Total	1218	100
lack of knowledge covid-19	Yes	717	58.9
	No	501	41.1
	Total	1218	100
Diseases realted stress and anxiety	Yes	731	60
	No	487	40
	Total	1218	100
Fear of being tested	Yes	469	38.5
	No	749	61.5
	total	1218	100
Fear of being quarantined	Yes	560	46
	No	658	54
	Total	1218	100
Fear of being identified	Yes	731	60
	No	487	40
	Total	1218	100
Family concern	Yes	469	38.5
	No	749	61.5
	Total	1218	100
Fear of acquering infection	Yes	560	46
	No	658	54
	Total	1218	100
Expenses such as transport cost and face mask	Yes	457	37
	No	761	62
	Total	1218	100
Total effect of COVID-19 on MHSU	High exposure	735	60.3
	Low exposure	483	39.7
	Total	1218	100
Felt Self efficacy	High	713	58.5
	Low	505	41.5
	Total	1218	100
Risk perception on COVID-19	High	604	49.6
	Low	614	50.4
	Total	1218	100
Self-protective practice Tcovid-19	high	763	62.7
	Low	455	37.3
	Total	1218	100

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

5.1.1. Socio-demographic/economic factors and maternal Health service utilization during COVID-19 Pandemic

Logistic regression was used to investigate whether COVID-19 moderate the effect of socio demographic factors on maternal Health service utilization.

Bivariate analysis stated that the effect of marital status (67%), family size (16%), mothers' education, 48% husband education (65%) and wealth index (44%) were modified with COVID-19. Mothers occupation (P.Value<0.001) and husband occupation were found to be a confouder variable and candidate for multivariable logistic regression model.

Among low exposed mothers to COVID-19, those married women were 60% [(COR =0.40; 95%CI (1.8-0.99),] P.Value = .01 less likely utilize maternal health service than those who were un married at p-value 0.02. whereas among high exposed to COVID-19,

those married mothers 87% [COR=0.13:95%CI (0.018-0.97)] less likely utilize maternal health than counterpart.

Among less exposed mothers to COVID-19, those who rich were 2.49 [(COR =2.49; 95%CI (1.38-4.49)] more likely utilize maternal health service than those who were poor at p-value 0.02. whereas among more exposed mothers to COVID-19, those rich were 1.39[COR=1.39:95%CI (1.14-2.07)] more likely utilize than counterpart at p-value 0.04

Among less exposed mothers to COVID-19, those who litrate were 52%less likely utilize service than those illiterate one.where as among high exposed mothers to COVID -19, those who litrate 80% less likely utilize service than those illiterate mothers.

Table 7: Socio demographic related factors among MHSU exposed to COVID-19 effect with non- exposed with effect

Variable	Cat	MHSU				MHSU among high exposure to COVID-19 (Strata 1) N=735				MHSU among low exposure to Coved 19 (Strata2) N=483			
		YES#	NO#	COR(95%	P.V	YES #	NO#	COR(95%	P.V	YES #	NO#	COR(95%	P.V
Age	15-20	29	71	0.19(0.09-0.43)	<0.01	21	43	0.19(0.08-.48)	<0.01	8	28	0.17(0.03-0.85)	0.03
	21-34	135	849	0.50(0.26-0.99)	0.04	93	487	0.5(0.24-1.1)	0.07	42	362	0.42(0.09-1.80)	0.2
	34-49	10	124	1		8	83	1		2	41	1	
Marital status	married	166	920	0.35(0.17-0.74)	0.006	115	532	0.4(0.18-0.88)	0.02	51	375	0.13(0.018-0.97)	0.04
	Others*	8	124	1		7	81			5	56	1	
Religion	Orthodox	9	77	0.82(.16-4.0)	0.8	5	43	0.72(0.75-6.7)	0.7	4	34	0.94(0.09-9.5)	0.9
	Muslim	162	940	0.55(0.13-2.37)	0.4	115	553	0.4(0.05-3.1)		47	387	0.91(0.11-7.3)	0.9
	Catholic	1	6	0.57(.04-7.4)	0.6	3	5		1	1			
	Protestant	2	21	1	0.6	1	12	1	1	1	9	1	
Family size	High	71	573	1		72	287			31	184	1	
	low	103	471	0.57(0.41-0.79)	0.01	50	328	0.61(0.4-0.9)	0.01	21	247	0.51(0.28-0.9)	0.02
Mother education	Literate	125	525	1		8	204	1		41	315	1	
	Illiterate	49	519	0.39(0.28-0.56)	<0.01	44	227	0.2(0.09-0.44)	<0.01	81	398	0.48(0.32-0.72)	<0.01
Husband educat	literate	132	575	1		44	254	1		44	254	1	
	illiterate	42	462	0.39(0.27-0.57)	<0.01	8	176	0.26(0.12-0.57)	<0.01	8	178	0.43(0.28-0.66)	0.01
Mothers occ	H/wife	5	43	1		5	25	1		5	18	1	
	Other's	32	161	0.56(0.21-1.59)	0.29	26	102	0.31(0.07-1.41)	0.13	6	59	1.64(0.37-7.20)	0.5
Husband occupies.	Farmers	9	77	1		5	45	1		4	34	1	
	Others	33	144	1.63(0.59-4.54)	0.3	27	95	0.41(0.14-1.14)	0.08	6	49	0.96(0.25-3.66)	0.9
Wealth index	poor	75	317	1		52	213	1		46	366		
	Rich	99	727	1.74(1.25-2.41)	0.01	70	400	1.395(1.14-2.07)	0.01	6	65	2,49(1.38-4.49)	0.02

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

5.2.1. Psychological related factors among MHSU exposed to COVID-19 effect with non-exposed with effect.

Bivariate analysis revealed that the effect of knowledge (15%) and planned pregnancy (7.2%) were modified with COVID-19. Mothers attitude (P.Value = 0.03) were found to be a confouder variable and candidate for multivariable logistic regression model.

Among highly exposed mothers to COVID-19, those who knowledgable to MHSU were 45% [(COR =0.55; 95%CI (0.44-0.97)] less likely utilize maternal health service than those who were not knowlegable at p-value 0.03 whereas among low exposed mothers to COVID-19 ,those who knowledgable to MHSU were 35% less likely utilize MHS than those who were not knowledgable.

From highly exposed mothers to COVID-19, those who had no plan were 44% less likely utilize maternal health service compared those who had plan. On the other hand from less exposed mothers to COVID-19, those who had no plan of pregnancy were 2% less likely utilize mothers health service than their counterparts. This idea also supported by study done in West Shoa Zone(40)

Table 8: Psychological related factors among MHSU exposed to COVID-19 effect with non exposed with effect.

Variables	Cat.	MHSU				MHSU among high exposure to COVID-19 N=735 strata 1				MHSU among low exposure to COVID-19 N=483 strata 2			
		YES(#)	NO(#)	COR(95%	P.V	YES #	NO#	COR(95%	P.V	YES #	NO(#)	COR(95%	pv
Mothers attitude to MHc	+ve	34	278	1.48(1.0-2.22)	0.04	15	107	1.791(1.00-3.18)	0.04	19	33	3.08(1.46-6.4)	0.003
	-ve	140	766	1		123	490	1		155	276	1	
Mothers knowledge MHC	knowlegable	51	421	1		40	208	1		42	378	1	
	Not knowle	121	623	0,65(0.460.92)	0.01	90	372	0.551(0.36-0.85)	0.007	218	213	0.65(0.44_0.97)	0.03
planned pregnacy	yes	42	378	1		261	107	1		19	33	1	0.06
	no	132	665	0.56(0.39-0.81)	0.02	123	490	0.56(0.36-0.85)	0.04	155	276	0.98(0.53-1.77)	0.9

5.3.1 Obstetric factors with Maternal Health Service Utilization

Logistic regression was used to investigate whether COVID-19 moderate the effect of obstetric factors on maternal Health service utilization.

COVID-19 was found to modify the effect; number of pregnancy (55%), history of obstetric complication (10%) and history of stll birth (7%).

Among low exposed mothers to COVID-19, those who had low numbers of pregnancy were 4.05 [COR =4.05; 95% CI,(1.42-11.5) times more likely utilize maternal health service than those who had high numbers of pregnancy at p-value <0.001 Among high exposed mothers to COVID-19, who had low numbers of pregnancy were 1.78 [COR= 1.78; 95% CI (1.01-3.16)] times more likely utilize maternal health service utilization compared to those who had high numbers of pregnancy at p-value 0.05.

Table 9:Obstetric related factors among MHSU exposed to COVID-19 effect with none exposed

		MHSU				MHSU among High expoure to COVID-19 N=735 strata 1				MHSU among low exposure to COVID-19 N=483 strata 2			
Variables	**Cat.**	**YES#**	**NO#**	**COR(95%**	**P.V**	**YES(#)**	**NO(#)**	**COR(95%**	**P.V**	**YES (#)**	**NO(#)**	**COR(95%**	**pv**
History of still Birth	Yes	**18**	**128**	**1.2(0.7-2.0)**	0.4	**12**	**65**	**1.4(0.57-2.08)**	**0.5**	**6**	**63**	**1.31(0.53-3.2)**	**6**
	No	156	916	**1**		**110**	**548**			**46**	**368**	**1**	**46**
History of obst.Comp.	Yes	29	131	**0.73(0.46-1.1)**	0.13	**18**	**60**	**0.627(0.36-1.49)**	**0.3**	**11**	**71**	**0.73(0.35-1.12)**	**0.10**
	No	145	913	**1**		**104**	**553**			**41**	**360**	**1**	
Number of pregnancy	Low	19	232	**2.3(1.4-3.8)**	0.01	**15**	**122**	**1.78(1.01-3.16)**	**0.05**	**4**	**110**	**4.05(1.42-11.50)**	**<0.01**
	High	154	808	**1**		**107**	**489**			**47**	**319**	**1**	

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

5.4.1 Health facility related factors with COVID-19

From Bvarate anaysis of health facility related factors among MHSU exposed to COVID 19 effect with non exposed, moderation effect of crude odd ratio accessablity was confunder and candidate at p- value <0.001 how ever respect full care at pv (0.4) and assure privacy pv (0.8) were confunders but not candidted for multivariable analysis

Table 10: Health facility related factors among MHSU exposed to COVID-19 with nonexposed.

Variable	Categori	MHSU N=1218				MHSU among High exposure to COVID-19 N=735 strata 1				MHSU among low exposure to COVID-N=483 strata 2			
		YES#	NO#	COR(95%	P.V	YES #	NO #	COR(95%	P.V	YES #	NO#	COR(95%	pv
Respect full care	yes	**31**	**160**	**1**		**95**	**509**	**1**		**48**	**372**	**1**	
	no	143	881	**0.75(0.53-1.08)**	0.12	**27**	**101**	**0.65(0.43-1.13)**		**4**	**99**	**0.52(0.18-1.51**	**0.2**
Accessiblity	yes	147	897	**1.8(1.29-2.6)**	<0.001	**28**	**248**	**2.25(1.43-3.53)**	**<0.001**	**4**	**99**	**3.6(1.26-10.16)**	**0.01**
	no	27	147	1		94	367	1		48	332		
Assure privacy	yes	146	870	**1**		**100**	**22**			**46**	**359**	**1**	
	no	28	173	**0.95(0.62-1.49)**	0.8	**511**	**101**	**0.89(0.54-1.49**	**0.6**	**6**	**72**	**0.65(0.26-1.58)**	**0.3**

5.5. Multivariable analysis with maternal health service utilization

main occupation of mother p-value (<0.001), Main occupation of husband at p-value (<0.001), mothers attitude category at p- value (0.01)access to health facility p-value <0.001 were candidate for multivariable logestic regression how ever, only mothers attitude to MHSU[AOR=1.59:95%CI(1.06-2.41)]at p-value 0.02 mothers occupations [AOR=0.69:95%CI(0.49-0.99)],husband occupation[AOR=1.85:95%CI(1.23-1.75)] at p-value 0.04 were significantly associated with Maternal Health Service Utilization (MHSU) .mothers who had positive attitude to maternal health service utilization 1.59 times more likely utlize service than those who had negative attitude .

Table 11 Factors with maternal health service utilization in rural Jimma 2021

Variables	Category	MHSU		COR(95%C.I)	AOR(95%C.I)	p-value
		yes(#)	No(#)			
Mothers occupations	House wife	66	321	0.73(0.59-4.54)	0.69(0.49-0.99)	0.047
	*Others	103	680	1	1	
Husband occupation	Furmer	119	770	.1.51(1.03-2.19)	1.85(1.23-1.75)	0.047
	*Others	46	197	1	1	
Mothers Attitude MHC	**Positive**	34	278	1.48(1.0-2.22)	1.59(1.06-2.41)	0.02
	negative	**140**	**766**	**1**		

Chapter Six: Discussion

A cross-sectional analysis of house hold servey data from an on going cluster radamized controlled trial (CRCT) was conducted to assess utilization, predictors and modification effects of COVID-19 on maternal health services utilization in rural Jimma Zone.

The current study revealed that the prevalence of ANC4+ was found to be 57.5%. Three studies have large result when compared to the current study; forest belt of Ghana (68.5%), Nepal (70%), Ondo state Nigeria (98%) and southern Ethipia(69.1%) (2,19,34)

The other three studies done before COVID 19 pandemic had less perevalence of ANC4+ utilization compared to the current study; Jimma Zone (47.5%), rural Haramaya(10%), and Ethiopia at national level(43%)(35,41,42).

The current studies showed that the prevalence of Institutional delivery were 70.7%. Four studies done after COVID-19 pandemic had less prevalence of institutional delivery compared to current study : Bangladish (56%),Mozabique(26%),Nigeria(17.1%),south Africa(17%) and other five study done before COVID-19 pandemic had less prevalence of institutional delivery Ethipia at national level(48%),rural Haramaya(28.7%),Southern Ethiopia(32.7%). west Shoa(64%),south west Shoa(45.5%) and one study done before COVID-19 had grater perevalence zone Jimma (77.2%) of institutional delivery compare to current study(2,19,24,43).

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

This study indicated that the prevalence of Early PNC 22.7%. Four study done before COVID-19 higher prevalence of early PNC than current study : sub-Saharan Africa (52.48%), centeral region of Africa(73.5%),Eastern region of Africa(31.7%),Ethiopia at national level (33%)(25,34,35,42,44,45).

The overall maternal health service utilization was found to be 14.3%. The result was drastically dropped due to missing services to provide for mothers because of COVID-19 effect. Despit of COVID-19 mostly health care workers count the services separetly as ANC, delivery and PNC even before COVID-19 pandemic which was leads to service missing.

The reasons for researcher analyzed as composite variable to assess complte service maternal if mothers visited health facility during pregnancy at early and at least four times, gave birth at health facility under supervision skilled health professionals and if mothers visited health facility with 24 hours once and again once up to seven days(37) .Unless unlikely to minimize maternal morbidity and mortality by reporting only institutional delivery or ANC4+ or only early PNC women got maternal health service utilization. Each service contribute for reduction of maternal morbidity and mortality early ANC to control miscarage of pregnancy and induced hypertension (PIH)(46).Institutional delivery prevent all delivery complication(22) and early PNC prevent post portum hemorrhage and neonatal sepsis (16)This study showed that maternal health service utilization 13.2% means despite of of 70.7% mothers gave birth at health facility 56.4% of them had missed either recommended ANC visit or early post natal care there fore only having institutional delivery or antenatal care follow up or early post natal care not garanted for reduction of maternal morbidity and mortality rather than complete service . This idea also supported by WHO 2016 (16)

The possible explanations of paradox of prevalence in maternal health service utilzation could be attributed to; differences in sociocultural status of mothers and health policy and health care system in the countries as well emerging of pandemic diseases.

This analysis done based on effect modification concept (47) which means if crude lies between strata 1 (low exposure to COVID-19)and stratum2 high exposure to COVID-19)then it likely that the variable equation is acting as effective modifier but if lies out of the two strata since it is confinder it was reported by adjusted odd ratio by adjusting with other variables based on this assumption from table table 7

Among less exposed mothers to COVID-19, those who married were 60% [(COR =0.40; 95%CI (1.8-0.99)] less likely utilize maternal health service than those who were un married at p-value 0.02. where as among high exposed to COVID-19, those married mothers 87% [COR=0.13:95%CI (0.018-0.97)] less likely utilize maternal health than counterpart at p-value 0.01.

This might be due to lack autonomous among married mothers to decided on their maternal health then the conditions worse due to fear of being acquiring covid-19 and state of emergency for prevention COVID-19 pandemic .The idea also supported by research done at west shoa zone during COVID-19 pandemic stated that those mothers request permission from therir husband less likely utilized the services(10)

Among less exposed mothers to COVID-19, those who rich were 2.49 [(COR =2.49; 95%CI (1.38-4.49)] more likely utilize maternal health service than those who were poor at p-value 0.02. where as among high exposed mothers to COVID-19, those rich were 1.39[COR=1.39:95%CI (1.14-2.07)] more likely utilize than counter part at p-value 0.04

The possible reason might be mothers' those economically independent did not rely on other people to decide to utilize maternal health services and the conditions aggravated due to COVID-19 pandemic. Other studies also argue that although household income may be high, women were more likely to utilize maternal healthcare when they have personal control over finances and therefore the interaction between household wealth and autonomy produces higher healthcare utilization. The idea also supported by research done in Nepal,Forest Belt of Gahana,West Shoa zone(10,35,48).

Among highly exposed mothers to COVID-19,those who had high family size 49% less likely utilized services when compare to those low family size and

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

Among mothers who had low exposure to COVID-19, those who had high family size 39% less likely utilized services when compare to those low family size.this might be having high family size leds to stress and conflicts between families due to economical crisis during pandemic and the condition distort maternal health service utlization this idea supported by research done China,2014 (49).

Among mothers who had high exposure of COVID-19, those who illitrate 74% less likely utilized service when compared to that litrate mothers. Where as among mothers who had low exposure of COVID-19, those who illitrate 52% less likely utilized the service than litrate mothers.This might be due to education is key for understanding the important of service utlization and way to prevent COVID-19 the idea also supported by research in forest belt of Gahana(34)

Among mothers who had positive attitude 1.59 times more likely utilized the service when compared to that of mothers who had negative attitude [AOR=1.59:95%CI (1.06-2.41)].

Among less exposed mothers to COVID-19, those who had low numbers of pregnancy were 4.05 [COR =4.05; 95% CI,(1.42-11.5) times more likely utilize maternal health service than those who had high numbers of pregnancy at p-value <0.001 Among high exposed mothers to COVID-19, who had low numbers of pregnancy were 1.78 [COR= 1.78; 95% CI (1.01-3.16)] times more likely utilize maternal health service utilization compared to those who had high numbers of pregnancy at p-value 0.05.

This might be due to as number of pregnancy increased mothers experienced to their last pregnancy when fear of being acquiring added to pre existing factores then they ignored to visit health facility instade of that they used home remedy which leads to maternal health complication This idea consistent with research done in Nepal(50)

6.1 Limitations

The study is a bit exposed to recall bias since mother who gave birth in the last twelve month were included in the survey. There was also possibility of a social desirability bias.

Chapter Seven: Conclusion and Recommendation

7.1 Conclusion

The findings of this study have drawn the following conclusion and fowareded recommendations that would improve maternal health service utilization (MHSU). A logistical regression model was used to determine status of maternal health service utilization during the time of COVID-19 and picture the association between determinant factors and maternal Health service utilization. The model predicted that out of 17 factors 10 factors had modification effect on MHSU due to COVID-19 pandemic and 2 factors were positively associated with maternal health service utilization with out modification effect. The modification effect of COVID-19 varied from (7%) history still birth to (67%) marital status. There fore there is paradox on the prevalence of maternal health service utlization in the continuum of care due to changing modification effect of COVID-19.

At the beginning of pandemic maternal health service utilization drastically dropped and after while of state of emergency released, closed facilities opened ,no restriction of movements implying to that home to home initiative campaign was done by health workers which leads to high prevalence institutional delivery .How ever the institutional delivery was high the prevalence of maternal health service as whole component drastically very low(14.3%)

The findings of this study are expected to play a great role in planning and formulating possible strategies for improving maternal health service utilization with short and long term points of view. In order to bring sustainable outcomes on MHSU during COVID-19, the health sector as the main agent should increase rural community awareness of prevention of COVID-19 increasing awareness of mothers by providing an intensive health education using mass media with local language and changing mothers negative attitude to positive attitude towards maternal health service utilization. It is also expected to develop and implement effective interventions to improve the quality of maternal health care services at the primary health care unit by strengthening the institutional capacity of the health facility. So, the health sector needs to adopt a multi-sect oral approach for meaningful results in improving MHSU in rural areas. Discussion with the sector of education, Communication, Culture and Tourism, transport should be made on issues relating to rural health in general and maternal health in particular for designing integrated intervention mechanisms. The respective sectors involved improving transport

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service, creating awareness on MHCSU, disseminating information that increases the knowledge of the community, about early ANC, institutional delivery and early PNC. Such a conclusion could be useful in formulating and implementing effective interventions to improve the utilization of maternal health care services in rural areas. Therefore, it could be used as the basis for a number of recommendations.

7.2. Recommendation

Based on the above findings of the study the following recommendations were made: -

Minster of health

- ❖ It is important to add maternal health service utilization as key performance indicator as one package service on HMIS monthly report
- ❖ Develop maternal health mitigation guidelines during any kinds of pandemic diseases.

At the wareda administrative and health office level

- ✧ Increasing provision of education and income generation for mothers since it is a fundamental pillar for understanding maternal health service utilizatio
- ✧ Improving transport service priority which considered pregnant and lactating mothers during any time or diseases pandemic.

At Health Institution level

- ❖ Reducing COVID-19 exposure of mothers by creating awareness on its prevention.
- ❖ Annual plan, monthly plan, and report for MHSU as package.
- ❖ Encourage or promote mothers to have positive attitude to MHSU and plan on pregnancy.
- ❖ Strengthen women health conference and it is important to inform them whether any pregnancy is at risk and absence of illness is not grant for health of mothers and fetus so each component o maternal health service utilization is mandatory for each women

At community based

- ✧ The religious leader and community leaders should be supported health workers' in all activities were done on MHSU.

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- ✧ The mothers should served all maternal health service utilization based on health workers advise and use COVID-19 protective measure such as wearing mask,keeping distance and washing hands with soap.

Annexes:

Annex I: References

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Annex II: [Information Sheet and Consent form for mothers]

Maternal Health Service Utlization in Rural Jimma Zone during the time of COVID-19 crisis. A Cluster randomized controlled trial.

Dear sir /madam, good morning/afternoon?

Thank you for talking with me. My name is _____. I am working with Jimma University, Ethiopia. To help you decide whether you want to take part in a new study being done in your area or not I am going to read out information on the study. You can ask questions at any time. When all your questions have been answered you can decide if you want to take part or not.

What is the study about?

This is a research study is trying to understand the experiences of women when they are pregnant, giving birth and after delivery to look for ways to make this safer for women and their babies.

Why have you been invited?

You have been invited to take part in the study because you were pregnant during the last year. As this research study is about understanding women's experiences with pregnancy, child birth and the period after delivery you have been invited to share your experiences and thoughts.

Who is doing this research study and where is it being done?

This study is being done by researchers from Jimma University. The study is being done in 3 districts in Jimma zone and your district is one of them.

What you will have to do if you decide to take part in the study?

If you agree to take part in the study, a member of the research team will interview. S/he will ask you questions about your experiences when you were pregnant, during child birth and after delivery. S/he will also ask you questions about your experiences and opinions about health facilities. The interview will take about one hour.

The interview will try and speak to you at a time that is convenient to me. Even if you decide to take part in the study, you do not have to answer any questions you do not wish to.

What are the risks of taking part in this study?

Taking part will mean that you will be sharing information about you and your experiences during your last pregnancy and delivery. You may feel a little tired during the interview but we will always try and arrange interviews at times convenient for you. Your personal information such as your name or where you live will not be shared with anyone. We will assign a number to your questionnaire so that no one can identify you.

What are the benefits of taking part in this study?

Taking part in the study will give you a chance to reflect on your experiences and share your thoughts on health care given to mothers and their children. Information collected through this study will be added to what is already known and may result in improvements in the future.

Who may see, use or share the information collected during the study?

Organizations that may look at and/or copy your research records for analysis include: Jimma University.

A code/number will be made for this information called a study ID and any identifying information such as your name, where you live will be kept separately. If the results of this study are published in a journal or used for teaching, no personal information will be included. All study documents will be stored in a locked cabinet in the study office and only study staff will have access to it. Any information collected electronically/using a computer will be secured at universities with a password (special lock) and destroyed 5 years after the results have been published (shared without your personal information).

What are my rights as a research participant?

It is completely your decision to take part in the study or not. Taking part is completely voluntary/your choice. If you decide not to take part there is no punishment/penalty. You may also decide to take part but not answer questions that you do not feel comfortable with. That is OK.

Who can I contact if I have questions about the study?

If you have any questions about the study, you may contact the head researcher directly or I can help you do that.

If you have questions about your rights as a research participant you can contact or I can help you contact the Ethics Board at Jimma University:

Dr. Million Tesfaye

Head of the Institutional Review Board for the Health Sciences College at Jimma University, Telephone: +251-917-063744, E-mail: mtesfaye1@gmail.com

Statement of Consent

I, _____ *(Name of interviewer),* confirm that I have read out the consent information to the potential participant, answered all her/his questions.

Tick as appropriate

□ She **agrees to take part** in the study being conducted by _____ at Jimma University,

□ She **does not agree to take part** in the study by _____ at Jimma University

□ She **agrees** to allow use of photographs for presentation or teaching purposes in which s/he may appear

□ She **does not agree** to allow use of photographs for presentation or teaching purposes in which s/he may appear

Signature: _____Date: _____

Annex III English Version questionnaire

Part I. Identification Information			
S.no		Response	Skip to
101	Interview date	□□ /□□ /□□□□	
102	Mothers ID	H □□□□	
103	District	□ Mana □ Sh.Sombo □ Dedo	
104	Name of PHCU	_____	
105	Name of Health post /Kebele	_____	
106	Name of Gare		

Part II: Socio demographic characteristics			
201	Mothers first name:	Mothers Last Name:	
202	Age in completed years	□ Years	
203	Residence	1□ Rural 2□ Urban	
204	Which ethnic group do you belong to?	1□ Oromo 3□ Yem 2□ Amhara 4□ Keffa 5□ Dawuro 88□ Other (specify)____	
205	What is your religion?	1□ orthodox 2□ musilim 3□ Catholic 4□ Protestant 88□ Other (specify)___	
206	What is your marital status?	1□ Not married 2□ Married 3□ Divorced 4□ Separated 5□ Widowed 88□ Other (specify)	
207	What is the highest education level you attended?	1□ No formal education 2□ No formal education but read and write 3□ Grade 1-8 5□ Grade 9-12 6□ College and above	
208	Highest level of education your husband has completed	1□ No formal education 2□ No formal education but read and write 4□ Grade 1-8 5□ Grade 9-12 6□ College and above 7□ Not Applicable	
209	What is your main occupation?	1□ Daily labourer 2□ Government employee 3□ NGO 4□ Farmer 5□ House wife 6□ Un employed 7□ Merchant	
210	What is the main occupation of your husband?	1□ Daily labourer 2□ Government employee 3□ NGO 4□ Farmer	

		[5]□ House wife [6]□ Un employed [7]□ Merchant	
211	Family size	□ □	
212	Socio-Economic status (Wealth income questions) Complete the availability of the following through observation and incase if observation is not possible ask the participants.	Yes No [1]□ Piped water source? [1]□ 2 □ [2]□ Pour flush latrine piped to sewer system? [1]□ 2 □ [3]□ Electricity? [1]□ 2 □ [4]□ Own home? [1]□ [2]□ [5]□ Is the floor of your home cement? [1]□ [2]□ [6]□ Separated room for sleeping? [1]□ [2]□ [7]□ Separate room for cooking? [1]□ [2]□ [8]□ Electric mad? [1]□ [2]□ [9]□ Radio? [1]□ [2]□ [10]□ Television? [1]□ [2]□ [11]□ Mobile phone [1]□ [2]□ [12]□ landline phone? [1]□ [2]□ [13]□ refrigerator? [1]□ [2]□ [14]□ Vehicle (Car)? [1]□ [2]□ [15]□ Live stock? [1]□ [2]□	

Part III: Pregnancy and maternal health service Utilization			
301	How many times have you get pregnant in your live?	----------	
302	Have you ever given birth to a baby who was born dead	[1]□ Yes [2]□ No	To 304 if 2
303	How many times it happen ?	……..	
304	Have you ever had a pregnancy that did not end in a live birth? For example, miscarriage, abortion	[1]□ Yes [2]□ No	To 306 if 2
305	How many miscarriages, abortions, and stillbirths have you had?	…….	
306	During your last pregnancy, was the born alive, born dead or did you have abortion or miscarriage?	[1]□ Born alive [2]□ Born dead [3]□ Miscarriage [4]□ Abortion	To 401if 2, 3 and 4
307	What is the name of the child?	(CHILD NAME)	
308	Sex of (CHILD NAME)	[1]□ Male [2]□ Female	
309	Date of birth (child name)	DD/MM/YYYY	
310	Is (CHILD NAME) still alive?	[1]□ Yes [2]□ No	To 401if 1
311	How many months old was (CHILD NAME) when (he/she) died? RECORD DAYS IF LESS THAN 1 MONTH	----------Months	
312	Was the nearest of your pregnancy planned?	[1]□ Yes [2]□ No	
Part IV: Antenatal Care (ANC)			
401	Did you see anyone for Antenatal care while you were pregnant with (CHILD NAME)?	[1]□ Yes [2]□ No	TO 417if 2
402	Whom did you see?	[3]□ Health professionals (doctor/ nurse /midwife/ health officer) [2]□ Health extension worker [88]□ Others (specify)_____	
403	Where did you mainly receive antenatal care during your pregnancy with (CHILD NAME)?	[1]□ Health post [2]□ Health center [3]□ Hospital [4]□ Private facility [5]□ Home [88]□ Other /Specify	

		_____	
404	How many weeks pregnant were you when you first received antenatal care for your pregnancy (CHILD NAME?	□ □	
405	How many times total did you receive antenatal care during your pregnancy with (CHILD NAME)?	□ □	
406	During your antenatal check, were you counseled on the following (	Delivery preparations.....yes No Breastfeeding.....1 2 Child spacing.....1 2 Immunization.....1 2 Danger signs of pregnancy.1 2 Maternal Nutrition.....1 2	
407	During your pregnancy with (CHILD NAME) did you receive an injection in the arm to prevent the baby from getting tetanus that is convulsions after birth?	[1]□ Yes [2]□ No	To 409 if 2
408	While pregnant with (NAME), how many times did you receive such an injection?	[1]□ One [2]□ Two [3]□ Three or More	
409	When you were pregnant with (CHILD NAME), How often were slept under ITN during your pregnancy with (CHILD NAME)?	[1]□ Always [2]□ Sometimes [3]□ Rarely 4□ Never	
410	When you were pregnant with (CHILD NAME), did you receive or buy any iron tablets?	[1]□ Yes [2]□ No	To 414 if 2
412	During your pregnancy with (CHILD NAME), for how many days did you take the iron tablets? For how long did you use?	.....days	
413	Where did you get the iron tablets?	1□ Health post 2□ Public Health center 3□ Public Hospital [4]□ Private Health center [5]□ private Hospital 6□ Private Pharmacy 88□ Other /Specify	
414	If no, Why? Record all mentioned		

415	As part of your ANC during this pregnancy, did a healthcare provider do any of the following at least once: Measure your blood pressure? Take a urine sample? Take a blood sample? Listen to the baby's heartbeat? Ask you if you had vaginal bleeding?	Yes No Measure your blood pressure? 1 2 Take a urine sample? 1 2 Take a blood sample? 1 2 Listen to the baby's heartbeat? 1 2 Ask if you had vaginal bleeding? 1 2	
416	At any time before the pregnancy with (CHILD NAME), did you receive any tetanus injections?	[1]☐ Yes [2]☐ No	
417	What was the reason for not getting antenatal care during your last pregnancy? Record all mentioned.	[1]☐ Didn't think it was necessary [2]☐ Partner/family didn't think it was necessary [3]☐ Facility too far [4]☐ No transport [5]☐ No childcare [6]☐ Too expensive [7]☐ Poor quality services [8]☐ Used home remedy [9]☐ Didn't know where to go [10]☐ Had no time [11]☐ Long wait times [12]☐ Inconvenient hours [88]☐ Other (Specify)_____	
418	For the following questions please rate the extent to which COVID-19 influenced you in visiting health facility for pregnancy follow up.	Extremely / Very / Moderately / Slightly / Not at all	
	Fear of COVID-19		
	Closed health facility for Covid 19 service		

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

	Fear of being stigmatized						
	Inhibit facility capacity						
	Restriction of transport/movement						
	service availability						
	alteration of health worker behavior						
	lack of knowledge about covid-19						
	Disease related stress and anxiety						
	Poor quality of service						
	Fear of being tested for COVID-19						
	Fear of being quarantined						
	Fear of being identified						
	Family concern						
	Fear of acquiring infection						
	Expenses such as transportation cost, facemask						
	Part V. Intrapartum Care						
501	Where did you give birth to (CHILD NAME)?	[1]☐ Health post [2]☐ Health center [3]☐ Hospital [4]☐ Private facility [5]☐ Home [88]☐ Other /Specify __					5 to 505
502	Who assisted with the delivery of (CHILD NAME)?	[1]☐ Doctor [2]☐ Nurse/midwife [3]☐ TBA [4]☐ HEW [5]☐ Others/ specify? _____					
503	How was (CHILD NAME) delivered?	[1]☐ Caesarean section [2]☐ Forceps/vacuum extraction [3]☐ Vaginal delivery [88]☐ Others/ specify? _____					
504	How long after (CHILD NAME) was delivered did you stay in health facility? IF LESS THAN ONE DAY, RECORD HOURS;	……Hours ……Days					

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

	IF LESS THAN ONE WEEK, RECORD DAYS.						
505	What were the reasons why you did not give birth at a health facility?	1☐ Didn't think it was necessary 2☐ Partner/family didn't think it was necessary 3☐ Facility too far 4☐ No transport 5☐ No childcare 6☐ Too expensive 7☐ Poor quality services 8☐ Used home remedy 9☐ Didn't know where to go 10☐ Had no time 11☐ Long wait times 12☐ Inconvenient hours 13☐ Fear of COVID-19					
506	For the following questions please rate the extent to which COVID-19 influenced you in visiting health facility for delivery	Extremely	Very	Moderately	Slightly	Not at all	
	Fear of COVID-19						
	Closed health facility for Covid 19 service						
	Fear of being stigmatized						
	Inhibit facility capacity						
	Restriction of transport/movement						
	service availability						
	alteration of health worker behavior						
	lack of knowledge about covid-19						
	Disease related stress and anxiety						
	Poor quality of service						
	Fear of being tested for COVID-19						

	Fear of being quarantined						
	Fear of being identified						
	Family concern						
	Fear of acquiring infection						
	Expenses such as transportation cost, facemask						
507	Did you plan to give birth at this place?	[1]☐ Yes [2]☐ No					To 509 if 2
508	Prior to the delivery of (CHILD NAME) did you or your family make any arrangements for the birth of the (CHILD NAME)?	[1]☐ Yes [2]☐ No					To 510 if 2
509	What did you do?	[1]☐ Save money for delivery [2]☐ Organize transport [3]☐ Identify skilled delivery attendant [4]☐ Identify blood donor? 88☐ Others/ specify? _____					
510	If no, why?						
511	During pregnancy, labour/birth, did you experience any serious health problems related to birth?	[1]☐ Yes [2]☐ No					To 513 if 2
512	What problems did you experience?	[1]☐ Severe bleeding [2]☐ Severe headache [3]☐ Blurred vision [4]☐ Convulsions [5]☐ High fever [6]☐ Loss of consciousness [7]☐ Labour>12 hours [8]☐ Placenta not delivered 30min after delivery [88]☐ Other(Specify)_____					
513	If you had one of the complications, did you seek care at health facility	[1]☐ Yes [2]☐ No					
514	If No why?						
515	How long after birth was (CHILD NAME) put on the bare skin your chest?	……. Immediately ……. Hours ……..Days					

	IF LESS THAN 1 HOUR, RECORD '00' HOURS; IF LESS THAN 24 HOURS, RECORD HOURS; OTHERWISE, RECORD DAYS.	…….Never	
516	When (CHILD NAME) was born, was (CHILD NAME) very large, larger than average, average, smaller than average, or very small?	[1]☐ Very large [2]☐ Larger than average [3]☐ Average [4]☐ Smaller than average [5]☐ Very small	
517	Was (CHILD NAME) weighed at birth?	[1]☐ Yes [2]☐ No	519 if 2
518	How much did (CHILD NAME) weigh?	KG from Card 1. _____ KG from recall 2. _____	
519	Did health care provider at health facility treat you with respect all the time, some of the time, or not at all?	All of the time Some of the time Not at all	

Part VI. Postnatal Care			
601	Before you left the facility, did anyone check on your health?	[1]☐ Yes [2]☐ No	To 603if 2
602	How long after delivery did the first check take place?	……Hours ……Days	
603	Before (CHILD NAME) left the facility, did anyone check on (CHILD NAME'S) health? for example, someone examining, checking the cord, or talking to you about how to care for (CHILD NAME)	[1]☐ Yes [2]☐ No	To 605 if 2
604	How long after delivery was (CHILD NAME)'s health first checked? IF LESS THAN ONE DAY, RECORD HOURS; IF LESS THAN ONE WEEK, RECORD DAYS.	……Hours ……Days	
605	After you left health facility/gave birth at home, did anyone check on your health, for example someone examining you or asking you questions about your health?	[1]☐ Yes [2]☐ No	To 608 if 2
606	How long after delivery did that check take place?	……Hours	

		……Days	
607	Where did the check take place?	[1]□ Health post [2]□ Health center [3]□ Hospital [4]□ Private facility [5]□ Home [88]□ Other /Specify _____	
608	After (CHILD NAME) left health facility/born at home, Did anyone check on (CHILD NAME)'s health?	[1]□ Yes [2]□ No	To 611 if 2
609	How long after the birth of (NAME)did that first check take place?	……Hours ……Days	
610	Where did this checkup take place?	[1]□ Health post [2]□ Health center [3]□ Hospital [4]□ Private facility [5]□ Home [88]□ Other /Specify _____	
611	During the first 3 days after (CHILD NAME)'s birth, did any health care provider do the following: Examine the cord? Measure (CHILD NAME)'s temperature? Tell you how to recognize if baby needs immediate medical attention?	Yes No a) Cord . . . . . 1 2 b) Temperature . ..... 1 2 c) medical attention ..... 1 2 d) Talk About Breastfeeding ..... 1 2 e) OBSERVE BREASTFEEDING ...1 2	
612	During the first 3 days after (CHILD NAME)'s birth, did any health care provider do the following to you: Measure your blod pressure? Discuss vaginal bleeding with you? Discuss family planning with you?	Yes No a) Blood Pressure . . . . . 1 2 B) Bleeding . . . . . 1 2 C) Family Planning 1 2	
613	How many times have you been checked for care after you gave birth to (CHILD NAME)?	……. Times	
614	During your postpartum check, were you counseled on the following: (2)	Yes No [1]□ Maternal Danger Signs ..... .1 □ 2 □	

		2☐ Newborn Danger Signs..... 1☐ 2☐ 3☐ Keeping the Newborn Warm. 1☐ 2☐ 4☐ Exclusive Breast Feeding..... 1☐ 2☐ 5☐ Child Immunization..... ... 1☐ 2☐ 88☐ Others (specify) _____	
615	How long after birth did you first put (CHILD NAME) to the breast?	……Hours ……Days ……Never	
616	Have you fed (CHILD NAME) the 1 st Breast milk?	1☐ Yes 2☐ No	
617	In the first 2 days after delivery, was (CHILD NAME) given anything other than breast milk to eat or drink – anything at all like water, infant formula, or other	1☐ Yes 2☐ No	
618	Are you still breastfeeding (CHILD NAME)?	1☐ Yes 2☐ No	
619	When did you bath (CHILD NAME) after birth?	1☐ Immediately after birth 2☐ Within six hours of birth 3☐ After 24 hours 88☐ Others/ specify _____	
620	Have you given complementary food to (CHILD NAME)?	1☐ Yes 2☐ No	To 622 if 2
621	When your child was started complementary feeding	1☐ < six months 2☐ At six months 4☐ > six months	

622	For the following questions please rate the extent to which COVID-19 influenced you in visiting health facility for postnatal care follow up .	Extremely	Very	Moderately	Slightly	Not at all	
	Fear of COVID-19						
	Closed health facility for Covid 19 service						
	Fear of being stigmatized						
	Inhibit facility capacity						
	Restriction of transport/movement						
	service availability						
	alteration of health worker behavior						
	lack of knowledge about covid-19						

	Disease related stress and anxiety						
	Poor quality of service						
	Fear of being tested for COVID-19						
	Fear of being quarantined						
	Fear of being identified						
	Family concern						
	Fear of acquiring infection						
	Expenses such as transportation cost, facemask						

Part IX. Knowledge toward maternal health service utilization		
901	A woman needs to have at least 4 ANC visit?	[1]☐ True [2]☐ False
902	ANC help to understand danger signs during pregnancy?	[1]☐ Yes [2]☐ No
903	Women cannot get micronutrient sup. during ANC visit?	[1]☐ Yes [2]☐ No
904	Treatment for hypertension is provided during ANC visit?	[1]☐ True [2]☐ False
905	Immunization against tetanus provided during ANC visit?	[1]☐ Yes [2]☐ No
906	Can you mention health problems related to pregnancy?	1. Vaginal bleeding [1]☐ Yes [2]☐ No 2. Severe headache [1]☐ Yes [2]☐ No 3. Hypertension [1]☐ Yes [2]☐ No 4. Convulsion [1]☐ Yes [2]☐ No 5. Persistent vomiting [1]☐ Yes [2]☐ No 6. Swollen hands/face [1]☐ Yes [2]☐ No 88. Other(specify)_____
907	Woman could die due to the mentioned problems?	[1]☐ Yes [2]☐ No

908	If yes to Q 404,canyoumention health problem related to labor and delivery? (Don't read the lists)	1. Severe vaginal bleeding [1]Yes [2]No 2. Hypertension [1]Yes [2]No 3. Prolonged labor(>12hours) [1]Yes [2]No 4.Placenta not delivered 30 minutes [1]Yes [2]No
909	Woman could die due to the mentioned problems?	[1]□ Yes [2]□ No
910	Can you mention health problem that can happen during 1st week after delivery? (Don't read the lists)	1. Severe vaginal bleeding [1]Yes [2]No 2. Hypertension [1]Yes [2]No 3. Fit [1]Yes [2] No 4. Swollen hands/face [1]Yes [2]No 5. High fever [1] Yes [2]No 6. Offensive vaginal discharge [1]Yes [2]No 7. Other(specify)_____
911	Woman could die due to the mentioned problems? (ask for every mentioned problem)	[1]□ Yes [2]□ No
912	Can you mention the advantages of having a skilled attendant at delivery? (Don't read the lists)	Prevention of delivery complic. [1]Yes [2]No 2. Better care for newborn [1]Yes [2] No 3. To get health information [1]Yes [2] No 88. Other(specify)_____

Part XI. Attitude toward Maternal health service Utilization

	Attitude statement	S/disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	S/ agree (5)
1101	I believe planning ahead of time whereto give birth to my baby is important.	□	□	□	□	□
1102	I feel that every pregnant woman need a skilled attendant during delivery.	□	□	□	□	□
1103	Few women feel that being attended by male health	□	□	□	□	□

	personnel during delivery is unethical and shame.					
1104	According to the feeling of some pregnant women itis very shameful to deliver on delivery bed in labor ward	□	□	□	□	□
1105	I do not go to health facility for delivery, mainly because it's the expense.	□	□	□	□	□
1106	I do not go to health facility for delivery because health personnel do not treat me respectfully.	□	□	□	□	□
1107	I believe ANC can prevent complication in pregnancy.	□	□	□	□	□
1108	Regular medication provided during ANC can promote optimal growth of unborn child	□	□	□	□	□
1109	I use ANC because it helps me to prepare for delivery.	□	□	□	□	□
1110	I attend all ANC visit as it helps me get immunization against tetanus.	□	□	□	□	□

Part XIII. Maternal Health Service utilization related factors			
1301	How long does it take in minutes to go from your home to the nearest healthcare facility?	……Minutes	
1302	How do you travel to this healthcare facility from your home?	[1]□ Ambulance 2□ Public Transport 3□ Motorcycle 4□ Animal-Drawn Cart 5□ Bicycle 6□ Walking	To 1305 if 6
1303	Did you pay for the transportation?	[1]□ Yes [2]□ No	To 1305 if 2
1304	How did you see the amount you paid for the transportation?	[1]□ Too expensive [2]□ Fair [3]□ Cheap	

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1305	Are you member of community-based health insurance?	[1]□ Yes [2]□ No	
1306	Did you pay for the services you received from health institution?	[1]□ Yes [2]□ No	
1307	If yes, how do you see the amount You paid for the service?	[1]□ Too expensive [2]□ Fair [3]□ Cheap	
1308	What was the average amount of time that you waited to see health workers to get maternal and child health services?	_____minutes	
1309	Were the health workers respectful?	[1]□ Yes [2]□ No	
1310	Were there measures taken to assure your privacy during the procedures?	[1]□ Yes [2] □ No	

Part XIV. Mothers' knowledge toward COVID 19			
1401	What is your main source of information about COVID-19 disease	1.Health workers 2.Health extension workers 3.Community leaders 4.Television 5.Written educational materials such as poster 6.Radio 7.Friends/peers 88. Others_____	
1402	Please would you mention the main clinical symptoms of COVID-19 (more than one answer is possible)	1Fever 2.Fatigue 3.Dry cough 4.Muscle pain 5.Sore throat 6.Diarrhea 7.Difficult breathing	

Maternal Health service utilization(MHSU) in this reaserch is antenatal visit 4 + institutional delivery +early PNC

		8.Body Weakness 88.Others	
1403	How Corona virus spreads from infected person to uninfected person? (multiple responses is possible)	1.Through respiratory droplets 2.when cough, sneeze, speak, sing or breathe he 3.Direct contactwithcontaminated hands, fomite, surfaces, etc) 4.Transmit by air (airborne) 5.Transmit if there is a close contact between people 6.I don't know 88. Other (specify)_____	
1404	Which of the followings conditions are possible route for the transmission of the corona virus?	1.Crowded area 2.inadequately ventilated spaces 3.Hand shaking 4.Kissing for greetings 5.Exchange or sharing materials 6.Sharing food or drinking 7.Sharing tables/chairs 8.Sharing toilet 9.Touching our eyes without 10.having cleaned their hands first 11.Touching our nose without having cleaned their hands first 12.Touching mouths without having cleaned their hands first.	

1405	Among persons with COVID-19, only those who are elderly develop severe cases	[1]☐ Yes [2]☐ No	
1406	Among persons with COVID-19, only those who have chronic illnesses develop severe cases	[1]☐ Yes [2]☐ No	
1407	Currently there is effective curative treatment for COVID-19	[1]☐ Yes [2]☐ No	
1408	Early symptomatic and supportive treatment can help people infected with COVID-19 to recover from the infection	[1]☐ Yes [2]☐ No	
1409	Persons with COVID-19 cannot infect the virus to others when a fever is not present.	[1]☐ Yes [2]☐ No	
1410	Would you mention the ways to prevent COVID 19 (encircle all that mentioned)	1.Not touching the eye, nose by unwashed hands 2.Proper hand washing hand with soap and water 3.Avoid going to crowded places 4.Using face mask 5.Do not shake hands for greetings 6.Maintain physical distancing	
1410	People who have contact with someone infected with the COVID-19 virus should be immediately isolated in a proper place.	[1]☐ Yes [2]☐ No	
1411	Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus	[1]☐ Yes [2]☐ No	
1412	Eating or contacting wild animals would result in the infection by the COVID-19 virus.	[1]☐ Yes [2]☐ No	
Part XV. Mothers Risk Perception towards COVID-19			

		Strongly agree	Agree	No opinion	Disagree	Strongly disagree	
1501	I believe that COVID-19 infection is severe disease?						
1502	I think that COVID-19 is a dangerous disease?						
1503	I believe getting COVID-19 infection is a serious disease?						
1504	I believe that COVID-19 has serious consequences on my life?						
1505	I believe I will have the chance of dying from it If I u get infected with the coronavirus						
1506	I believe that COVID-19 is extremely harmful disease to my family						
1507	I think that COVID-19 is severe disease for young people like me?						
1508	I think I will get COVID-19 infection at community?						
1509	I think I am at risk for getting COVID-19 because I am visiting health facility to get services						
1510	I think it is possible that I will get COVID-19 infection while at health facility?						
1511	I think it is less likely to acquire COVID-19 as I am young?						

Part XVI: Self-protective practices				
	During the last 12 months , how often did you usually have practiced the following practices to protect yourself from the corona virus infections	Indicate your level of agreement by making "X" under category		
		Always	Sometimes	Never
1601	Not touch your face, eyes, nose and mouth	☐	☐	☐

1602	Shared cups, eating utensils, food or drinks with others.	☐	☐	☐
1603	Maintained physical distancing of at least 2 meter	☐	☐	☐
1604	Used facemasks in transportation	☐	☐	☐
1605	Avoided going to crowded places in community such as market, gatherings	☐	☐	☐
1606	Used face masks in health facility/in community	☐	☐	☐
1607	Avoided touching eyes, nose and mouth before I washed my hands	☐	☐	☐
1608	Wash your hands frequently with soap	☐	☐	☐
1609	Avoided shaking hands for greetings	☐	☐	☐
1610	Covered your cough using the bend of your elbow or a tissue	☐	☐	☐
1611	Carefully disposing tissue disposable items in waste disposal facility	☐	☐	☐

	Part XVII: Self-efficacy			
	For the following questions, please indicate your level confidence	High	Moderate	Low
1701	How much you are confident to washing hands frequently with soap and water or using alcohol-based hand rub kills the virus that causes COVID-19	☐	☐	☐
1702	How much you are confident maintaining social distancing can prevent infection with coronavirus?	☐	☐	☐
1703	How much you are confident avoiding touching eyes, nose and mouth prevent infection with coronavirus?	☐	☐	☐
1704	How much you are confident to Covering your cough/sneezing using the bend of your elbow or a tissue prevent spread of coronavirus?	☐	☐	☐
1705	How much you are confident to seek care for fever, cough and difficulty breathing, seeking medical care early help to manage COVID-19 ?	☐	☐	☐
1706	How much you are confident to you have the resource (water, soup) to wash your y hands frequently with water and soup to prevent myself me from COVID-19.	☐	☐	☐
1707	I can maintain at least 2 meter distance between myself and anyone to prevent infection with coronavirus	☐	☐	☐

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1708	How much you are confident that you can always use facemask while goo public gathering places	☐	☐	☐

Annex VI: Afaan Oromo Version mothers conscent

Maxxansa 1: Gaafii afaan oromoon Haadholii kenninsa tajaajila fayyaa gaafachuuf qophaa'e.

Bu'aa Qabeessummaa Mobaayilaa fi Tekinoolojiin Keenninsa tajaajila fayyaa itti fuufinsa qabu keennuu irratti Baadiyaa Godina Jimmaa yroo weerara dhukkuba Koronaa.. A Cluster randomized controlled trial.

(Odeeffannoo fi waliigaltee Haadha waliin Taasiifame]

Aadde /Obboleetti akkam Buulte/Oolte?

Naa waliin dubbachuu keef guddaa galatoomi . Maqaan koo _____. Kan ani hojechaa jiruu Universitii Jimmaa waliin yommuu ta'u,Gaheen qorannaa kana keessatti qabdu guddaa dhaYommuun kana jeedhuu waantoota siif hin gallee illee yeroo barbaadetti naagaafachuu ni dandeessa yoo barbaadde imoo yeroo barbaadeetti fedhii keetti dhiisuu illee ni dandeessa qorannoo kana keessatti dirqaama hin qaabdu jechuu kooti.

Qorannoon kun mali irratti Xiyyeeffata?

Qorannoon kun kan qorachuudhaaf deemu haala keenninsa tajaajila fayyaa Hadhoolii yeroo ulfaa,dahumsaa fi dahumsaa booda haala muxannoo fi mudannoo jiru irratti xiyyeefachuun ni qoorata.

Maaliif qorannoo kana keessatti qooda akka fuudhattu kantaasiifameef?

Sabaaba qorannoo kana keessatti qooda akka fudhattuuf kan afferamteef waggaa darbee keessa ulfaa waan turteef yeroo dhukkuba koronaa keessatti mudannoo fi

muxannoo kee haalaan kan nuuf ibsiitu yoo ta'e qorannoo gaggeeffamuu gummacha guddaa waan qabuufii dha.

Qorannoon kun eenyuun hojjetama,eessatti hojjetama?

Qorannoon kun qorattoota jimmaa universitii irraa dhufaniin kan gaggeeffamu yommuu ta'u bakki qorannoon kun itti gaggeeffamu baadiyyaa Godina Jimmaa Aanaa Maannaa,AanaaDedoo fi Aanaa Shabeetti dha.

Yoo qorannoo kana keessatti hirmaachuuf murteessite gaheen sii irraa eegamu maali?

Yoo irratti hirmaachuuf murteessite karaa namoota qorannoo kana gaggeessanii gaaaffii gafatamtuu irratti yeroo ulfa irraa kaasee hanga dahumsa boodatti muxannoo fi mudannoo naanno san irratti qabdu akkaata gaafii gaafatamteen ibsita jechuu dha.Yeroo gaaffii kana gaafatamtuus bakka fi yeroo siif mijateetti kan gaafatamtu ta'a.

Qorannoo kana keessatti dirqamni sirra jiru maali?

Gahee fi dirqamnni ati qorannoo kana keessatti qabdu moxanno fi muudannoo yeroo ulaa irraa hanga dahumsa booda jiru qaama sii gaafatuuf odeeffannoo haala gaariin keennuu dha.Kuni moo tarii yeroo kee xiqqo kan fudaatuu fi dadhabbiin xiqqoo sitti dhagahamuu danda'a..

Bu'aan qabeessummaan qorannoo kanaa maali?

Qorannoo kana keessatti yommuu qooda fudhaattu carraa muxanno ykn mudannoo ulfa irraa eegalee hanga dahuumsa boodatti yeroo dhukkuba koronaa jiru akkasumaas haala da'imma kee waliin jiru haalan ibsachuu ni dandeessa yaada sana irra dhaabbachuun haala keenninsa tajaajilaa irratti wantoonni fayya'aan jirachuu ni danda'u jechuu dha.

Yeroo qorannoon gaggeeffamu kana keessatti odeffannoo keennamuu kan funaanuu kan walitti qabuu fi kan dabarsuu eenyu?

Odeeffannoo funaanamu kana kan walitti qabuu fi hikoo akka argatuu kan taasiisu Jimmaa Universitii dha.tokko tokko hadholii gaafatamaaniif lakkofsi addaa ni

laatamaaf.Bu'aan qorannoos journaala irratti akka maxxanfamu ta'ee tajaajila baruu fi barsiisuuf ni oola.Ragaan kun samsamee kopiitera keessatti akka ta'uu gochuu qaamni dhimmi isaa ilallatu qofaan akka itti fayyadaman ni taasifama. Odeeffannowaan walitti qabamaan erga jornaalii irratti maxxanfamee booda ykn waggaa shanii booda akka dhabamsiifamu ni taasiifama.

Mirgi **ani akka hirmaata tokkotti qorannoo kana irratti qabu maali?**

Qorannoo kana irratti hirmaachuu fi hirmaachuu dhiisuuf mirga guutuu qabda.waan qorannoo kana irratti hirmaachuu dhiisteef adabbin tokko sii irra gahuu hin jiru haata'utii garuu yoo irratti hirmaate muxannoo fi mudannoon yeroo dhukkuba koronaa keessatti sii muudate tarkaafi gara fuulduraaf bu'aa guddaa qaba.

Yoon qorannoo kana keessatti wanti gaaffii natty ta'u jiraate eenyuun kan anii quunnamu?

Yoo qorannoo kana keessatti waanti gaaffii sitti ta'uu jiraate dursaa qoannoo kanaa kan ta'aan gaafachuu ni dandeessa kanaafi imoo ani haala siif mijeessuu naan danda'a.

Dr. Demisew Amenu (Principal Investigator)

Yoo yeroo qorannoo kana keessatti waa'ee mirga keef waanti gaafatu yoo jiraate haala siif mijeessee Ethics Board at Jimma University:kan ta'aan **Dr. Million Tesfaye gaafachuu ni dandeessa**

Head of the Institutional Review Board for the Health Sciences College at Jimma University, Telephone: +251-917-063744, E-mail: mtesfaye1@gmail.com

Hima waliigaltee

I, _____ *Maqaa nama gaafatuur),* waliigaltee armaan olii haalan erga dubbiseefii booda mormii tokko malee kan irratti waliigalle ta'uu keenya mallattoo koon naan mirkaneessa.

Iddoo barbachisaa ta'etti mallattoo''√'' kaa'i

□ Qorannoo Jimma universtiin gaggeeffamu irratti isheen mamii tokko malee waliigaltee jirti.

□ Qorannoo Jimmaa Universitiin gaggeeffamuu irratti isheen walii hin galle

□ Suura yeroo qorannoo kanaatti barbaachiisuu fudhatamuu akka danda'uu waliigaltee jirti

□ Suura yeroo qorannoo kanaa barbachiisaan fudhachuudhaaf isheen irratti walii hin galle

Annex 4 .Afaan Oromo Version mothers Questionar

101	Guyyaa afi-gaafiin itti gaggeefame	□ □ / □ □ / □ □ □ □ G G / J J / BBBB
102	Lakkoofsa addaa abbaa warraaf kenname	H □ □ □ □
103	Aanaa	□ Mana □ Sh.Sombo □ Dedo
104	Maqaa PHCU	_____
105	Maqaa keella fayyaa /Gandaa	_____
106	Maqaa Garee	

Kutaa 2ffaa: Socio demograafii namoota ragaan irraa fuunaanamuu

201	Maqaa haadhaa:	Maqaa abbaa haadhaa mucaa
202	Uummurii	□ waggaan
203	Bakka jireenyaa	□ Badiyyaa □ Magaala
204	Gosni qomoo kee kami?	[1]□ Oromoo [3]□ Yemi [2]□ Amharaa [4]□ Keffaa [5]□ Dawuro [88]□ kan biroo____

205	Amantii kee maali?	[1]□ Ortoodoksii [3] □ kaatolikii [2]□ Musliima [4]□ Protestaantii [88]□ kan biro_____
206	Haala Gaayilaa ilaalchisee	[1]¡ Kan hin heerumne [2]¡ kan heerumte [3]¡ kan hiikte [4]¡kan abbaa manaa irraa addaa baate [5]¡kan abbaan manaa jalaa du'ee [88]¡ Kan biro ibsi_____
207	Sadarkaa barumsaa irra jirtu?	[1]□ Barumsa iddilee hin barane [2]□ Barumsa iddillee hin baraanne garuu baressuu fi dubbisu danda'a [3]□ Kutaa 1-4 [4]□ Kutaa 5-8 [5]□ Kutaa 9-12 [6]□ Kollejjii fi isaa oli
208	Sadarkaa barumsaa abbaan mana kee irra jiru?	[1]□ Barumsa iddilee hin barane [2]□ Barumsa iddillee hin baraanne garuu baressuu fi dubbisu danda'a [3]□ Kutaa 1-4 [4]□ Kutaa 5-8 [5]□ Kutaa 9-12 [6]□ Kollejjii fi isaa oli
209	Gaheen hojii kee inni guddaan maali?	[1]□ Hojii guyyaa [2]□ Hojjettu mootumaa [3]□ NGO [4]□ Barataa [5]□ Qonnaan Bulaa [6]□ Haadha manaa [7]□ Kan hin qacaramne[8]□ Daldaltuu [9]□ kan biro ibsi_____

210	Gaheen hojii abbaa mana kee inni guddaan maali?	[1] Hojii guyyaa [2]□ Hojjetaa mootumaa [3]□ NGO [4]□ Barataa [5]□ Qonnan Bulaa [6]□ Kan hin qacaramne7□ Daldalaa [8]□ kan biro ibsi_____
211	Baayina maatii kee meeqa?	□ □
212	Haali qabeenya horattanii maalfakkaata?	**Eeyyee Lakki** [1]¡Bishaan uujummoo irraa? [1]¡ [2]¡ [2]¡Mana fincaanii sadarkaa isaa eeggate bishaaniin kan qulqulleeffamu? [1]¡ [2]¡ [3]¡Ibsa electric fayyaadamu? [1]¡ [2]¡ [4]¡mana offii qabduu? [1]¡ [2]¡ [5]¡Mana keessa lishoon ta'eeraa? [1]¡ [2]¡ [6]¡manni ciisaa adda bahee jiraa? [1]¡ [2]¡ [7]¡Mana nyaanni itti qopha'u jira? [1]¡ [2]¡ [8]¡Lakkooftu ibsa? [1]¡ [2]¡ [9]¡Radiyyoo? [1]¡ [2]¡ [10]¡Televisionii? [1]¡ [2]¡ [11]¡Moobaayila [1]¡ [2]¡ [12]¡Bilbila Manaa? [1]¡ [2]¡ [13]¡refrigeratora? [1]¡ [2]¡ [14]¡Konkolaataa ? [1]¡ [2]¡

		[15]¡Horii gaafaa?	[1]¡ [2]¡

Kutaa 3ffaa: Dubartii Ulfaa fi tajaajila Hadhooleef keennamu ilaalchisee

Lakk	Gaafii	Deebii	Kan irra darbamu
301	Hanga yoonaatti si'a meeqa ulfoofteetta?	----------	
302	Da'imman du'aa kan deessettu qabdaa?	1,Eeyyee 2.Lakki	Yoo 2 ta'e gara 304
303	meeqa?	.....	
304	Kana dura ulfaa sii harkaa bahee ykn dhalatee du'e qabda?.	1,Eeyyee 2,Lakki	Lakk.2 ta'ee 306
305	Waan akkasii si'aa meeqa sii mudate ture?	.....	
306	Ulfa kee isaa yeroo dhiyyoo kanatti waan akkamii sii muudate?	1,Mucaa fayyaa dhalaate 2,Mucaa du'aa dhalaate 3,Ana irraa bahee 4,osoo yeroon hin geenye uulfi bahuu	yoo lakk.2,3 fi 4 ta ' e gara lakk 313
307	Maqaan mucaa eenyu?	(Maqaa)	
308	Saala mucaa	Dhiira 2. Dubara	
309	Guyyaa itti dhaalate	guy/ji'a/Waga	
310	Hanga ammaa lubbuun jira?	1.Eeyye 2.lakkii	Yoo 1 ta'e 314
311	Yeroo sii harkaa duute ji'a meeqa turte?	Ji'a_____	
312	Du'aatiif sababaa kan ta'ee maali ture?	Ibsi	

Kutaa 4ffaa Hordooffii Dahumsa duraa

Hordoffii dahumsa duraa			
401	Yeroo ulfaa keetti deemtee ilaalamteetta?	1.Eeyyee 2.Lakki	Yoo 2 ta'e 420
402	Eenyu sii ilaale?	Ogeessa Fayyaa Hojjettuu ekisteeshin fayyaa Kan biro ibsi_____	
403	Hordoffii dahumsa duraa eessatti ilaalamaa jirta?	[1]☐ mana [2]☐ keella fayyaa [3]☐ Bufata Fayyaa [4]☐ Hospitala [5]☐ kilinkii dhuunfa [6]☐ kan biro ibsi _____	
404	Yeroo jalqaba ilaalamte ulfi kee ji ' a meeqa ture?	☐ ☐ [98]☐ Hin yadadhu	
405	Yeroo ulfa kee isaa duraa walumaagala marsaa meeqa ilaalmte ture?	☐ ☐ [98]☐ Hin yaadadhu	
406	Yeroo hordoffii dahumsa duraa waantoota kana irratti gorsa fudhatee turtee 1,Eeyyee2,Lakkii	Qophii dahumsaa.....1 2 Harma hoosiisuu..1 ☐ 2 ☐ Da'imman wal irraa fageessuu1 2 Talaallii.....1 ☐ 2 ☐ Mallattoo hamaa yeroo ulfaa 1 2	

		Nyaata haahaa 1 2	
407	Yeroo hordoffii dahumsa duraa taasiisaa turte talaallii tetaness ittisuu fudhatee jirta?	1,Eeyyee 2,Lakki 8, Hin yaadadhu	Yoo 2 fi 8 gara 409
408	Marsaa meeqaaf fudhaatte?	1,kko 2.ma 3,dii fi isaa oli 4,hin beeku	
409	Yeroo ulfa turte saphaana siree jala ciisaa turte?	1,Eeyyee 2 Lakki 8,Hin yaadadhuu	Yoo 2 fi 8 ta ' e gara 411
410	Yeroo sanatti haala kaamiin saphaana siree jaala ciisaa turte?		
411	Yoo lakki ta'ee maalii		
412	Yeroo ulfa turteetti kiniinii iron folate jedhamuu fudhattee turtee?	1.Eeyyee 2,lakki 8,hin yaadadhu	Yoo 2 ta'e gara 415
413	Yoo fudhateetta ta ' ee guyyaa meeqaf fudhaate?	Guyyaa_____	
414	Kinina Ironii sanaa eessa fudhaatta?	1□ Kellaa Fayya 2□ Buufata Fayyaa 3□ Hospitala 4□ Kilinika dhuunfa 5□ Hospitala dhuunfa	

		6□ Pharmacy dhuunfa 7□ kan biro ibsi	
415	Yoo lakki ta'ee maaliif		
416	Yeroo hordoofi dahumsa duraa waantoota arman gadii siif rawwatamaniiru?	eeyye laki hin beku Dhiiba dhiigaa safaru 1 2 3 Fincaan sakatta'uu 1 2 3 Dhiiga sakatta'uu 1 2 3 Dhahanna onnee mucaa 1 2 3 Dhignii karaa gadameesa 1 2 3	
417	Osoo hin ulfa ' iin talalli teetanesii fudhachaa turte?	1,Eyyee 2,Lakki 8,Hin beeku	Yoo deebiin 2fi 8 gara 420
418	Osoo hin ulfa'iin dura talallii tetaneesii marsaa meeqa fuudhate?	Yeroo_____ 8.hin beeku	Yoo lakk 8 ta'e 420
419	Erga talaalli tetanesii fudhatee waggaa meeqa?	..... Wagga_____	

420	Sababbin hordoffii ulfaa hin hordofneef maali?	[7]☐ tajaajilli keennamu qulqullina waan hin qaneef [8]☐ mana keesatti waan fayyadamuuf [9]☐ Eessa akkan deemu waan hin beekneef [10]☐ Yroo waan hi qabneef [11]☐ Yeroo dheera waan naa teesisaniif [12]☐ yeroo mijataa waan hin qabneef [12]☐ Sodaa dhukkuba koronaa [12] ☐ tajaajilli dhabbilee fayyaa sababaa koronaa waan cuufameef [99]☐ Hin beeku [88]☐ kan biro ibsi_____				
421	Hordoffii dahumsa duraa taasiisuu keessatti dhiibban dhukkubni koronaa sii rra geessiise akkamiin ibsiita?	**baayyee baayyee**	**Baayyee**	**Jiddugaleessa**	**Xiiqqo**	**Homaa**
	A, Sodaan Dhukkuba koronaa					
	B,Sababaa dhukkuba koronaa Tajajilli fayyaa cuufamuu					
	C,Sodaa yoo dhukkubni koronaa yoo ana irratti mul'aate namoonni naqoliifatu jeedhu					
	D,Humna dhabbile fayyaa oli ta'u					
	E,Dhorkinsa Geejibaa ykn gatii dabaluu geejibaa					
	F,Tajaajilli jiraachuu					
	G,Amallii ogeessota sababaa dhukkuba koronaan jijjiramuu					
	H,Waa ' ee dhukkuba koronaa irratti					

	beekumsa dhabuu					
	I,Dhiphinaa fi sodaa dhukkuba koronaa					

Kutaa 5ffaa: Tajaajila yeroo Dahumsaa ilaalchisee

KUTAA 6. KUNUUNSA DA'UMSA BOODAA			
601	Deessanii booda dhaabbata fayyaatii bahuu keessaniin dura namni haala fayyaa keessan ilaale jiraa?	1 Eeyyee 2 Lakki	Yoo 2 ta'e gara 603 ce'i
602	Deessee booda yeroo duraaf sa'aatii meeqa gidduutti ilaalamte? Guyyaa 1 gadi yoo ta'e sa'aatii galmeessi; Torbee gadi yoo ta'e immoo guyyaa galmeessi.	Sa'aatii ..... booda guyyaa ..... booda	
603	Daa'imni keessan (MAQAA DAA'IMAA) dhaabbata fayyaatii bahuu isaa/isheen dura haala fayyaa isaa ogeessi ilaale jiraa? Fakkeenyaaf, Kan haala isaa/ishee qorate, Handhuura ilaaluu ykn haala kunuunsa (MAQAA DAA'IMAA) kan si haasofsiise	1 Eeyyee 2 Lakki	Yoo 2 ta'e gara 605tti cehi
604	Deessanii booda yeroo duraaf sa'aatii meeqatti daa'imni keessan (MAQAA DAA'IMAA) ilaalame/te?	Sa'aatii ..... booda Guyyaa ..... booda	
605	Dahuun erga dhaabbata fayyaatii baatanii ykn Manatti deessanii booda ogeessi haala fayyummaa keessanii ilaale jiraa? Fakkeenyaaf, qorannoo siniif taasisuu ykn gaaffilee haala fayyaa keessanii sin gaafachuu.	1 Eeyyee 2 Lakki	Yoo 2ta'e gara 608tti cehi

606	Deessanii booda sa'aatii hangamii gidduutti ilaalamtan?	Sa'aatii ..... booda guyyaa .....booda	
607	Qorannoon kun eessatti siniif taasifame?	1☐ Keellaa Fayyaa 2☐ Buufata Fayyaa 3☐ Hospitaala4☐ Dhaabbata Fayyaa Dhuunfaa 5☐ Manatti 88☐ Kan biroo /Ibsi _____	
608	Daa'imni Keessan (MAQAA DAA'IMAA) erga dhaabbata fayyaatii baatanii/ Manatti deessee namni kamuu haala fayyaa isaa ilaalee ni jiraa?	1☐ Eeyyee 2☐ Lakki	Yoo 2 ta'e gara 611 ce'i
609	Dhalatee yeroo hangamii gidduutti daa'imni keessan (MAQAA DAA'IMAA) Jalqabaaf ilaalame?	.....Sa'aatii .....guyyaa	
610	Qorannoon kun eessatti taasifameef?	1☐ Keellaa Fayyaa 2☐ Buufata Fayyaa 3☐ Hospitaala4☐ Dhaabbata Fayyaa Dhuunfaa 5☐ Manatti 88☐ Kan biroo /Ibsi _____	
611	Daa'imni keessan (MAQAA DAA'IMAA) dhaalatee guyyoota jalqabaa 3 gidduutti Ogeessi fayyaa kanneen armaan gadii raawwate jiraa? Handhuura qorachuu?	Eeyyee Lakki a) Handhuura . . . . . 1 2 b) Ho'ina qaamaa safaruu 1 2 c) Xiyyeeffannoo fayyaa 1 2	

	Haala ho'ina qaamaa qorachuu? Daa ' imni keessan xiyyeeffannoo fayyaa hatattamaa yoo barbaade akkamiin baruu akka dandeessu sitti himuu Waa'ee harma hoosisuu waliin dubbachuu? Akkaataa daa'imni keessan (MAQAA DAA' IMAA) harma hodhu ilaaluu?	d) Waa'ee harma hoosisu 1 2 e) Yeroo harma hoosiftu ilaaluu 1 2	
612	Deessee booda guyyoota jalqabaa 3 gidduutti Ogeessi fayyaa kanneen armaan gadii siif raawwate jiraa? Dhiibbaa dhiigaa safaruu? Waa'ee dhiiga karaa qaama saalaa dhangala'uu si waliin mari'achuu Waa ' ee karoora/Qusannoo Maatii si waliin mari'achuu?	Eeyyee Lakki a) Dhiibbaa dhiigaa . . . . 1 2 B) Dhangala'uu dhiigaa . . . . . 1 2 C) Karoora/Qusannaa maatii 1 2	
613	Erga (MAQAA DAA ' IMAA) deessee booddee yeroo hangamiif ogeessa fayyaan ilaalamte?	Yeroo_____ f	
614	Yeroo qorannoon da ' umsa booda siif taasifame kanneen armaan gadii irratti gorsa argatteettaa?	Eeyyee Lakki 1 Mallattoo balaa cimaa 1 2 2 Mallattoo balaa cimaa daa'i..1 2 3 Ho'ina qaama daa'imaa 1 2 4 Harma qofa hoosisuu.....1	

		2 ☐ 5 ☐ Talaallii Daa'imaa.....1 ☐ 2 ☐ 88 ☐ Kan biroo (Ibsi) _____	
615	Daa'imni keessan (MAQAA DAA'IMAA) dhalatee/ttee booda yeroo hangamiitti jalqabaaf harma kenniteef?	Sa'aatii_____ Guyyaa _____ Tasuma hin kennamneef	
616	Daa'ima keessan (MAQAA DAA'IMAA) aannan jalqabaa (silga) hoosiftanii jirtuu?	1☐ Eeyyee 2☐ Lakki	
617	Deessee booda guyyoota lama keessatti, daa'ima keessan (MAQAA DAA'IMAA) tiif harmaan alatti wanti nyaatamu ykn dhugamu kan akka bishaanii, daakuu bitamuun qophaa'u (formula food) ykn kan biro kennameefii jiraa?	1☐ Eeyyee 2☐ Lakki	
618	(MAQAA DAA'IMAA) ammayyuu hoosisaa jirtaa?	1☐ Eeyyee 2☐ Lakki	
619	Dhalatee yeroo hangamii gidduutti qaama daa'imaa dhiqxe?	1☐ Akkuma dhalateen 2☐ Dhalatee sa'aatii 6 gidduutti 3☐ Sa'aatii 24 booda 88☐ Kan birii (Ibsi)_____	
620	Nyaata dabalataa daa'ima keessan (MAQAA DAA'IMAA) tiif kennitee jirtaa	1☐ Eeyyee 2☐ Lakki	Yoo 2 filatte gara 622 cehi
621	Daa'imni keessan (MAQAA DAA'IMAA)Nyaata dabalataa yoom jalqabe?	1☐ ji'a 6 gaditti 2☐ ji'a 6 tti 3☐ ji'a 6 booda	
622	Dhiibbaa dhibeen koronaa hordoffii kunuunsa dahumsa boodaaf gara dhaabbata fayyaa	Baay'ee | Baayyee | giddu | Hanga	Tasu

	deemtee ilaalamuu irratti fide gaaffilee armaan gadiin sadarkeessi.	guddisee		galeessaan	tokko	maa	
	Dhibee koronaa sodaachuu						
	Dhaabbileen fayyaa tajaajila dhibee Koronaa kennuuf cufamuu						
	Namni addaan na fo'a jechuun sodaachuu						
	Dandeettiin dhaabbata fayyaa daanga'uu						
	Geejjibni/sochiin daangeffamuu						
	Maatiin/hawaasni addaan nama fo'uu						
	Tajaajilli argamuurratti						
	Amala ogeessota fayyaa kan durii irraa jijjiiramuu						
	Beekumsa waa'ee dhibee koronaa dhabuu						
	Dhukkuboota cinqii fi yaaddoon wal qabatan						

KUTAA 9. Beekumsa Fayyadama Tajaajila Fayyaa Haadholee irratti qaban			
901	Dubartiin tokko hordoffii kunuunsa dahumsa duraa yoo xiqqaate yeroo 4 taasisuu qabdi.	1 Dhugaa dha 2 Soba dha	
902	Hordoffiin kunuunsa dahumsa duraa mallattoo balaa cimaa yeroo ulfaa fi dahumsaa hubachuuf ni gargaara	1 Dhugaa dha 2 Soba dha	
903	Dubartoonni qorichoota akka ayiranii yeroo hordoffii kunuunsa dahumsa duraa dabalataan argachuu hin danda'ani.	1 Dhugaa dha 2 Soba dha	
904	Yaaliin Olka'iinsa dhiibbaa dhiigaa yeroo hordoffii kunuunsa dahumsa duraa ni taasifama.	1 Dhugaa dha 2 Soba dha	
905	Talaalliin ittisa dhibee boqu gogsaa yeroo hordoffii kunuunsa dahumsa duraa ni kennama.	1 Eeyyee 2 Lakki	
906	Rakkoowwan fayyaa ulfaan wal qabatan	1Dhiigni qaama sala 1 Eeyyee	

	naaf eeruu ni dandeessuu? (Hin dubbisiin)	[2] Lakki 2. Mataa dhukkubbii cimaa [1] Eeyyee [2] Lakki 3. Dhiibbaan dhiigaa ol ka'uu [1] Eeyyee [2] Lakki 4. Bubbutuu [1] Eeyyee [2] Lakki 5. Irra deddeebiin Oldeebisuu [1] Eeyyee [2] Lakki 6. Fuulli/Harki dhiita'uu [1] Eeyyee [2] Lakki 88. Kan biroo(Ibsi)_____	
907	Rakkoowwan armaan olitti eertan kanaaf dubartiin du ' uu ni dandeessii? (Rakkoowwan ibsaman tokko tokkoof	[1] Eeyyee [2] Lakki	
908	Gaaffii lakkoofsa 404f *Eeyyee* yoo jettan rakkoowwan fayyaa ciniinsuu fi dahumsaan wal qabatan naaf eeruu ni dandeessuu? (Hin dubbisiin)	1. Dhiigni baay'inaan [1] Eeyyee [2] Lakki 2. Dhiibbaan dhiigaa ol ka'uu [1] Eeyyee [2] Lakki 3. Ciniinsuun turuu (Sa'aatii 12 oliif) [1]Eeyyee [2]Lakki 4.Daa'imni dhalatee daqiiqaa 30 [1] Eeyyee [2] Lakki 5.Kan biro (Ibsi)_____	
909	Rakkoowwan armaan olitti eertan kanaaf dubartiin du ' uu ni dandeessii? (Rakkoowwan ibsaman tokko tokkoof gaafadhu)	[1] Eeyyee [2] Lakki	

910	Rakkoowwan fayyaa dubartiin tokko deessee torbanoota duraa keessatti mudachuu danda'an ibsuu ni dandeessuu? (Hin dubbisiin)	1. Dhiigni baay ' inaan qaama saalaan dhangala'uu [1]☐ Eeyyee [2]☐ Lakki 2. Dhiibbaan dhiigaa ol ka'uu [1]☐ Eeyyee [2]☐ Lakk 3. Fit [1]Yes [2] No 4. Fuulli/Harki dhiita'uu [1]☐ Eeyyee [2]☐ Lakki 5. gubaa qaamaa olaanaa [1] Eeyyee [2]Lakki 6. Dhangala ' aan foolii badaa qabu qaama saalaan yaa'uu [1] Eeyyee [2]Lakki 7. Kan biroo (Ibsi)	
911	Rakkoowwan armaan olitti eertan kanaaf dubartiin du ' uu ni dandeessii? (Rakkoowwan ibsaman tokko tokkoof gaafadhu)	[1]☐ Eeyyee [2]☐ Lakki	
912	Faayidaa gargaarsa ogeessa fayyaatiin dahuu naaf himuu ni dandeessuu? (Kan tarreeffame kana hin dubbisiin)	Rakkoo wal xaxaa dahumsaan wal qabatu ittisuu [1]☐ Eeyyee [2]☐ Lakki Kunuunsa Daa ' ima reef dhalatuuf barbaachisaa dha. [1]☐ Eeyyee [2]☐ Lakki Odeeffannoo fayyaa argachuuf [1]☐ Eeyyee [2]☐ Lakki 88. Kan biroo	

		(Ibsi)_____	

Kutaa 11. Ilaalcha gama itti fayydama Tajaaajila Fayyaa Haadholii

	Himoota Ilaalchaa/ Yaadaa	guddaa irrati walii hin galu (1)	Irratti walii hin gaalu(2)	Homaa(3)	Irratti waliin gaala (4)
1101	Osoo yeroon dahumsaa hin gahin dursee bakkan itti dahu karoorsuun fayyummaa daa'ima kootiif faayidaa qaba jedheen amana.	☐	☐	☐	☐
1102	Dubartiin ulfaa kamiyyuu yeroo dahumsaa Ogeessa fayyaatiin deeggaramuu qabdi jedheen keessa kootiin amana.	☐	☐	☐	☐
1103	Dubartoonni Muraasni Ogeessa Fayyaa dhiiraatiin deeggaramanii dahuun sirrii akka hin taanee fi qaanii dha jedhanii amanu/yaadu.	☐	☐	☐	☐
1104	Akkaataa ilaalcha dubartoota ulfaa tokko tokkootiin kutaa dahumsaatti , siree dahumsaaf qophaa'e irratti olba'anii dahuun baay'ee qaaniidha jedhu	☐	☐	☐	☐
1105	Sababa kaffaltiitiif jecha dhaabbata fayyaatti deemee hin da'u	☐	☐	☐	☐
1106	Sababa ogeessi fayyaa haala gaariin na smatee nan keessummeessineef dhaabbata fayyaatti hin danda'u.	☐	☐	☐	☐
1107	Tajaajila hordoffii duraa taasisuun rakkoo walxaxaa yeroo ulfaa ni ittisa jedheen amana	☐	☐	☐	☐
1108	Qorichi yeroo hordoffii dahumsa duraa kennamee yeroo hunda liqimfamu, guddina gahaa daa'ima sichi dhalatuuf barbaachisaadha	☐	☐	☐	☐
1109	Hordoffii yeroo ulfaa taasisuun koo akkan dahumsaaf qophaa'u na gargaara	☐	☐	☐	☐
1110	Talaallii teetaanosii argachuuf waan gargaaruuf yeroo hunda	☐	☐	☐	☐

	sagantaa hordoffii dahumsa duraa irratti sirriittan argama.				

Kutaa 13. Wantoota itti fayyadama tajaajila fayyaa haadholii irratti dhiibbaa geessissuu danda'an			
1301	Mana jireenyaa keetii hanga dhaabbata fayyaa sitti dhihoo jiru gahuudhaaf daqiiqaa meeqa sitti fudhata?	Daqiiqaa_____	
1302	Manaa kaatee Dhaabbata fayyaa kana maaliin deemta?	1□ Ambulaansii 2□ Geejjiba hawaasaa 3□ Mootor-saayikilii/ doqdoqqee 4□ Gaarii/ beeyladoota taa'umsaa 5□ saayilkilii 6□ Miilaan	Yoo deebiin 6 ta'e,gara gaaffii 1305 deemi
1303	Geejjibaaf baasii ni baaftaa/ni kaffaltaa?	1□ Eeyyee 2□ Lakki	Yoo 2 ta'e, gara 1305
1304	Haalli kaffaltii geejjibaa ati kaffaltee deemtu maal fakkaata?	1□ baay'ee jabeenya 2□ giddu galeessa 3□ rakasa/gadi bu'aadha	
1305	Isin Miseensa inshuraansii Fayyaa Hawaasaatii?	1□ Eeyyee 2□ Lakki	
1306	Tajaajila fayyaa dhaabbata fayyaatti argattaniif ni kaffaltuu?	1□ Eeyyee 2□ Lakki	
1307	Yoo Eeyyee ta'e, haalli kaffaltichaa maal fakkaata?	1□ baay'ee jabeenya 2□ giddu galeessa 3□ rakasa/gadi bu'aadha	

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1308	Tajaajila fayyaa haadholii fi daa'immanii argachuufi ogeessa fayyaatiin wal arguuf giddu galeessaan daqiiqaa meeqa eegdu?	daqiiqaa _____	
1309	Ogeessonni fayyaa kabajaan isin keessummeessuu?	1 □ Eeyyee 2 □ Lakki	
1310	Yeroo yaaliin isiniif taasifamutti Iccitii keessan eeguuf wantoonni taasifaman jiruu?	1 □ Eeyyee 2 □ Lakki	
Kutaa 14. Dhimma COVID-19'n walqabsiisee Beekumsa Haadholii			
1401	Dhukkuba COVID-19'n walqabsiisee maddi odeeffannoo ijoon keessan maali?	Hojjettoota Fayyaa Hojjettoota Ekisteensinii fayyaa Dura bu'oota hawaasaa Televiziyoona Meeshaalee barreeffamaa kan akka Poosterii Raadiyoo Hiriyaa 88. Kan biroo_____	
1402	Mallattoolee ijoo dhibee COVID-19 ibsuu dandeessuu? (Deebii tokkoo ol deebisuun ni danda'ama)	Qaama Gubaa miira Dadhabbii Qufaa gogaa Dhukkubbii maashaalee dhukkubbii qoonqoo Garaa kaasaa/deemsisaa	

		Hargansuu dadhabuu Qaamni dadhabuu Kan biroo
1403	Vaayiresiin Koronaa namarraa namatti akkamiin daddarba? (deebiin tokkoo olii ni danda'ama)	Karaa hafuuraa yeroo qufaa, haxxiffuu,haasawaan,sirbaa fi afuura baafatan Wantoota faalamaniin waltuquun kan akka harkaa, carqii, irra keessa wantootaa... Karaa Qilleensaan Yeroo namoonni walitti siqan Hin beeku 88. kan biroo (ibsi)_____
1404	Wantoota itti aanan kana keessaa Vaayiresiin Koronaa karaa kamiin daddarbuu danda'a?	Bakka namoonni heddummaatan Bakka qilleensa gahaa hin arganne Harka walqabuun Dhungannaa yeroo Nagaa walgaafachuu Meeshaalee walii fayyadamuu Nyaata/dhugaatii wallin fayyadamuu Teessoo walii fayyadamuu Mana fincaanii waliin fayyadamuu Harka qulqulluu hintaaneen ija ofii tuquu Harka qulqulluu hintaaneen funyaan ofii tuquu Harka qulqulluu hintaaneen afaan ofii tuquu

1405	Kanneen dhibee COVID-19'n qabaman keessaa, Maanguddoota qofattti dhibeen kun hammaata?	[1]☐ Eeyyee [2]☐ Lakki
1406	Kanneen dhibee COVID-19'n qabaman keessaa, namoota yeroo dheeraa dhukkubsatan irratti hammaata ?	[1]☐ Eeyyee [2]☐ Lakki
1406	Yeroo ammaa dawaan dhibee COVID-19 sirriitti ittiin yaalan jira?	[1]☐ Eeyyee [2]☐ Lakki
1407	Yeroodhaan sakatta'anii adda baasuu fi gargaarsa yaalaa taasisuun namoonni dhibee COVID-19'n qabaman takkattuu akka dandamatanii fi fayyaniif ni gargaara?	[1]☐ Eeyyee [2]☐ Lakkii
1408	Namni dhibee COVID-19'n qabame hanga qaama gubaa hin qabaannetti nama biraatti dabarsuu hin danda'u?	[1]☐ Eeyyee [2]☐ Lakki
1409	Mala ittiin dhibee COVID-19 ittisuu dandeenyu himuu dandeessaa? **(*kan jarri himan hunda itti mari)***	Harka qulqulluu hintaaneen afaanii fi funyaan tuttuquu dhiisuu Bishaanii fi saamunaan harka sirriitti dhiqachuu Bakka namni heddummaatu deemuu dhiisuu Golgaa afaaniif funyaanii fayyadamuu Harka walqabanii nagaa walgaafacuu dhiisuu Fageenya eeggachuu
1410	Namoonni dhukkubsataa dhibee COVID-19 walqunname hatattamaan adda baasuun bakka sirrii qubsiifamuu qabu	[1]☐ Eeyyee [2]☐ Lakki
1411	Namoota dhibee COVID-19'n qabaman adda baasuu fi yaalii gochuun facaatii vaayiresichaa hir'isuu keessatti mala baay'ee gargaarudha.	[1]☐ Eeyyee [2]☐ Lakki
1412	Bineensota bakkee nyaachuun ykn xuquun dhibee	[1]☐ Eeyyee

	COVID-19 fiduu danda'a	[2] Lakki

T/L	Gaafannoo	Gatii				
		Cimseen /Sirriitti itti waliingala	Itti waliingala	Hin hubanne	Itti walii hin galu	Gonkuma itti walii hin galu
1501	Dhibeen COVID-19 dhukkuba cimaadha jedheen amana.					
1502	Akkan yaaduttti dhibeen COVID-19 Hammaataadha.					
1503	COCID-19 ' n qabamuun dhukkuba ulfaataadha jedheen amana.					
1504	Taateen dhibee COVID-19 jireenya koo irratti fidu ulfaataa ta'uu nan amana.					
1505	Yoon dhibee COVID-19 hubame carraan du'uu na mudata jedheen amana.					
1506	Dhukkubni COVID-19 gaaga'insa olaanaa/miidhaa daangaa darbe maatii kotti fida jedheen amana.					
1507	Dargaagoota akka kootiif dhibeen COVID-19 dhukkuba hammaatadha jedheen hubadha/yaada.					
1508	Dhibee COVID-19 hawaasa keessaa qabamuun ni mala jedheen yaada.					
1509	Sababaan tajaajila fayyaa argachuuf gara dhaabbata fayyaa deemeef, dhibeen COVID-19'tiif saaxilamoodha jedheen yaada .					

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1510	Dhaabbilee fayyaa keessatti COVID-19'n qabamuun danda'a jedheen yaada/hubadha.					
1511	Dargaggeessa waanan ta ' eef carraan dhibee COVID-19 ' n qabamuu koo xiqqaadha jedheen yaada.					

	Ji'oottan 12 darban keessatti dhibee koronaa ofirraa ittisuuf barmaatawwan armaan gadii hammam shaakaltee	Maalo kan itti waliigaltan jalatti Mallattoo "X"n agarsiisaa		
		Yeroo hunda	Darbe darbee	Gonkuma
1601	Fuula,ija fi afaan kee hin xuqne			
1602	Burcuqoo/finjaala , meshaalee nyaataa, nyaata ykn dhugaatii namoota biro waliin fayyadamte			
1603	Fageenya qaamaa yoo xiqqaate meetira 2 taasiste			
1604	Geejjiba keessatti maaskii maaskii fuula fayyadamte			
1605	Bakkeewwan akka gabaa fi walitti qabamiinsa hawaasaa dhaquu irraa of qusatte			
1606	Maaskii fuula dhaabbilee fayyaa/hawaasaa keessatti fayyadamaa turte			
1607	Osoon harka koo hin dhiqatin ija, funyaani fi afaan kee xuquu irraa of-qusatte			
1608	Yeroo harka kee dhiqattu hunda saamunaa fayyadamaa turtee			
1609	Nagaa wal-gaafachuuf harka wal fuuchuu/ harka xuquu irraa of-qusatte			
1610	Yeroo qufaatu ciqilee/irree ykn erbeen haguugatte			
1611	Erbee fi wantoota maksaman of-eeggannoodhaan meeshalee balfi itti maksamu keessa buusaa turte			

	Maalo Gaafannoowwan armaan gadiitif sadarkaa ofitti-amanamummaa kee agarsiisi	Ol'aanaa	Giddu-galeessa	Gadi-aanaa

1701	Yeroo hundumaa bishaanii fi saamunaan dhiqachuu fi qulqulleessituu akooliin harka kee sukkuumachuun vaayirasii koronaa ni ajjeesa jettee hammam ofitti amanta			
1702	Itii fufiinsaanfageenya qaama eeggachuun dhibee koronaa ni ittisa jettee hammam ofitti amanta			
1703	Ija, funyaani fi afaan kee xuquu dhiisuun dhibee koronaa vayirasii ni ittisa jettee hammam ofitti amanta			
1704	Yeroo qufaatu/haxxiffatu erbeen ykn ciqileen/irreen haguugachuun dhibee koronaa vayirasii ni ittisa jettee hammam ofitti amanta			
1705	Ho ’ ina qaamaa ,qufaa fi rakkoo hargansuuf kunnunsa barbaaduuf yeroon/dursanii kunuunsa meedikaalaa barbaaduun Covid-19 to’achuuf ni gargaara jettee hammam ofitti amanta			
1706	Dhiyeessii (Bishaanii fi saamunaa) qabaachuun ammaamma harka kee bishaani fi saamunaan dhiqachuun COVID-19 narraa ittisa jettee hammam ofitti amanta			
1707	Dhibee koronaatiin qabamuu irra of-ittisuuf gidduu kiyyaa fi nama kamiiyyuu yoo xiqqaate fageenya meetira 2’n eeggadha			
1708	Yeroo bakkeewwan hawaasni walitti qaban deemtu yeroo hunda maaskii fuulaa uffachuu/ka ’ achuu fayyadamuu keetti hammam ofitti amanta			

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