


Utilisation of growth monitoring service by mothers of infants in Mettu town, Southwest Ethiopia

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ABSTRACT

Background Growth monitoring (GM) is a preventive activity that serves as the core function in an integrated child health and nutrition programme. In most developing nations, including Ethiopia, however, the use of GM service is insufficient. Hence, the purpose of this study was to evaluate the use of GM services and associated characteristics among mothers of infants in Mettu town, Southwest Ethiopia.

Objective To assess the utilisation of GM service by mothers of infants in Mettu town, Southwest Ethiopia, 2021.

Method A community-based cross-sectional study was conducted among 354 randomly selected mothers with children aged 0–23 months old from 25 June to 27 July 2021 in Mettu town. EpiData V.4.6.0 was used to enter data, which were then exported to SPSS V.25 for analysis. Simple binary and multivariable logistic regression analyses were performed to identify factors associated with GM service utilisation.

Results A total of 354 study participants were included in the study, yielding a response rate of 95.2%. The proportion of GM service utilisation was 25.2% (95% CI: 20.24% to 29.33%). In multivariable regression analysis, age of index child 0–11 months (AOR (adjusted OR)=1.58; 95% CI: 1.052 to 3.713), early postnatal care (PNC) (AOR=1.72; 95% CI: 1.657 to 6.467), middle tertile wealth status (AOR=0.108; 95% CI: 0.047 to 0.319) and lower tertile wealth status (AOR=0.073; 95% CI: 0.013 to 0.874), utilisation of family health cards (AOR=2.09; 95% CI: 1.384 to 5.343) and taking ≤30 min to reach the nearest health facility (AOR=2.23; 95% CI: 2.061 to 7.350) were significantly associated with GM service utilisation.

Conclusion and recommendation In this study, only one-fourth of mothers with children aged 0–23 months old were using GM services. GM service utilisation was found to be significantly associated with child age, early PNC visit, wealth status, utilisation of family health cards and time taking ≤30 min to reach the nearest health facility. Hence, appropriate strategies that promote and encourage GM service utilisation should be designed.

INTRODUCTION

Growth monitoring (GM) is defined as the regular measurement, plotting and interpreting of a child's growth on a regular basis in order to respond when abnormal growth is noticed, with the aim of improving the child's nutritional status. Improved nutritional status,

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ GM service is one of the several preventive programs aimed at combating early childhood growth faltering and malnutrition.

WHAT THIS STUDY ADDS

⇒ In the current study, only one-fourth of mothers with a 0–23 month-old child were attended GM serves.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Hence, appropriate strategies that promote and encourage GM service utilization should be designed.

increased utilisation of healthcare services and subsequent reduction in mortality are the main potential advantages of GM service.^{1,2}

The majority of GM services are provided in health institutions or in communities. The main advantages of GM are that it helps families and community workers to identify children with growth failure early, when it is easier to intervene.^{3–5}

Child growth and development is one of the major public health problems in low/middle-income countries.⁶ Poor child growth is attributed to a greater childhood mortality as a result of severe infections and increased susceptibility to common childhood illnesses, which account for the majority of deaths among children under the age of 5 years.⁷ Malnutrition is directly or indirectly responsible for about half of all childhood deaths worldwide.⁸ In 2019, there were 149 million children under the age of 5 years in the world. Out of those, 49 million were stunted, 17 million were severely wasted and 40 million were overweight.⁹

In Ethiopia, child malnutrition is a serious public health concern. According to the Ethiopian Mini Demographic and Health Survey of 2019, 37% of children under the age of 5 years were stunted, 21% were underweight and 7% were wasted. Similarly, in the Oromia region, 35.6% of children were stunted,



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**Table 1** Sample size determination to assess the utilisation of growth monitoring service by mothers of infants in Mettu town, Southwest Ethiopia, 2021

S/N	Variable	Assumptions				Proportion of outcome		Sample size	Reference
		CI (%)	Power (%)	Ratio	AOR	Exposed	Non-exposed		
1	Place of delivery	95	80	1:1	3.0	33.33%	10.33%	372	18
2	Family health card	95	80	1:1	5.09	57.86%	11.14%	139	20
3	Distance from nearby health facility	95	80	1:1	4.53	33.90%	8.0%	359	19

AOR, adjusted OR.

16.1% were underweight and 4.7% were wasted.¹⁰ In terms of the country's economic losses, the estimated annual cost of child malnutrition is 55.5 billion Ethiopian birr, or 16.5% of gross domestic product.¹¹

The most cost-effective method for tracking the challenging public health problem of malnutrition is through various preventive techniques, including GM service. This includes ensuring that all children who had normal weight at birth remain in that range, and that those who had low weight at birth are quickly brought into a healthy growth range.³

It is critical to promote and improve a child's health during the window of opportunity that lasts from conception to the child's second birthday.¹² Despite the fact that GM is one of the activities that the Ethiopian government is currently focusing on to combat child malnutrition, only a few mothers brought their children for this service.^{13,14} Studies done in different parts of Ethiopia revealed that only 16.9%–38.9% of mothers were attending GM services.^{14–19} Lack of appropriate information about GM service, lack of support from husbands, distance from the health facility, pastoral lifestyle and cultural issues such as the fear of 'evil eye' were factors contributing to the utilisation of GM service.^{17,20}

The irregularity of the GM session due to health extension workload, not recording the age and weight of the child accurately, the mother's wrong belief and the skill gap of health extension workers were challenges to GM service utilisation.¹⁷ Since 2008, Ethiopia has adopted GM as a nutrition-specific intervention, but utilisation of GM services has been limited.¹³

However, limited evidence is available on the level of utilisation of the GM services in Mettu town. Hence, this study is intended to find out how widely GM services are being used and what factors have affected the programme in Mettu town.

MATERIALS AND METHODS

Study area and period

The study was conducted in Mettu town from 25 June to 27 July 2021, which is located in the I/A/Bor Zone, Oromia region, Southwest Ethiopia and is 542 km from Addis Ababa, the capital city of Ethiopia. Mettu is a

market town with six administrative kebeles. One health centre, one specialised hospital and three health posts are found in the town. The total population of the town is estimated to be 49 538. The under 5 and under 2 age groups were estimated to be 8139 and 2828, respectively.

Study design and population

A community-based cross-sectional study was employed from 25 June to 27 July 2021. All mothers who have children aged 0–23 months old and live in Mettu town were the source population, whereas mothers who have children aged 0–23 months and selected by simple random sampling from the sampling frame were the study population and included in the study.

Eligibility criteria

Inclusion criteria

Mothers with children aged 0–23 months old who have lived in Mettu town for at least 6 months were included in the study.

Exclusion criteria

Mothers who were unable to respond due to medical or psychiatric illness were excluded.

Sample size determination

The minimum required sample size was calculated using a double population proportion formula using Epi Info V.7 by considering the assumptions, 80% power of the study, 95% confidence level, 1:1 ratio and proportion of outcome for the variable, and place of delivery (33.33% exposed and 10.33% non-exposed). After adding a 10% non-response rate, the final sample size for the study was 372 (table 1).

Sampling techniques and procedures

To achieve the desired sample size, all six urban kebeles were included in the study. Initially, a sampling frame consisting a list of 2828 mother–child pairs with children aged 0–23 months old, along with the child's date of birth and house number, was obtained from the respective health posts. Then samples representing each kebele were calculated using a proportional to population size allocation.

Table 2 Demographic and socioeconomic characteristics of mothers of infants in Mettu town, 2021 (n=354)

Variable	Categories	Frequency	Percentage
Sex of child	Male	184	51.98
	Female	170	48.02
Age of child (months)	0–11	187	52.8
	12–23	167	47.2
Maternal age	<30	329	92.9
	≥30	25	7.1
Religion of mother	Orthodox	136	38.5
	Muslim	111	31.4
	Protestant	96	27
	Others*	11	3.1
Ethnicity of mother	Oromo	289	81.7
	Amhara	36	10.1
	Gurage	14	4
	Others†	15	4.2
Level of education	No formal education	32	9
	Primary	141	39.8
	Secondary and above	181	51.2
Occupational status	Housewife	160	45.3
	Merchant	36	10.2
	Government employee	53	14.9
	Private employee	48	13.7
	Student	39	10.9
	Others‡	18	4.97
Current marital status	Married	321	90.7
	Single	20	5.6
	Divorced	11	3.1
	Widowed	2	0.6
Family size	<3	96	27.2
	4–5	165	46.5
	>5	93	26.3
Wealth status	Lower tertile	93	26.2
	Middle tertile	145	41
	Higher tertile	116	32.8

*Catholic, Wakefata and Jiohava.
 †Kambata, Hadiya, Tigre, Agnuak and Nuer.
 ‡Daily labourer and farmer.

Finally, a simple random sampling technique was employed using a computer-generated program (Microsoft Excel) to select a total of 372 samples from the six urban kebeles.

Data collection procedures and tools

Data were collected from mothers using a semistructured interviewer-administered questionnaire. The

Table 3 Information on availability and accessibility of health services among mother–child pairs, Mettu town, 2021 (n=354)

Variable	Category	Frequency	Percentage	
Time it takes to the nearest health facility	≤30 min	168	47.5	
	>30 min	186	52.5	
The most frequently visited health facility for childcare	Health centre	272	76.7	
	Health post	9	2.5	
	Private clinic	51	14.3	
	Hospital	23	6.5	
Perceived awareness on availability of specific health services	ANC	Yes	318	89.8
		No	36	10.2
	Delivery	Yes	301	85.1
		No	53	14.9
	PNC	Yes	242	68.3
		No	112	31.7
GMP	Yes	187	52.8	
	No	167	47.2	

ANC, antenatal care; GMP, growth monitoring and promotion; PNC, postnatal care.

questionnaire was adapted from previous similar studies.^{17 20 21} The questionnaire was first prepared in English and then translated to Afan Oromo and back to English to check the consistency by an expert who had good ability in both languages. The questionnaire was divided into five sections: sociodemographic and economic information; child and maternal health characteristics; mother–child feeding knowledge; maternal knowledge of the WHO growth chart and GM service; and the availability and accessibility of health services.

Data were collected by six diploma clinical nurses and two BSc nurses were recruited as supervisors during data collection. The younger child from the household was taken as an index child, and if twin children were found within one household, data were taken from one of them using the lottery method. If an eligible mother was absent during the data collection period, a revisit was done three times, and mothers absent on the third visit were considered non-respondent.

Data quality control

Before data collection, the questionnaires were pretested on a 5% (20) sample size in another town, which was not part of the actual data collection area. Based on the pretest, some modifications, such as unclear or vague questions and wrong skip patterns, were corrected. Two days of training was given for data collectors and supervisors by the principal investigator on data collection tools, data collection techniques, approach to the interviews, and maintaining the privacy and confidentiality of the respondents. Every day after data collection, the

Table 4 Variables used to assess the information on MCH service among mothers and their children, Mettu, Ethiopia, 2021 (n=354)

Variable	Category	Frequency	Percentage
ANC follow-up	No	25	7.1
	Yes	329	92.9
Frequency of ANC follow-up	<4 visits	147	44.8
	≥4 visits	181	55.5
Place of delivery	Home	20	5.6
	Health institution	334	94.4
Early PNC	No	231	65.2
	Yes	123	34.8
Vaccination status of the child	Not vaccinated	9	2.5
	Vaccinating	137	38.8
	Defaulter	6	1.6
	Fully vaccinated	202	57.1
Reason for not getting vaccinated	Distance to EPI sites	1	12.5
	Do not know the benefit	8	87.5

ANC, antenatal care; EPI, Extended Program of Immunization; MCH, maternal and child health; PNC, postnatal care.

questionnaires were reviewed and checked for completeness by the supervisors and the principal investigator.

Patient and public involvement

No patient involved in this study.

Operational definition

- **GM utilisation:** if the mother participated in the GM services at least once for her 0-month-old child, at least two times for her child 1–3 months old, at least five times for her child 4–11 months and at least four times per year for her child 12–23 months old. In addition, it should be plotted or recorded on the child's growth chart.^{18 22}

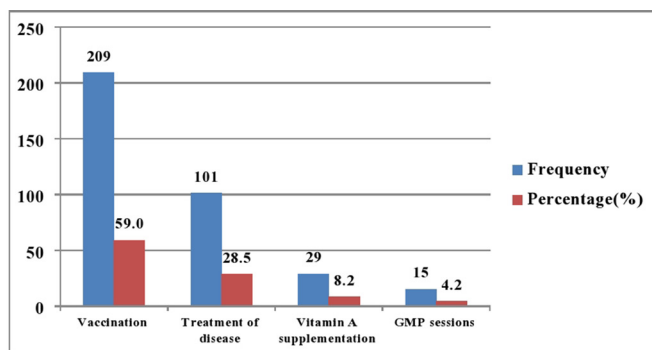


Figure 1 Mothers' most common reasons to visit health facilities, Mettu town, 2021 (n=354). GMP, growth monitoring and promotion.

- **Family health card utilisation:** the mother is considered to have used the family health card if she had the card at home, plotted and able to interpret information displayed on the weight-for-age child growth chart during every GM session.
- **Early postnatal care (PNC):** the care given to the woman and her newborn at least once from the second day through the seventh day after delivery.²³
- **Family health card:** a book which contains the weight-for-age child growth chart for both sexes and used to plot the growth pattern of the child attending GM session and would need to be held by the mother.
- **Wealth index:** measured using fixed household asset. Factor score was derived using the Principal Component Analysis (PCA) then the composite score was ranked into three tertiles.²⁴

Data processing and analysis

All data were checked visually, coded and entered into EpiData V.4.6.0 before being exported to SPSS V.25 for analysis. Descriptive statistics (frequency and cross-tabulation) were calculated for variables. The results were presented in the form of tables and text using frequencies and summary statistics such as mean, SD and percentage to describe the study population with relevant variables.

Before performing PCA for variables explaining the household wealth index, all the necessary assumptions and prerequisites were checked. The degree of association between independent and dependent variables was assessed using an OR with a 95% CI. A simple binary logistic regression analysis was performed to select candidate variables for multivariable regression analysis. Variables with a p value of <0.25 were taken as a cut-off point to select eligible variables for the multivariable regression analysis, and a p value of <0.05 was declared as statistically significant in the final model.

Pseudo-regression was performed to check multicollinearity between independent variables. The minimum tolerance and maximum variance inflation factor were found to be 0.80 and 1.89, respectively. For the finally fitted multivariable logistic regression model, the adequacy of the model to predict the outcome variables was checked by Hosmer-Lemeshow goodness-of-fit and $p > 0.05$.

RESULT

Sociodemographic and economic characteristics of households

In this study, a total of 354 mother–child pairs were included, yielding a response rate of 95.2%. The mean age of the children was 11.25 (6.433) months and more than half of the children (187, 52.8%) belonged to the age category below 11 months. Regarding the age of respondents, the majority (329, 92.9%) of them were in the age category below 30 years. The mean age of the mothers was 24.91 (3.472) years. More than half of the respondents (181, 51.2%) had secondary and above

Table 5 Child feeding and growth chart knowledge of mothers, Mettu town, 2021 (n=354)

Variable	Category	Frequency	Percentage
Counselled by HCWs on child feeding	No	44	12.4
	Yes	310	87.6
The first thing given after birth	Breast milk	347	98.1
	Other*	7	1.86
Time for BF initiation immediately after birth	Within 1 hour	342	96.7
	Greater than 1 hour	11	3.1
Duration of EBF	3 months	7	1.9
	6 months	344	97.2
	1 year	3	0.9
Total duration of BF	Below 2 years	33	9.33
	2 years and greater	321	90.68
Use family health card at home	No	188	53.1
	Yes	166	46.9
Can read information displayed on growth chart	No	13	7.95
	Yes	153	92.05
Who thought you	HCWs	99	64.95
	By myself	46	30.01
	HEWs	8	5.04
What does it mean if growth curve flattens	Child not growing well	72	46.8
	Child may be sick	31	20.3
	Child not eating well	50	32.9
What does it mean if growth curve rises	Child gaining weight	89	58.4
	Child is healthy	16	10.6
	Child is eating well	48	31.0
What does it mean if growth curve is falling	Child is not gaining weight	66	43.2
	Child may be sick or has been sick	36	23.4
	Child is not eating well	51	33.4

*Formula milk, water or cow milk.

BF, breast feeding; EBF, exclusive breast feeding; HCWs, healthcare workers; HEWs, health extension workers.

education. Nearly half (160, 45.3%) of the respondents were housewives. In terms of wealth status, 116 (32.8%) and 93 (26.2%) ranked in the higher and lower tertiles, respectively (table 2).

Information on availability of health facilities with specific health services

In this study, nearly half (168, 47.5%) of the study participants took 30 min or less to reach the nearest health facility. More than two-thirds (272, 76.7%) of the respondents prefer to go to health centres for their children's care. Regarding the perceived awareness of the respondents to the availability of GM services, half of (187, 52.8%) of the respondents were aware of the availability of GM services at health facilities (table 3).

Information on utilisation of maternal and child health service

Among 354 mothers who participated in this study, more than half (181, 55.5%) had antenatal care follow-up with

a frequency of four or more visits. The majority of the mothers (334, 94.4%) delivered at health institutions, but only one-third (123, 34.8%) of the mothers had early PNC (table 4).

Reasons for frequent health facility visits by mothers

This study revealed that nearly two-thirds (209, 59.0%) of the mothers frequently visit health facilities to have their children vaccinated, but only 15 (4.3%) of the mothers who participated in the study took their children for weighing or GM service (figure 1).

Child feeding and GM knowledge of mothers

The finding of this study reported that the majority of the respondents (310, 87.6%) were counselled on child feeding. Almost all respondents (347, 98.1%) provided breast milk to their babies immediately after birth. Nearly half (166, 46.9%) of the study participants were using family health cards, and the majority (153, 92.05%) of

Table 6 Variables to assess utilisation of GM, Mettu town, 2021 (n=354)

Variable	Category	Frequency	Percentage
GM utilisation status	Used	89	25.2
	Not used	265	74.8
Know benefit of regular GM session	Yes	216	60.9
	No	138	29.1
Benefit of regularly taking the child for GM session	To monitor growth	108	50.0
	To seek medical care	7	3.06
	To know health status	101	46.94
Place where GM service is given	Health centre	59	66.7
	EPI outreach sites	8	8.45
	Health posts	22	24.85
Who provides the service	HEWs	30	33.15
	HCWs	59	66.8

EPI, Extended Programm of Immunization; GM, growth monitoring; HCWs, healthcare workers; HEWs, health extension workers.

those mothers were able to read and interpret information displayed on the growth chart (table 5).

Utilisation of GM services

This study revealed that one-fourth of (89, 25.2%) mothers used GM service (95% CI: 20.24 to 29.33). Of those respondents who participated in this study, nearly two-thirds (196, 60.9%) knew the benefit of GM. Regarding the benefits of the GM service, half (108, 50.5%) of the respondents reported the GM service is used 'to monitor the child's growth'. More than two-thirds (59, 66.7%) of the respondents followed GM sessions at health centres (table 6).

Reasons for not taking the child for GM session

This study reported that more than one-third (135, 38.2%) of the respondents who missed taking the child for GM sessions did not know the benefits of the GM services, and 102 (28.9%) of the mothers lacked information about the services (figure 2).

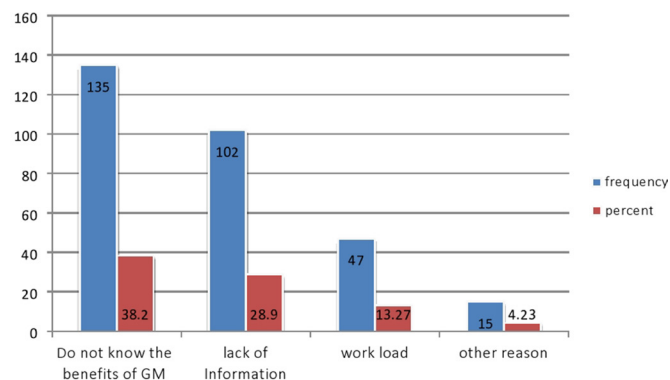


Figure 2 Reasons for not regularly taking the child for GM session, Mettu town, 2021 (n=354). GM, growth monitoring.

Factors associated with GM service utilisation

On multivariable logistic regression analysis, mothers with children aged 0–11 months old (adjusted OR (AOR)=1.58; 95% CI: 1.052 to 3.713), mothers who had early PNC (AOR=1.72; 95% CI: 1.657 to 6.467), mothers from households with middle (AOR=0.108; 95% CI: 0.047 to 0.319) and lower tertiles (AOR=0.073; 95% CI: 0.013 to 0.874), mothers using family health cards at home (AOR=2.09; 95% CI: 1.384 to 5.343), and mothers who took 30 min and below to reach the nearest health facility (AOR=2.24; 95% CI: 2.061 to 7.350) were factors significantly associated with utilisation of GM service (table 7).

DISCUSSION

GM services are essential until the child's second birthday in order to have a healthy and well-nourished child and to break the intergenerational cycle of malnutrition. Hence, this study was aimed to assess utilisation of GM services and associated factors among mothers of children aged 0–23 months old in Mettu town. The proportion of GM service utilisation in this study area was found to be 25.2% (95% CI: 20.24% to 29.33%). This finding is comparable with a study conducted in rural lower parts of Ghana (28.5%) and Northern Ethiopia (30.7%).^{20 25}

The finding of this study is lower compared with a study conducted in the Lawra district of Ghana (70%) and Nyamira county of Kenya (53.3%).^{16 26} The inconsistency might be due to differences in socioeconomic characteristics among the study population, study design and study period.

However, the finding of the current study was higher compared with a study done in Thika subcity of Kenya (20%), Mareka district, Southern Ethiopia (16.9%) and Butajira district, Southern Ethiopia (11%).^{17 18 27} Differences in study setting, socioeconomic and demographic

Table 7 Bivariable and multivariable logistic regression analyses of utilisation of growth monitoring (GM) service by mothers of infants in Mettu town, 2021 (n=354)

Variable	Category	Utilisation of GM service		95% CI	
		Yes (%)	No (%)	COR	AOR
Age of index child	12–23 months	32 (9.01)	135 (38.2)	1	1
	≤11 months	57 (16.15)	130 (36.6)	1.87 (1.112 to 3.143)	1.58 (1.052 to 3.713)*
Frequency of ANC visit	<4	28 (7.91)	107 (30.22)	1	
	≥4	61 (17.23)	110 (31.07)	2.12 (1.204 to 3.519)	1.16 (0.579 to 2.305)
Early PNC	No	46 (13.04)	185 (52.2)	1	
	Yes	43 (12.1)	80 (22.7)	2.14 (1.277 to 3.577)	1.72 (1.657 to 6.467)*
Maternal level of education	No formal education	6 (1.60)	26 (7.40)	1	
	Primary	27 (7.51)	114 (32.25)	1.17 (0.404 to 3.356)	0.645 (0.179 to 2.320)
	Secondary and above	56 (15.8)	125 (35.4)	2.15 (0.775 to 5.946)	0.319 (0.088 to 1.160)
Wealth status	Higher tertile	62 (17.5)	54 (15.25)	1	1
	Middle tertile	17 (4.80)	128 (36.16)	0.116 (0.016 to 0.311)	0.108 (0.047 to 0.319)*
	Lower tertile	10 (2.82)	83 (23.45)	0.099 (0.012 to 0.697)	0.073 (0.013 to 0.874)*
Family health card utilisation	No	33 (9.31)	155 (43.8)	1	
	Yes	56 (15.8)	110 (31.1)	2.40 (1.427 to 4.027)	2.09 (1.384 to 5.343)*
Perceived awareness on GMP availability	No	27 (7.76)	133 (37.6)	1	
	Yes	62 (17.4)	132 (37.3)	2.26 (1.323 to 3.858)	1.67 (0.871 to 3.203)
Time to reach nearby health facility	>30 min	31 (8.76)	155 (43.78)	1	
	≤30 min	58 (16.38)	110 (31.07)	2.64 (2.410 to 7.297)	2.23 (2.061 to 7.350)*

*Denote statistically significant variables in multivariable logistic regression at p<0.05.
ANC, antenatal care; AOR, adjusted OR; COR, crude OR; GMP, growth monitoring and promotion; PNC, postnatal care.

characteristics of study participants, and study period could all explain the disparity.

The age of the index child was found to be significantly associated with the utilisation of GM and promotion services. Mothers with index children under 11 months were 1.5 times more likely to use the service compared with mothers with index children aged 12–23 months old. The possible explanation might be that children under 11 months old are recommended going to a health facility for several doses of immunisation. Thus, most mothers will continue to send them to weighing centres until completion of the immunisation. However, as the child's age advances, attendance at GM sessions decreases. This finding is similar to a study conducted in rural Ghana, which discovered a negative correlation between child age and GM service utilisation.²⁵ In contrast to this finding, a study conducted in the Legambo district of South Wollo zone and Mareka found that mothers with index children aged 12–24 months were more likely to use GM services than those with children aged 11 months or less.^{18 19} The inconsistency might be due to the differences in study design and sampling technique employed. The study conducted in Legambo district used an unmatched case–control study design, which may have contributed to this variation.

This study found that mothers who had early PNC were 1.7 times more likely to use GM services compared with those mothers who had no early PNC. This relationship between early PNC service and higher utilisation of GM

could be explained by the child nutrition and health counselling that is provided as part of the PNC service. As a result, they could get more opportunities to receive child growth and development counselling. This study is supported by a study conducted in Benin that reported mothers who had early PNC were more likely to use maternal and child health services.²⁸

Utilisation of family health cards was another predictor of GM services in this study. Those mothers using family health cards were two times more likely to use GM services compared with those who were not. This might be due to the possibility of family health cards motivating mothers to get GM service. This finding is congruent with a study done in Yilmana woreda of Northern Ethiopia.²⁰

Compared with mothers from households with higher tertile wealth status, mothers from households with lower and middle tertile wealth status were 89% and 92% less likely to use GM services, respectively. The study done in Southern Ethiopia supports this finding.¹⁸ The possible explanation could be that people with lower household tertile might be busy fulfilling their day-to-day livelihood needs and have limited time to attend the GM service.

The time it takes to reach a nearby health facility was found to be significantly associated with GM service utilisation. Those mothers who took less than 30 min to reach a nearby health facility were two times more likely to use GM than those mothers who took more than 30 min to reach a nearby health facility. This finding was in line with the studies conducted in Yilmana Dedisa and Butajira



district.^{17 20} This could be because mothers who live near a health facility can bring their children for GM service quickly and return to work, even if they are busy at work.

Strength and limitation of the study

There are certain limitations to this research. First, since the data were collected by the verbal report of the participants, there might be a possibility of response bias. Data collectors were trained on some techniques of reducing response bias during the interview. Second, the study did not assess the qualitative perspective of GM service utilisation.

CONCLUSIONS AND RECOMMENDATION

The study found that only one-fourth of mothers with children aged 0–23 months in Mettu town were using GM services. GM service utilisation was significantly associated with index child age, early PNC, use of family health cards, wealth status and time to reach nearby health facilities. Hence, appropriate strategies that promote and encourage GM service utilisation should be designed.

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Contributors YT developed the research idea, design and analysis, and drafted the manuscript. AM, SS and KB conceived the study, supervised the data collectors, interpreted the result and reviewed the manuscript. All authors read and approved the final manuscript. YT is responsible for the overall content as the guarantor.

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