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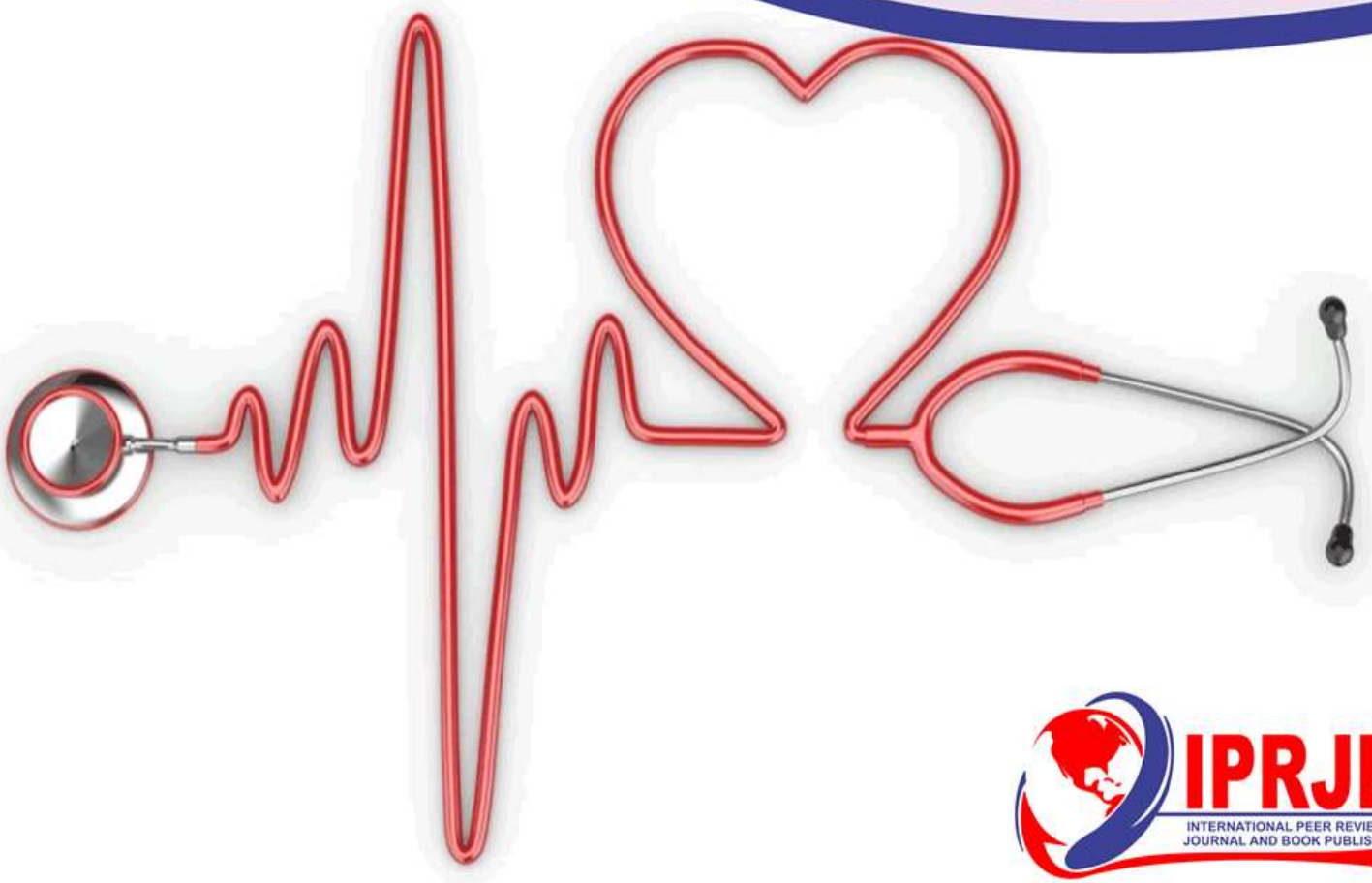

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Growth Monitoring and Promotion Service Utilization and Associated Factors among Under 2 Year Children in Decha District, Southwest Ethiopia 2023

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Abstract

Purpose: Growth Monitoring and Promotion (GMP) services is the preventive and promotive activity that uses growth monitoring, measuring, and interpreting growth, to facilitate communication and interaction with the caregiver to promote child growth. This study aimed to assess GMP service utilization and associated factor among children less than two years in Decha district, Southwest Ethiopia 2023.

Methodology: We conducted Community-based cross-sectional study design to assess GMP service utilization and associated factor among children less than two years in Decha district, Southwest Ethiopia. The multistage sampling technique was employed for the study. Multivariable binary logistic regression analysis was used to determine the presence of statistically significant association GMP service utilization and independent variable at p_value <0.5 and adjusted odd ratio (AOR) value with 95% confidence interval (CI).

Results: This study revealed that 47% [95% CI, 42.74%, 51.26%] of the children utilized GMP services. Availability of growth monitoring service in the nearest health facility [AOR 5.829; 95% CI, 2.588-13.129], Mother or caregivers who visited antenatal care service [AOR 6.449 ; 95% CI, 2.078-20.019], mother or care givers who delivered in Health facility [AOR 3.417 95% CI; 1.162-10.053], favorable mother or caregivers attitude toward GMPservice [AOR 2.438 95% CI; 1.400-4.247] and mother or caregivers who have good knowledge toward GMP service [AOR 3.015; 95%CI, 1.729-5.259] were significantly associated with utilization of GMP services.

Unique Contribution to Theory, Practice and Policy: We found that over all GMP services utilization was low in the study are a compared with NN target (80%). Utilization of GMP services was signicantly associated with availability of growth monitoring service, antenatal care service, place of delivery, Caregivers attitude and knowledge toward GMP service. designing intervention; Increasing caregivers knowledge and increasing antenatal care coverage and facility delivery and availing services routinely in all health facilities is needed to improve utilization of GMP service.

Keywords: *Utilization, Growth Monitoring and Promotion, under 2 Year, Kaffa, Southwest*

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INTRODUCTION

Growth monitoring and promotion (GMP) is a process of regular weighting and measuring height in some cases and comparing the results with the standard and assessing the growth status of children to determine whether additional interventions is needed. Monitoring growth by plotting a child's weight at regular intervals and comparing the pattern of growth to reference curves of healthy children permits early detection of growth faltering and it provides an early warning signal and a trigger for early action[1,2]. Globally, 186 countries practice GMP, and 154 countries used the growth chart in 2018. GMP is used in many Lower middle income countries (LMICs) to diagnose inadequate child growth in its earliest stage and turn alters the Child's growth trajectory through nutrition counseling and other health-promoting actions. According to WHO guidelines, GMP service includes (A) the routine measurement of a child's weight and height, (B) the plotting of the child's measurements and comparison of the child's status with a standardized growth chart to assess growth adequacy and (C) growth-informed counseling; and if necessary (D) the undertaking of remedial, health promotion action[3]. The child malnutrition globally in 2020; an estimated 5.7 or 38.9million children under 5 were affected by being overweight, wasting continued to threaten the lives of an estimated 6.7 percent or 45.4 million children under 5, and also stunting affected an estimated 22 percent or 149.2 million children under 5. Most children with malnutrition live in Africa and Asia. In 2020, more than half (53%) of children under 5 affected by stunting lived in Asia and two out of five (41%) lived in Africa[4].

Child growth and development is a problem in low and middle-income countries, where an estimated 195 million children under five years are stunted and 129 million are underweight. Poor growth of children is associated with increased child mortality due to severe infections and more vulnerable to common childhood illnesses, which contributes to over one-third of all deaths of children under five[5]. According to the 2019 Ethiopian mini demographic and health survey (EDHS) report, the prevalence of stunting was 37%, underweight 21%, and wasting 7%[6]. The Ethiopian government has been implementing different strategies and programs to ensure food and nutrition security. Efforts are underway to implement strategies and programs such as the national nutrition strategy(2009), multisectoral nutrition coordination and integration, nutritional programs I and II (2013-2020), the sekota Declaration Road map (zero stunting by 2030), these all strategies considering GMP service as one of the strategies for improving the nutritional status of the children, However multisectoral coordination and integration were low and the available data indicated that malnutrition is still high and participation in growth monitoring remains low in Ethiopia as well as southwest region [7,8].

Growth monitoring and promotion service would be more useful in identifying conditions that meet two criteria; no other clinically obvious pointers that might alert parents and primary care staff and growth patterns that deviate substantially from normal in most cases of the condition[9]**.** However in most countries including Ethiopia, the GMP utilization rate is low and the growth chart is poorly understood by mothers[8]. for instance the study conducted in Mareka district, South Ethiopia was found GMP service utilization 16.9%[10]. the other study conducted in the Muhur Akilil district Gurage zone south Ethiopia indicates GMP service utilization was 32.9%[11]. The same study done in Metu town South Ethiopia indicated that the GMP service utilization was 25.2%[12]. The other study done in Banja District, Northwest Ethiopia showed that GMP service utilization was 38.9%[13]. The study

done in rural communities of Digelu Tijo district, South-central Ethiopia showed that GMP service utilization was 32.8%[14]. study done in the Samara-logia city of Afar Region, Northeast Ethiopia showed that the GMP service utilization was 15.9%[15]. Beside this the GMP service can't easily be implemented and are affected by different factors like socio demographic , Economic, health system related, caregivers knowledge and attitude toward GMP service utilization. aprevious study found that sociodemographic factors (Child age , Maternal educational status , Marital status of the mother, family Wealth index , Family size), health system related factor (Availability of HF around the home , Availability of GM service to nereast HF, Distance of health facility , ANC Visit , PNC Visit ,Place of delivery ,HEW told the Exact time of the GMP session, Waiting time , Maternal participation in a community conversation),Caregivers attitude and caregivers knowledge toward GMP service utilization is a determinant factor of GMP service utilization [15], [10], [16] [17] [18] [19], [20], [12][13] [11],[15][21] [22].

Although many efforts were made to improve childhood health and nutritional status through the provision of the GMP service. There are limited studies on the utilization of GMP services and associated factors among children less than two years in Ethiopia particulary in Decha district, Southwest Ethiopia. Even though those few studies were measured GMP service utilization status with only regular weighting thus determining the magnitude of GMP service utilization may help to fill the information gaps about determining the GMP service utilization level by five key components and identifying difficulties in GMP service utilization in the study area. Therefore, this study was conducted to determine the proportion of GMP service utilization and associated factors among children under two years of age in Decha District, Southwestern Ethiopia.

METHODOLOGY

Study Setting and Design

we conducted a community based cross-sectional study in Decha district Southwest Ethiopia from March 26, /2023 to April 30,/2023. Decha district is located 492kilometer from Addis Ababa and 24kilometer from zonal town Bonga.The District had total of 41 kebele(the smallest administrative unit), 5health center and 41 health post. acoording to the population projection of Ethiopia the district had a total of 111,274 (male 54,525 and female 56,749) population.

Study Population

All mothers or caregivers with children under 2 years of age in 2023, in the Decha district, are considered as the target population. All mothers or caregivers with children under 2 years of age in 2023, in the Decha district, randomly selected kebele are considered as the study population. All eligible mothers or caregivers with children under 2 years of age systematically selected from the study population were considered as sample population. Individual mothers or caregivers with children under 2 years of age of the sample population were considered as study unit. All mothers or caregivers with children under 2 years of age who are residents in the study area for at least 6 months was included in the study. Mothers or care giver's with children under 2 years of age who are unable to capable to communicate or severely ill was excluded from the study.

Sample Size and Sampling Procedure

We calculated a sample size of 548 using double population formula in Epi info version 7.2.5 stat calc for cross-sectional study by the following assumptions; power of 80%, with 95% of CI and 1:1 ratio of exposed to unexposed to calculate the sample size[10,20]. design effect of 1.5, and an anticipated non responserate of 10%. We used a multi-stage sampling technique to select participating mother or caregivers. thirteen kebele of the district were selected by using simple random sampling by using lottory method from 41kebele.we prepared the sampling frame containing alist of mother/care givers with children less than two year age along with their date of birth and family folder number obtained from health post and respective kebele. the sample size was allocated proportionally to each kebele based on their respective mother number. finally, we used a systematic random sampling technique to access the participants.if twins children were found for mothers, only one child was chosen by lottery method. we identified the first mothers by simple random sampling using the lottery method.

Data Collection Procedure and Quality Assurance

we used interviewer administered questionaire prepared by reviewing previous litrature[11,13,20]. the questionnaire first prepared in English and translated to the local language (*kafinono*) and translated back to English by an independent language expert was used to maintain consistency of meaning. Before the actual data collection, the questionaire was pretested on 5% of the total sample size in Muti and Dish kebele and some modification were made accordingly. data was collected by three trained Diploma clinical nurse health professionals and one health officer supervisor who were proficient in the local language.collected data were checked for completeness and consistency on daily basis.

Variable of the Study

Gowth monitoring and promotion services utilization was independent variable, whereas various factors such as sociodemographic factors (Child age , Maternal educational status , Marital status of the mother, family Wealth index , Family size), health system related factor (Availability of HF around the home , Availability of GM service to nereast HF, Distance of health facility , ANC Visit , PNC Visit ,Place of delivery ,HEW told the Exact time of the GMP session, Waiting time , Maternal participation in a community conversation), Caregivers attitude and caregivers knowledge toward GMP service were independent variables.

Operational Definition

GM service utilized- the respondents who scores the mean of 1 for key component of GMP services whereas the respondent who scores mean less than 1 for key component of GMP service were considered as not properly utilizing GMP service[13]

The regular weighing of children: participation of a child for GMP services at least once for 0 months, at least two times for 1-3 months, at least five times for 4-11 months, and at least four times per year 12-23months[20].

Maternal knowledge: **Good knowledge**:- those mothers who score≥ 70%of 10 knowledge questions whereas Poor knowledge:- those mothers who score <70% of 10 knowledge questions

Maternal attitude: - Favorable attitude: those mothers who respond/score/ ≥75% of the attitude questions Unfavorable**:-** those mothers who respond/score/ <75% of the attitude questions

Wealth Index: - was Measured by terciles. The lowest third of the data value is the lowest terciles, the middle third value is the midle terciles and the upper third value is upper terciles[23]

Data Processing and Analysis

The collected data were coded and entered into Epi- info version 7 and exported to Statistical package for social science (SPSS) version 21 for analysis and we calculated descriptive statistics for categorical variables and presented them in form of tables and frequencies. We performed multivariable binary logistic regression analysis to identify factor associated with GMP service utilization. All variables with P_value less than or equal to 0.25 in the Bi variable binary logistic regression analysis were entered into the multivariable binary logistic regression model. A P_value of less than or equal to 0.05 and an AOR with 95% CI were used to declare the statistical significance of the outcome variable.

Ethical Consideration

Ethical approval was obtained by ref. number PGC/098/23 from the institution review board of Mizan Tepi University, college of medicine and health science, before the initiation of the study. We secured data collection permission from kaffa zone health department by ref.number2823/61, Decha district health office by ref number 836/2 and verbal consent was obtained from every respondent after the purpose of this study were explained. to safeguard the confidentiality of information, unique codes were provided on the questionaire during the data collection.

RESULTS

Socio-Demographic Characteristics of the Study Participants

Out of 548 study participants, a total of 528 mothers or care givers participated in the study, yielding a response rate of 96.35%. In this study, almost greater than half, 292 (55.3%) of children were age group of 12-23month and more than half of the children (266, 50.4%) of them were male. The mean age of mothers or caregivers was 30.7 years with the standard deviation of 5.96 and almost one third of the mother or care givers were 30 to 34years of age. (Table1).

Mother or Care Givers Attitudes toward GMP Service Utilization

This study revealed overall 310(58.7%) of the mother or care givers were favorable attitude towards GMP service utilization (Table-2)

Knowledge Status of Mother or Care Givers toward GMP Service Utilization

This study revealed that 272 (51.5%) of the mother/care givers have adequate (good) knowledge about GMP services utilized in the study area. (Table3).

Health Care Service Utilization- Related Characteristics of Mother/ Care Givers

Out of 528 mothers or caregivers who gets antenatal care service were 483 (91.5%), while mothers or caregivers who had antenatal follow-ups with a frequency of four times and

more visits. The majority (491, 92.9%) were delivered in a health facility, also majority (498, 94.3%) of mothers or caregivers who utilized postnatal services. (Table4).

Utilization of Growth Monitoring and Promotion Services

This study revealed that 248 (47%) with 95% CI 42.74%_51.26% of the children utilized GMP services in the study area. (Fig_4).

Factors Associated With Growth Monitoring and Promotion Service Utilization

In bivariate logistic regression, variables such as child age, marital status of mother or care givers, place of delivery, availability of GM service in the nearest health facility, mother or Care givers utilization of ANC visit, mother or Caregivers utilization of PNC services, mothers or caregivers knowledge and attitude toward GMP service were associated with dependent variables.

However in multivariate logestic regression analysis; availability of GM service in the nearest health facility, mother or caregivers utilization of ANC visit, place of delivery, mother or caregivers attitude toward GMP service , mother or caregiver's knowledge toward GMP service were significantly associated with utilization of GMP service. This study indicated that availability of GM service in the nearest health facility was almost six times more likely to use the GMP service than their counterparts [AOR 5.829 95% CI 2.588-13.129]. A mother or caregivers who utilized ANC service visit were six times more likely to utilize the GMP service than their counterparts [AOR 6.449 ; 95% CI, 2.078-20.019]. Mothers or caregivers who have favorable attitude toward GMP service were two times more likely to use GMP service than their counterparts [AOR 2.438; 95% CI, 1.400-4.247]. mother or caregivers who delevered in health facility were three times morelikely to tilize GMP than their counterpart [AOR 3.417 95% CI ; 1.162-10.053] and mother or caregivers who have good knowledge toward GMP service were almost three times more likely to use GMP service than their counter parts[AOR 3.015 ; 95%CI, 1.729-5.259] (Table-5).

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Table 1: Socio Demographic Characteristics of the Study Participants in Decha District, Southwest Ethiopia, 2023(n=528)

Variables		Frequency
Sex	Male	266(50.4%)
	Female	262(49.6%)
Age	0-11 month	236(44.7%)
	12-23month	292(55.3%)
Maternal or Caregivers age	15 to 19 years	15 (2.8%)
	20 to 24years	54 (10.2%)
	25 to 29 years	155(29.3%)
	30 to 34 years	176(33.3%)
	35 to 39 years	88(16.7%)
	>= 40 years	40(7.6%)
Marital status of care givers or mother	Married	500(94.7%)
	Single	15(2.8%)
	Divorced	5(0.9%)
	Widowed	8(1.5%)
Educational level of Caregiver or mother	Not educated	266(50.4%)
	Primary education	227(43%)
	Secondary Education	33(6.3%)
	Graduated from university or college	2(0.4%)
Mother or care givers participation in CC	Participated	264(50%)
	Not participated	264(50%)
Occupation of caregiver or mother	House wife	511(96.8%)
	Merchant	6(1.1%)
	Farmer	4(0.8%)
	Government employee and other	7(1.4%)
Family size	Less than five	262(49.6%)
	Greater than or equal to5	266(50.4%)
Wealth Index terciles	Low tercile	175(33.1%)
	Midle tercile	178(33.7%)
	High tercile	175(33.1%)

Table 2: Maternal /Care Givers Attitude towards GMP Service Utilization of the Study Participants in Decha District, Southwest Ethiopia, 2023 (n=528)

When I go to GMP service, I feel good about my child	Agree	221(41.3%)
	Strongly agree	310(58.7%)
Do you think measuring your child's weight is important?	Agree	221(41.9%)
	Strongly agree	307(58.1%)
Bringing your child to the GMPservice visit makes you happy	Agree	221(41.9%)
	Strongly agree	307(58.1%)
Do you believe GMP service is important to prevent malnutrition?	Agree	221(41.9%)
	Strongly agree	307(58.1%)
Taking my child to GMP service will take time	Strongly disagree	307(58.1%)
	Agree	221(41.9%)
Taking my child to GMP service doesn't add any value to my child	Strongly disagree	307(58.1%)
	Agree	221(41.9%)
Do you think GMPservice is only for wasted child?	Strongly disagree	307(58.1%)
	Agree	221(41.9%)
Do you think GMPService is for only sick children?	Strongly disagree	307(58.1%)
	Agree	221(41.9%)
Taking my child to GMPservice will expose my child to the evil eye	Strongly disagree	307(58.1%)
	Agree	221(41.9%)
Do you think the GMP service is for screening child for food aid?	Strongly disagree	307(58.1%)
	Agree	221(41.9%)
Mother/care givers attitude toward GMP service	Favorable attitude	307(58.1%)
	Unfavorable attitude	221(41.9%)

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Table 3-Maternal/Caregivers Knowledge toward GMP Service Utilization Decha District, Southwest Ethiopia 2023 (n=528)

A mother or Caregivers who have heard about GMP service	Yes	467(88.4%)
	No	61(11.6%)
A mother or Caregivers who know about what age group GMP service was given	Yes	513(97.2%)
	No	15(2.8%)
A mother or Caregivers who know the time to start GMP service	Yes	381(72.2%)
	No	147(27.8%)
A mother or Caregivers who know the time interval between GMP service	Yes	518(98.1%)
	No	10(1.9%)
A mother or Caregivers who know who to perform GMP service	Yes	519(98.3%)
	No	9(1.7)
A motheror Or Caregivers who know where GMP service providing	Yes	524(99.2%)
	No	4(0.8%)
A mother or Caregivers who know their baby's weight regularly were befinefits for their child	Yes	272(51.5%)
	No	256(48.5%)
Mother or Caregivers who know what means the curve on growth chart is flattening	Yes	272(51.5%)
	No	256(48.5%)
Mother or Caregivers who know what means the curve on growth chart is rizing	Yes	272(51.5%)
	No	256(48.5%)
Mother or Caregivers who know what means the curve on growth chart is falling	Yes	272(51.5%)
	No	256(48.5%)
Mother knowledge status about GMPservice	Good knowledge	272(51.5%)
	Poor knowledge	256(48.5%)

Table 4_Health Care Service Utilization Related Characteristics of the Study Participants in Decha District, Southwest Ethiopia, 2023 (n=528)

Availability of HF around the home	Yes	271 (51.3%)
	No	257 (48.7%)
Distance of the nearest HF	≤ 1 hour	273 (51.7%)
	>1 hour	255 (48.3%)
Availability of the Growth monitoring service to the nearest HF	Yes	453 (85.8%)
	No	75 (14.2%)
ANC service Utilization	Yes	483 (91.5%)
	No	45 (8.5%)
PNC service utilization	Yes	498 (94.3%)
	No	30(5.7%)
Immunization status of children	Fully vaccinated or vaccinating for age	497(94.1%)
	Defaulted	18(3.4%)
	Not immunized	13(2.5%)
Mother/care giver who heard the exact time of GMP service session	Yes	266(50.4)
	No	262(49.6)
Mother/care giver waiting times to get HCW on HF	≤30minutes	264 (50%)
	>30minutes	264(50%)
Place of delivery	HF	491 (92.9%)
	Home	37 (7.1%)

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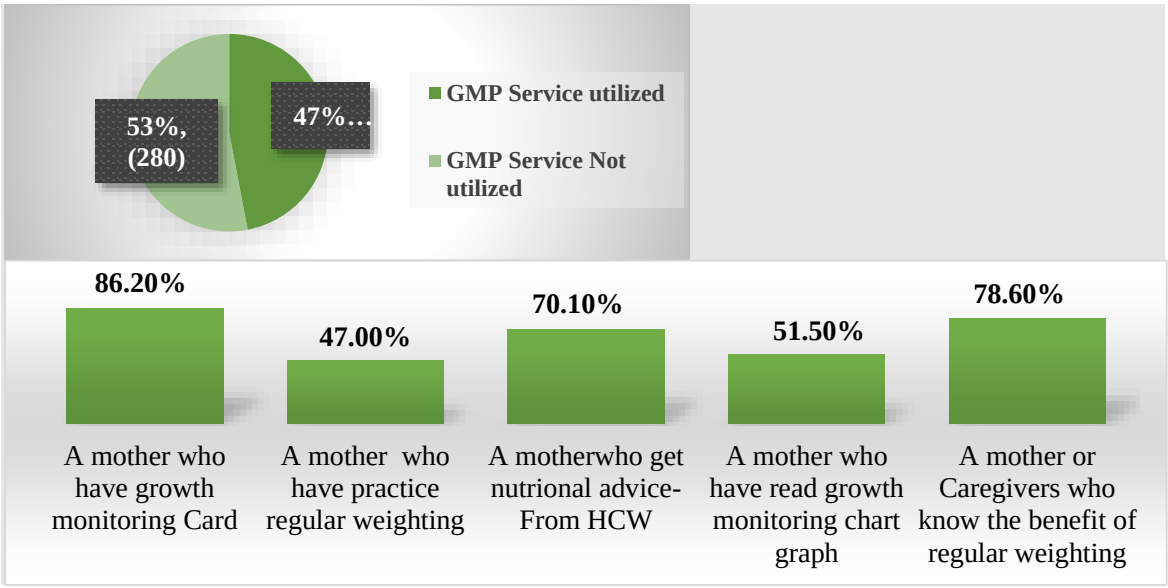

Figure 1: Utilization of GMP Service among Children 0_23 Month Old in Decha District, Southwest, Ethiopia 2023 (n=528)

Table 5- Multivariabe Binary Logistic Regresion Analysis Of Factor Associated With GMP Service Utilization Among Children 0-23month Of Age In Decha District,Kaffa Zone Southwest Ethiopia,2023 (N=528)

		GMP service utilization status		95% Confidence Interval		P-value
		Utilized	Not-Utilized	COR	AOR	
Age	0-11month	118	118	1.246(0.883-1.75)	0.875 [0.575-1.33]	0.532
	12-24month	130	162	1	1	
Marital status of care givers or mother	Maried	229	271	0.211(0.059-0.75)	0.195 [0.038-0.99]	0.049
	Divorced	2	3	1.267(0.210-7.65)	1.591 [0.199-12.68]	0.661
	Widowed	5	3	0.507(0.120-2.14)	0.113 [0.016-0.80]	0.029
	Single	12	3	1	1	
Availability of the Growth monitoring service to the nearest HF	Yes	240	213	9.436(4.431-20.09)	5.829 [2.588-13.12]	<0.001*
	No	8	67	1	1	
Place of the delivery	HF	242	249	5.021(2.058-12.25)	3.417 [1.162-10.05]	<0.002*
	Home	6	31	1	1	
ANC service utilization status of the mother or caregivers	Yes	243	240	8.1(3.143-20.87)	6.449 [2.078-20.01]	<0.001*
	No	5	40	1	1	
PNC service utilization status of the mother/ caregivers	Yes	244	254	6.244(2.148-18.15)	2.714 [0.815-9.03]	0.104
	No	4	26	1	1	
Mother knowledge status about GMP service	Good knowledge	189	83	7.603(5.154-11.21)	3.015 [1.729-5.25]	<0.001*
	poor knowledge	59	197	1	1	
Mother attitude toward GMP service	Favorable attitude	195	115	5.279(3.589-7.76)	2.438 [1.400-4.24]	<0.002*
	Unfavorable attitude	53	165	1	1	

Discussion

This study aimed to determine factors associated with GMP service utilization among children less than two years of age in Decha district, Southwest Ethiopia. Promoting the utilization of GMP was one of the strategic objectives that was aimed at improving the nutritional status of children under the age of two years in Ethiopia. Despite of this fact, this study showed that a lower level of GMP service utilization, which is the overall utilization of GMP service was 47% with 95% CI [42.74%_51.26%] compared with national nutrition program GMP service coverage 55%[8]. The finding of this study is higher to the study conducted in Butajira, Southern Ethiopia 11%[15], mareka district Southern Ethiopia 16.9%[10], Digelo tijjo district central Ethiopia 32.8%[14], Semera logia city in Afar region 15.9%[15].

Possible justification for the higher utilization result might be due to that the district has been supported by the SEKOTA program which is targeted under two year children and gave home to home based health education and promotion services as well as particularly working on GMP service promotion and maternal and child nutrition. However, the finding of this study is lower when compared to the study done in South Africa 67%,Nairobi Kenya 58.1%[16] , in Niyamira, Kenya 53.3%[24], Ghana 60%(18). The possible explanation for the lower utilization result might be due to variation in the sample size, Socio-demographic characteristics of the respondent and the study population, specifically GMP in Kenya was implemented for under five whereas GMP in Ethiopia was implemented among 0-23month old children, and due to the outcome variable measurement variation which is this study measures the outcome variable based on five key components of GMP service whereas the other studies was measured the outcome variable with one key component which is regular weighing this makes the result discrepancy.

According to this study the odds of utilizing GMP service were higher among mothers or caregivers who delivered their child in health facility than mother or caregivers who delivered in home. This result were supported by the study in a rural area of Mareka district, southern Ethiopia**[10]** and the odds of utilizing GMP service were higher among mother or caregivers who utilized antenatal care service than the mother or caregivers who doesn't utilize antenatal care service. This finding also supported by the study conducted in Lagambo district, south wollo zone**[25]** and semera logia city, Afar region**[15]**. The possible justification for this result may be during Antenatal care, nutritional counseling is given and most of the mothers understand the service that was got from health institution and after delivery, the mother will be happy to attend the GMP session. This indicated the Sustainable Development Goal (SDG), target 3.8 aims to achieve universal health coverage and reduce health care inequalities between different populations, including disadvantaged groups, such as those in low income areas or rural areas**[26]**. To achieve this target the government of Ethiopia is providing maternal and child health services free of charge in the public health facilities of Ethiopia**[27]**. It seems that the direct and indirect costs related to time, medication and transportation are hindering the utilization of maternal and child health service including GMP service.

This study revealed that availability of Growth monitoring service to the nearest health facility were higher to utilize the GMP service than their counterparts. This finding was supported by a study conducted in Banja district,North west Ethiopia[13], Indonesia[28] and Nyamir Kenya[14] where the availability of growth monitoring service near by health facility was positively associated with utilization of GMP service. This similarity might be due to those respondents who had nearby health facilities might have better opportunities to access the services and information related to GMP. This explained that Child growth is an insightful display of child health, and is used to assess nutritional and health status[29]. Weight is sensitive indicator used to assess growth. Growth monitoring is a monthly evaluation of the child's growths in comparison to the world health organization standard using anthropometric measurements to identify growth faltering before the child reaches the status of malnutrition[30]. This study showed that the odds of utilizing GMP service were higher among mother or caregivers who have good knowledge toward GMP service. This finding supported by the study done in Ghana[31], the study conducted in Kenya[32], the study done in Legambo district south wollo zone[25], a study done in Areka[21]and the study done in debrebrihan[33] and the odds of utilizing GMP service were higher among mother or caregivers who have favorable attitude toward GMP service.

This finding supported by the study done Debrebrahan[33] and Areka, southern Ethiopia [21]. Possible justification for this can be positive attitudes influence behavior change, including attendance of GMP and negative attitudes are linked to non-attendance and mother with good knowledge may able to understand the information displayed on the growth chart and that motivates to utilize GMP session and mother or care givers who had good knowledge would have an awareness on poor outcome of non-utilizing GMP service, which leads to the utilization of GMP service.The Presence of maternal knowledge on GMP service improves children's nutritional status, subsequent growth and improves infant and young child feeding practice[31,34].

The study had satisfactory response rate and the outcome variable had measured with five key components of the service. using simple random sampling method to select study population and using systematic sampling method to select the study participants minimize the selection bias. The findings add to the literature regarding our understanding of the utilization of GMP and its associated factors. It makes available evidence that may be useful for the design of intervention to improve GMP attendance and reduce malnutrition. Even though the study had a satisfactory response rate, it has certain drawbacks. First the study used only quantitative method, and it was better if qualitative part was used to gather with the quantitative part to find the associated factors. second , this study did not include the urban population,which might affect the generalizability of this finding.

Conclusion

We found that the magnitude of GMP utilization was low when compared with the national nutrition program targets 80. Availability of GM service in the nearest health facility, Antenatal care service, place of delivery, maternal or caregiver's attitude and knowledge toward GMP service were factor associated with Growth monitoring and promotion service utilization. Thus, designing an interventions that promotes increasing ANC, Health Facility

delivery, increase maternal knowledge toward GMP service utilization and creating good maternal attitude toward GMP service utilization by using community development army to improve GMP service utilization.

Availability of the Data and Materials

The data set used or analyzed during this study were available from the coresponding author on reasonable request.

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Author's Contribution

AG, EA and GG designed and worked on the study protocols. AG, EA and GG prepared a data collection tool and provided training to data collectors. AG, EA and GG conducted data entry to Epi data, and SPSS . AG, EA and GG analyzed the data , interprated the results and wrote the manuscript's drafft and final version. All authors read and approved the final manuscript.

Declaration of Competing Interest

As author we declare that we have no competing interest.

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