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# Evaluation implementation growth monitoring and promotion: a case study East Lampung district

**Kiki Kamilah[1], Dewi Marhaeni Diah Herawati[2], Noormarina Indraswari[2]**
[1]Master of Public Health Study Program, Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia
[2]Department of Public Health, Faculty of Medicine, Universitas Padjadjaran, Sumedang, Indonesia

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**ABSTRACT**

The implementation of growth monitoring and promotion (GMP), which functions to monitor the growth and development of toddlers, is carried out by integrated service post community health volunteers (CHVs) (in Indonesia called *Posyandu*), allegedly has not been implemented properly. This research aimed to evaluate the implementation of GMP, its barriers, and supporting factors. The research design is concurrent mixed methods. Quantitative data collection was carried out using GMP practice observation sheets with a sample of 30 CHVs. GMP practice observations were carried out by three observers and the results were analyzed using multi facet Rasch measurement (MFRM). Qualitative data was collected through in-depth interviews and focus group discussion (FGD) with 27 informants. The research results show that GMP practices in the components of growth measurement, plotting measurement results, interpretation of growth indicators, and counseling still need to be improved. Barriers to implementing GMP are human resources, facilities, and infrastructure, lack of motivation, attitude of mothers of toddlers, inadequate capacity of CHV *Posyandu*, and lack of village government support. Supporting the implementation of GMP is the participation, monitoring, and role of CHVs in human development. The research concludes that the practice of implementing GMP in these four components is considered not optimal. It is recommended that *Posyandu* CHVs need to increase their capacity in implementing GMP so that the growth and development of children under five can be properly monitored to prevent early malnutrition and stunting.



***Corresponding Author:***

Dewi Marhaeni Diah Herawati
Department of Public Health, Division of Medical Nutrition, Faculty of Medicine, Universitas Padjadjaran
Eyckman Street No. 38, Bandung 40161, Indonesia
Email: marhaeni@unpad.ac.id

## 1. INTRODUCTION

Severe malnutrition is widespread in children and has a high disease burden concentrated in low and middle-income countries. Almost half of the deaths worldwide in children under the age of five are related to undernutrition, during this critical period good nutritional conditions affect a child's health, development, and physical and cognitive functioning [1]–[4]. Based on WHO data in 2020, 149.2 million children in the world are stunted, 45.5 million are wasting and 38.9 million are overweight [5]. In Indonesia, the Basic Health Research (*Riskesdas*) showed a decrease in the prevalence of stunting, underweight, and wasting from 37.2%, 19.6%, and 12.1% in *Riskesdas* 2013 to 30.8%, 17.7%, and 10.2% in *Riskesdas* 2018 [6].

Severe childhood malnutrition is common and primarily affects low and middle-income communities, with a significant disease burden. The majority of malnutrition treatment and policy initiatives to date have

concentrated on immediate hazards, such as illnesses and fatalities. Nonetheless, there is mounting proof that those who survive starvation have long-term disadvantages, such as an increased risk of non-communicable diseases in later life. As a result of coordinated international initiatives, the prevalence of malnutrition has declined recently. However, food insecurity, conflict, and climate change pose a threat to the persistence of childhood malnutrition in many areas with unstable food supply networks [7]–[10]. Furthermore, malnutrition can have an impact on future generations by reducing physical strength, decreasing productivity at work, increasing the likelihood of unemployment, and raising the chance of poverty. The growth monitoring and promotion (GMP) program has been suggested by the United Nations Children's Fund (WHO) as a way to reduce childhood malnutrition to address this problem [11]–[13].

GMP is used in many low- and middle-income countries to track growth failure early to improve child growth charts through nutrition counseling and other health promotion measures. According to WHO guidelines, GMP includes: i) routine measurement of child weight and length/height; ii) plotting child measurements and comparing the child's nutritional status with growth chart standards to assess the child's growth pattern; iii) counseling according to the growth chart; and, if necessary; iv) taking corrective and health promotion measures [1]. To improve the nutritional condition of children, GMP services are delivered through the primary health care system at the community and health facility levels. GMP is a preventative initiative made up of child GM associated with a promotion that raises awareness of child development, enhances parenting techniques, and boosts the need for additional services [14], [15]. Although GMP services are still used in most low- and middle-income countries, implementation still has many challenges including low service coverage, inadequate training or capacity building of health workers and resulting measurement errors, incorrect interpretation of growth charts, and poor or no counseling [1], [12], [16]. Ideally, health workers should provide information through promotive counseling, facilitate communication, and interact with mothers/caregivers based on the child's status on the growth chart contained in the Maternal and Child Health book [17]. This study's objective is to evaluate how GMP implementation practices, barriers, and supporters.

## 2. METHOD

This research method uses a mixed method research method with a concurrent mixed method strategy, where quantitative data and qualitative data are collected at one time, and then compared to determine whether there are differences, convergence, or combinations [18]. This study was approved by the Health Ethics Committee of the Faculty of Medicine, Padjadjaran University with ethical number 350/UN6.KEP/EC/2023 and permission from the East Lampung District Health Office. The study was conducted in the working area of the Margototo Health Center which includes Kibang Village, Margototo Village, Margajaya Village, Purbosembodo Village, Sumber Agung Village, Margosari Village, and Jaya Asri Village. This research was conducted from March to June 2023.

The quantitative approach is cross-sectional with a post-positivism paradigm. The aim of the quantitative approach is to evaluate the implementation of GMP carried out by Community Health Volunteers (CHVs) using the GMP observation instrument from Sunjaya *et al*. [19]. Which has been modified by the research team. Development or modification of instruments, especially in the health promotion aspect, carried out by CHVs referring to GMP theory. The number of items observed is 26 items for toddlers and 25 items for children >2-5 years. The population of this study was *Posyandu* CHVs. The sample size in Rasch modeling for a sample of N who worked on the instrument according to the corresponding number of items, the mean chance value is between 0-5 and 0.87 so that the standard error model is obtained in the range of:

$$2/\sqrt{(N)}<SE<3/\sqrt{N} \text{ or } 4/SE^2<N<9/SE^2$$

With a confidence level of 99%, it is in the range of ±2.6 SE. For a range of ±1 logit, the SE value is in the range of ±1/2.6 logit, so the number of samples can be determined as:

$$4/((2.6)^2)<N<9/((2.6)^2)$$

That is 27<N<61 (can be seen in Table 1 which is a table created by Linacre). A sample size of 30 CHVs is appropriate for a pilot study, which is a range of ±1 logit with a 95% confidence level. Sampling was carried out using simple random sampling [20].

A review of the GMP observation sheet was carried out by an experts to test the feasibility of the instrument both in terms of grammar and material content. Prior to the assessment, the observers will be explained the assessment aspects contained in the observation sheet. Before collecting data, the researchers tested the reliability and validity of the GMP practice observation sheet in April 2023 on 30 CHVs at 30 Health Center in East Lampung district. Testing the reliability and validity of the observation sheet using Ministep software. The results obtained from the item reliability value of 0.91 indicate that the consistency of the

respondents' answers is very good and the person reliability is 0.87, with a value above 0.8 indicating that the items in the instrument are good. Cronbach's alpha value of 0.91 indicates reliability, which are the interaction between person and item as a whole is very good. The result of measuring the raw variance of the data is 63.4%, indicating that the minimum unidimensionality requirement of 20% can be met, with a value above 60%, which means special. The variance that cannot be explained by the instrument shows a value of 8.4%, 5.2%, 3.8%, 3.2%, and 3.1% which does not exceed 15%, which means it is ideal. Andrich Treshold values (NONE, -0.19, 0.19) which move from NONE then negative and continue to lead to positive in sequence indicate that the options are valid for the respondents. In conclusion, the results of the reliability and validity test of the GMP practice observation sheet can be said to be good [20].

Table 1. Sample size in Rasch modeling

| Stable item calibration | Confidence level | Sample range | Appropriate sample size |
|---|---|---|---|
| ±1 logit | 95% | 16-36 | 30 |
| ±1 logit | 99% | 27-61 | 50 |
| ±0.5 logit | 95% | 64-144 | 100 |
| ±0.5 logit | 99% | 108-243 | 150 |

Quantitative data analysis was obtained from observations were carried out at *Posyandu* activities, when CHVs carried out GMP, they would be assessed by three observers, based on the assessment aspects contained in the observation sheet. The data collected was analyzed with multi-faceted Rasch measurement (MFRM), which is a development of the Rasch measurement model that aims to analyze multi raters. First, the raw score data of GMP practice observations were collected from 3 observers, then the data were entered into the Microsoft Excel program, then the file was saved in the form of a CSV file, then generic coding was carried out to analyze the data to be calculated with Minifac software [21]. The data display after processing will be in the form of interval data which has a logit value. Then the measurement results can be categorized. For GMP practices at CHVs, researchers divide them into three interval scale categories, good (logit value>+1), adequate (logit value between+1 and -1), and less (logit value <-1).

The qualitative research approach is phenomenology, with an interpretivism paradigm. Data collection was carried out through in-depth interviews with the head of the Margototo Health Center and 7 CHVs. Apart from that, a focus group discussion (FGD) was also carried out in 3 groups. The first group is the village midwife group consisting of seven village midwives, the second group consists of three people each program manager consisting of one nutrition implementer, one health promotion program, and one midwife coordinator, and the last group consists of nine mothers of toddlers, so the number of informants for qualitative research is 27 people. Determination of subjects in CHVs informants and mothers of toddlers is by non-probability using purposive sampling which is a technique of determining subjects based on certain considerations and reasons [22]. The head of the health center, the village midwife, the health center nutrition officer and the person in charge of the health promotion program at the health center, and the coordinator midwife at the health center used total sampling, where the head of public health center, health promotion program, midwife coordinator, nutrition implementation, and seven village midwife in Margototo Public health center were all sampled in this study. The research objects used in this research are the results of observations at the *Posyandu* in the form of field notes and document studies. Document studies are conducted through data collection by studying documents that are already available to obtain data or information related to the topic to be researched [23].

Qualitative data analysis techniques are used through several stages including transcription, data sorting, coding, data categorization, describing themes, data verification through trustworthiness, and data representation. Trustworthiness is carried out through several stages, the first is credibility which is carried out through several stages, including triangulation on data, including triangulation on data sources which is implemented with informants in research that are diverse and related to research topics. Continued with triangulation on research methods by collecting data through FGD activities along with field notes, the next step is a triangulation of theory by knowing the perspectives of professionals, in this case through discussion activities with supervisors and debriefing through discussion of research results with supervisors. The next step is a triangulation of theory by knowing the perspectives of professionals, in this case through discussion activities with supervisors and debriefing through discussion of research results with supervisors, the second is transferability where researchers make research results in detail, clearly and systematically so that they can be understood and a clear picture is obtained through thick description, the third is dependability where researchers make reports on the research process starting from determining the problem, searching for data in the field, determining data sources, analyzing and testing the validity of the data and making conclusions, and the fourth is confirmability where the research results can be proven correct because the research results are by the data

that has been collected and analyzed and then included in the research results. Data representation presents the results of research data analysis that is interesting and representative so that it is easily understood by readers [18]. This research uses a phenomenological approach, which tends to seek the meaning of the phenomena experienced by the participants [22]. Qualitative data processing is carried out using content analysis.

## 3. RESULTS AND DISCUSSION

### 3.1. Quantitative result

Characteristics of respondents based on the age of CHVs in the Margototo Health Center working area are more aged 30 to 40 years. Based on the level of education, CHVs in the Margototo Health Center work area are more with junior high school education, while based on the length of time being CHVs more in the range of 11 to 15 years, as shown in Table 2.

Table 2. Characteristics of respondents

| Variable | CHVs (n=30) | % |
|---|---|---|
| Age group | | |
| <30 years | 2 | 6.66 |
| 30-40 years | 14 | 4.67 |
| 40-50 years | 12 | 40 |
| >50 year | 2 | 6.66 |
| Level education | | |
| Elementary school | 3 | 10 |
| Junior high school | 16 | 53.33 |
| Senior high school | 10 | 33.33 |
| College | 1 | 3.33 |
| Length of time being CHVs | | |
| 0-5 years | 12 | 40 |
| 6-10 years | 5 | 16.67 |
| 11-15 years | 13 | 43.33 |

Figure 1 describes the distribution of the wright map of the assessment results carried out by CHVs on the practice of weight measurement of infants 0-2 years. Column CHVs and aspects assessed: there are 8 CHVs with code numbers "13, 24, 26, 29, 5, 7, 1, 11" who mastered the 4 aspects assessed, which are identification of weighing disturbances, determination of the starting numbers of scales, determination of measurement results and recording of measurement results. CHVs with code numbers "15, 3, 14, 19, 20, 23, 30, 4, 6, 9, 12, 2, 8" mastered the 3 aspects assessed, which are determining the starting number of scales, determining the measurement results and recording the measurement results. CHVs with code numbers "18, 22, 25, 27" mastered 2 aspects assessed, which are determining the measurement results and recording the measurement results. While CHVs with code numbers "21, 10, 16, 17, 28" could not master the 4 aspects assessed. The aspect of identification of weighing disturbances is the most difficult aspect practiced by CHVs, while the aspect of recording the measurement results is the easiest aspect practiced by CHVs. Observers with the code "IM" tend to be strict in assessing the practice of weight measurement of infants 0-2 years, while observers with the code "ER" tend to be easy in assessing the practice of weight measurement of infants 0-2 years.

Based on Table 3, GMP practices can be assessed from 4 components separated into 2 categories, which are infants 0-2 years and toddlers 2-5 years, because there are differences in measuring body length and height. Most of the levels of CHVs practices in weight measurement of infants 0-2 years were in the adequate category, and in toddlers 2-5 years most were in the adequate category. The practice of CHVs in body length measurement of infants 0-2 years, mostly in the adequate category, and practice of CHVs height measurement of toddlers 2-5 years, mostly in the adequate category. In the practice of CHVs on plotting the measurement results of infants 0-2 years, most were in the adequate category, while in toddlers 2-5 years, most were in the less category. The practice of CHVs in the interpretation of growth indicators for infants 0-2 years, most of them were in the moderate category, and in toddlers 2-5 years, most of them were in less category. The practice of CHVs in counseling for infants 0-2 years, most of them were in the adequate category, in toddlers 2-5 years, most of them were in the adequate category.

### 3.2. Qualitative result

The number of qualitative participants in this study was 27 respondents. Most respondents were between 22-55 years old, with an associate degree education level (37.1%), and mothers of toddlers background (33.3%), details can be seen in Table 4. The analysis This analysis reveals a composite picture of the results of in-depth interviews, FGDs, and field observations. This study found three themes: GMP practices, GMP barriers, and GMP supporters.

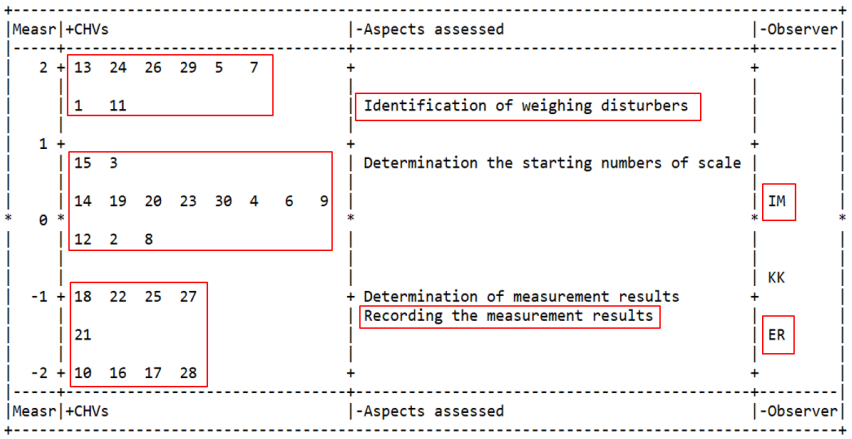


Figure 1. Wright map weight measurement of infants 0-2 years practice

Table 3. GMP practice

| Assessment items | Good % | Adequate % | Less % |
|---|---|---|---|
| Growth measurement | | | |
| Weight measurement of infantss 0-2 years | 26.7 | 43.3 | 30 |
| Weight measurement of toddlers 2-5 years | 20 | 63.3 | 16.7 |
| Length measurement of infants 0-2 years | 23.3 | 43.3 | 33.3 |
| Height measurement of toddlers 2-5 years | 20 | 43.3 | 36.7 |
| Plotting the measurement results | | | |
| Infantss 0-2 years | 23.3 | 43.3 | 33.3 |
| Toddlers 2-5 years | 30 | 33.3 | 36.7 |
| Interpretation of growth indicators | | | |
| Infantss 0-2 years | 23.3 | 43.3 | 33.3 |
| Toddlers 2-5 years | 26.7 | 23.3 | 50 |
| Counseling | | | |
| Infantss 0-2 years | 20 | 53.3 | 26.7 |
| Toddlers 2-5 years | 13.3 | 56.7 | 30 |

Table 4. Informant characteristic

| Informant (n=27) | Age (Years) | Data collection | Level of education | Background |
|---|---|---|---|---|
| I-W1 | 55 | Indepth interview | Bachelor's degree | Head of health center |
| I-W2 | 32 | Indepth interview | High school | CHVs |
| I-W3 | 35 | Indepth interview | Junior high school | CHVs |
| I-W4 | 53 | Indepth interview | High school | CHVs |
| I-W5 | 44 | Indepth interview | Junior high school | CHVs |
| I-W6 | 45 | Indepth interview | Junior high school | CHVs |
| I-W7 | 42 | Indepth interview | Junior high school | CHVs |
| I-W8 | 39 | Indepth interview | Junior high school | CHVs |
| I-F9 | 51 | FGD | Associate degree | Nutrition implementer |
| I-F10 | 39 | FGD | Associate degree | Coordinator midwife |
| I-F11 | 46 | FGD | Associate degree | Health promotion program |
| I-F12 | 43 | FGD | Associate degree | Village midwife |
| I-F13 | 39 | FGD | Associate degree | Village midwife |
| I-F14 | 35 | FGD | Associate degree | Village midwife |
| I-F15 | 37 | FGD | Associate degree | Village midwife |
| I-F16 | 39 | FGD | Associate degree | Village midwife |
| I-F17 | 38 | FGD | Associate degree | Village midwife |
| I-F18 | 53 | FGD | Associate degree | Village midwife |
| I-F19 | 25 | FGD | Bachelor's degree | Mothers of toddlers |
| I-F20 | 30 | FGD | Junior high school | Mothers of toddlers |
| I-F21 | 38 | FGD | Junior high school | Mothers of toddlers |
| I-F22 | 31 | FGD | High school | Mothers of toddlers |
| I-F23 | 22 | FGD | High school | Mothers of toddlers |
| I-F24 | 22 | FGD | Junior high school | Mothers of toddlers |
| I-F25 | 41 | FGD | Elementary school | Mothers of toddlers |
| I-F26 | 29 | FGD | High school | Mothers of toddlers |
| I-F27 | 25 | FGD | Bachelor's degree | Mothers of toddlers |

**3.2.1. Theme 1: GMP practices**

The implementation of growth measurement in the working area of the Margototo Health Center is carried out at the *Posyandu* by *Posyandu* CHVs once a month, including weight weighing and PB measurements for children aged 0-2 years and TB measurements for children aged 2-5 years, the CHVs informant conveyed that the usual way of weighing scales at the *Posyandu* is the determination of the initial number of scales, determining the measurement results and recording the measurement results has been carried out, although not in detail mentioned the steps, only that the informant did not identify weighing disturbances, for example by removing footwear, hats, thick clothes or disposable diapers that can interfere with weighing results.

> *"The way of weighing is that we attach the scales first, the needles must be aligned, later it can be zeroed first, enter the toddler, after that weigh it, see what the number is, then record the results, then we zero the scale again."* (I-W5)

The results show that the skills of CHVs in measuring length in children aged 0-2 years still need to be improved.

> *"How to measure length, the legs must be tight, the head must be close, at least three people, if we measure length, some on the head, some on the stomach, some on the leg so that the results are more accurate."* (I-W7)

The HCVs informant conveyed that the usual length measurement method at the *Posyandu* was not detailed enough, although it was stated that length measurement requires three people as measurers, but the CHVs informant did not ensure that shoes, socks, hair ornaments or headgear were removed before measuring length, besides that the position of the head and feet was not explained to be in a straight-line position. Measurement of TB in children aged 2-5 years shows that the skills of CHVs still need to be improved.

> *"Measuring height, the head must look forward, the numbers must be at eye level, those who measure are usually one person, there is no one to hold if you measure height if the length of the body, someone must help hold it, cadres who help hold it."* (IW-4)

CHVs informants conveyed how height measurements of children aged 2-5 years were usually carried out at the *Posyandu* which lacked detail, CHVs informants did not ensure that shoes/footwear, socks, hairpieces, and headgear were removed before height measurements were taken. CHVs informants only ensure the accuracy of the head position, not ensuring that the five parts of the child's body (back of the head, back, buttocks, calves, and heels) are attached to the measuring instrument. The results of the implementation of plotting the results of growth measurements in the Margototo Health Center working area show that the skills of CHVs in plotting the results of growth measurements still need to be improved.

> *"Actually, in the maternal and child health book, there is already a weight for length chart, weight for age chart, length for agechart, but that's because the chart has never been filled in, actually we have been taught how to fill it in, but not practiced."* (I-F9)

> *"Yes, the height and age, if the weight and height have not been plotted."* (I-W2)

> *"Yes, the charts are all filled in by the midwife."* (I-W2)

Based on observations, length for age or weight for age charts are plotted only every February and August, while weight for height or weight for height charts are almost mostly not plotted every month, if these charts are not plotted, they cannot be interpreted whether the toddler is normal or experiencing growth failure. Counseling is a follow-up to growth monitoring conducted at the *Posyandu*, the results show that there is still a need for increased counseling for CHVs in the Margototo Health Center.

> *"..... if I talk too much detail, I don't dare, at most, I give it to the midwife."* (I-W6)

> *"Even though many cadres are smart, they have read a lot, but they don't have confidence."* (I-F17)

The CHVs informants stated that they did not feel able to carry out counseling, and the CHVs had low self-confidence, so the CHVs advised mothers under five to do counseling with the village midwife, this is by what was expressed by the village midwife informant who stated that the CHVs felt less confident and

nervous if they had to do counseling to mothers under five. Informants of mothers of toddlers stated that the implementation of growth monitoring carried out at the *Posyandu* includes weighing the weight of children under five and measuring the weight for length of children under five only, informants did not get counseling services from either CHVs or village midwives, because after measuring weight for length the informant concerned immediately left the *Posyandu*.

> *"I don't get enough explanation, usually at the Posyandu if you come, only weigh, measure, then go home."* (I-F19)

The results of observations in the field were conducted counseling activities at the *Posyandu* conducted both by CHVs, as well as by health workers from the Margototo Health Center. In some *Posyandu*, mass counseling is conducted at the *Posyandu* every month with material according to a predetermined schedule. Mass counseling is considered to reach more targets when compared to personal counseling, but the knowledge provided is general, and not specific according to the results of monitoring the growth of each child under five. Thematic distribution can be seen in Table 5.

Table 5. Thematic distribution

| Theme | Category | Code |
|---|---|---|
| GMP practices | Growth measurement | Weight measurement |
| | | Length measurement |
| | | Height measurement |
| | Plotting measurement results | Determining the age of children |
| | | Plotting the results of growth measurements |
| | Interpretation of growth indicaors counseling | Interpretation of growth indicators |
| | | Counseling |
| GMP barriers | Human resources | CHVs education |
| | | CHVs understanding |
| | Facilities and infrastructure | Facilities |
| | | Infrastructure |
| | Motivation | CHVs activeness |
| | | Change of CHVs |
| | | CHVs incentives |
| | Attitude of mother of toddlers | The attitude of mothers of toddlers in utilizing the GMP program |
| | Capacity building | CHVs training |
| | The role of village government | Refreshing CHVs |
| | | The role of village government |
| | | The role of family health empowerment |
| GMP supporter | Participation | Corporate social responsibility |
| | | Social gathering for mothers of toddlers |
| | Monitoring | Health fund |
| | | Cross-sector monitoring |
| | Human development CHVs | Monitoring from the community health center |
| | | The role of human development CHVs |

### 3.2.2. Theme 2: GMP barriers

The main human resources involved in the GMP program are *Posyandu* CHVs, CHVs are the main drivers of GMP, where the success of the GMP program is highly dependent on the quality of *Posyandu* CHVs, the results of the research found that most CHVs have a junior high school educational background, and there are even CHVs who have a primary school educational background, the low level of education of CHVs can affect the capacity of CHVs in implementing the GMP program at the *Posyandu*.

> *"……we are aware of ourselves; my education is the lowest compared to others."* (I-W6)

> *"Because the education is also different, the capacity is also different, so there are those who we teach, they seem to understand but the implementation is still wrong, that's just the resource."* (I-F9)

The results of observations in the field, limited facilities that make it difficult to record the results of growth measurements and plotting growth indicators, not even leaving a place to be able to conduct counseling to mothers of toddlers, in *Posyandu*. Based on the results of field notes, counseling and counseling facilities at the *Posyandu* are still inadequate, the *Posyandu* does not have communication media. The success of GMP implementation depends on the participation of CHVs and the community which is influenced by the motivational factors they have; the results show that the activeness of *Posyandu* CHVs is lacking.

*"Sometimes during the harvest season, many people have permission to go to the Posyandu, out of 7 cadres only 3 come, it's a bit overwhelming for the village midwife during the harvest season."* (I-F16)

The CHVs informants indicated that there are CHVs who are not actively coming to the *Posyandu*, the reason for the CHVs inactivity is due to many things, for example CHVs are not active due to many things, because the CHVs are outside the *Posyandu*, besides the *Posyandu* CHVs often change, so the implementation of GMP is less than optimal because with the change of CHVs, new CHVs must be replaced who have not mastered GMP practices. Village midwives find it difficult to find replacement CHVs because not everyone is willing to be appointed as *Posyandu* CHVs.

*"Because the cadres keep changing, actually they have been trained, they understand, then they change cadres, they have to teach them again."* (I-F9)

Village midwife informants also stated that there were complaints from *Posyandu* CHVs about the amount of incentives for *Posyandu* CHVs that had not shown any improvement, by the statements of *Posyandu* CHVs informants who stated that the CHVs incentives they received were inadequate, not proportional to the role of *Posyandu* CHVs in the GMP program. The GMP program in the Margototo Health Center working area is very dependent on the attitude of mothers of toddlers in utilizing the GMP program. The research results show the attitude of mothers who do not take advantage of the GMP program by not attending the *Posyandu*.

*"Sometimes there are those who if their children are told that they are stunted, the next month they don't want to go to the Posyandu."* (I-F16)

*"From the factor of the toddler's mother, we have been told that sometimes they are stubborn, we have given advice, but they don't do it, so there is no change."* (I-F13)

*Posyandu* CHVs who have been given knowledge about GMP through training or refreshing CHVs are expected to practice the knowledge that has been obtained, but due to a low level of understanding, resulting in GMP practices that are not exactly as expected. Efforts by health workers and village midwives to improve the ability of CHVs to practice GMP have been made, but from the results of field notes, CHVs did not practice GMP appropriately, when confirmed CHVs stated that they had forgotten. To improve the quality of basic health services in *Posyandu*, it is necessary to develop appropriate and effective human resources. Training and development of *Posyandu* CHVs is needed to improve their understanding and skills in providing GMP services.

*Posyandu* as a place to organize the GMP program needs support from the village government. The village government in the working area of *Puskesmas* Margototo has tried to support the activities organized at the *Posyandu*, but it has not been optimal enough. In terms of the welfare of *Posyandu* CHVs, the proposed increase in incentives for *Posyandu* CHVs has also been repeatedly proposed by *Posyandu* CHVs and village midwives but has not received a positive response. In terms of guidance to *Posyandu*, *Posyandu* CHVs feel that the role of the village is less than optimal.

*"Supervision at the Posyandu level is also lacking, the village apparatus has never come down, only relying on the village midwife, the village midwife has taken care of others, so the cadres to fill it in also still have mistakes so sometimes it is not monitored."* (I-F9)

**3.2.3. Theme 3: GMP supporters**

Participation is the involvement of groups or communities to realize the implementation of the GMP program. The results of participation found in the Margototo Health Center working area include corporate social responsibility (CSR) and healthy funds. The participation of the business world in the implementation of GMP in the working area of the Margototo Health Center is through CSR from a chicken farm in one of the villages.

*"There is also cooperation with CSR, there is a chicken farm in the village that provides eggs, so once a month the toddlers are given eggs."* (I-F9)

Monitoring is the process of supervising an activity, monitoring the GMP program in the Margototo Health Center working area is carried out by cross-sectors and *Puskesmas*. Based on the FGD results, cross-sector monitoring is carried out through cross-sector mini-workshops (in Indonesia called *Lokmin*) and growth monitoring analysis is carried out every quarter. The cross-sectoral *Lokmin* involves the sub-district head, village head, Family Health Empowerment, agricultural extension workers, and the head of the health center. Growth monitoring analysis involves the Family Health Empowerment and village midwife to discuss the results of measurements at the *Posyandu*.

> *"If there is a quarterly growth monitoring analysis, we involve the Family Health Empowerment mobilizing team and the village midwife, so after we have a weighing month, we discuss what the results of the measurements are, it is conveyed there."* (I-F9)

Monitoring conducted by the Public Health Center is through monthly *Lokmin* and supervision of the *Posyandu*. Monthly *Lokmin* involves cross-programs. Supervision the *Posyandu* by conducting coaching to the *Posyandu*. Coaching to *Posyandu* involves programs related to *Posyandu*. Coaching related to GMP is specifically carried out by Nutrition Executives and Health Promotion Program Managers.

Human development CHVs are village community members who are elected through village deliberations as assistants to the village government and village communities, to facilitate the prevention of stunting convergence. Human development CHVs play a role in assisting *Posyandu* CHVs, especially in measuring the length and height of toddlers. Human development CHVs have an important role in GMP implementation because they collaborate with *Posyandu* CHVs in GMP activities at the *Posyandu*.

> *"We need assistants to measure body length and height, so we can't measure it ourselves, so we empower Human Development cadres to help Posyandu cadres."* (I-F10)

### 3.3. Discussion

The results show that GMP practices in the Margototo Health Center working area from the four aspects assessed are still not optimal. The practice of growth measurement of CHVs in the aspect of weight measurement is not optimal, with the most difficult aspects practice by CHVs being determining the initial number of scales and identifying weighing disturbances, this shows that CHVs still miss some of the right weighing steps the practice of weight measurement, this is in line with research conducted by Eslin, where staff weighs children in full clothes and the weight is not adjusted to their clothes. If weighing techniques are inconsistent, incorrect scale readings may be recorded [24], [25]. Eslin's research used qualitative methods, while this research uses a concurrent mixed method strategy where researchers collect both qualitative and quantitative data, where quantitative data is tested with multi-facet Rasch measurement, to get the results of an accurate analysis used to evaluate CHVs GMP practices [21].

The practice of CHVs in the aspect of plotting the measurement results is considered not optimal, the most difficult aspects in practice by *Posyandu* CHVs are aspects of plotting body length measurement results on weight for length graph and plotting measurement results on weight for height graph, this indicates that plotting growth results has not been included in all growth indicators, this is in line with Melkamu's research which states who stated that workers did not plot the results of the child's weighing and measurement in the registration book [26]. The practice of CHVs in the aspect interpretation of growth indicators is considered not optimal, with the most difficult aspects practiced by CHVs being aspects of interpretation of normal or failure to grow on the weight for length chart and interpretation of normal or failure to grow on the weight for height chart. This shows that CHVs have not interpreted all growth indicators, only the weight for the age indicator. In determining the nutritional status of children, four anthropometric indicators must be considered to identify growth problems and take further preventive and management actions [27], [28]. The results of this research are in line with research conducted by Mabesa where growth charts were not interpreted correctly on the child health cards [28].

The practice of CVHs in the counseling aspect is considered not optimal, the most difficult aspects are the counseling aspects of balanced nutrition for infants 6-12 months and the counseling aspects of balanced nutrition for toddlers 2-5 years. The results of this research are in line with research conducted by Eslin and AditiantiIf advice on GMP activities does not go well, staff will not provide individual counseling to mothers and caregivers of children, nor will they provide appropriate nutritional advice, counseling will only be given in cases of malnutrition [24], [26]. Counseling provided to caregivers during routine GMP activities was seen as weak CHVs seemed to place more emphasis on child weighing as there was no counseling based on child growth curves [27]. Counseling is a highly professional form of care that requires skills, experience, and time, and the implementation of GMP in the Margototo Health Center working area is difficult because most CVHs have low education, low self-confidence, and do not receive adequate training in counseling [24]. Through counseling, mothers of toddlers will receive services on healthy parenting and feeding, as part of malnutrition prevention, therefore nutrition interventions should emphasize nutrition counseling and the availability of GMP services [29], [30].

#### 3.3.1. GMP barriers

The obstacles to GMP that researchers encountered in the Margototo Health Center working area included human resources, facilities and infrastructure, motivation, attitudes of mothers of toddlers, capacity building, and support from the village government. In this research, GMP barriers were found in human

resources at the *Posyandu* CHVs, which were the inhibiting factors in terms of CHVs' education and understanding of CHVs. Some CHVs have lower educational backgrounds. CHV's education level affects CHV's skill in interpreting weighing results in young children's health cards. The higher the education level, the better equipped the CHV is to interpret the child health card weighing results. Facilities and infrastructure are the supporting factors in the implementation of an activity or program. The research found that the facilities and infrastructure of *Posyandu* in the working area of Margototo Health Center are still inadequate, physical facilities in the form of furniture are still limited in number and the *Posyandu* does not yet have a building.

The poor attitude of mothers of children under five in utilizing the GMP program is one of the factors that can hinder the GMP program [4]. The results showed that mothers of children under five were reluctant to bring their children to carry out GMP at the *Posyandu*, like the research conducted by Kiros, where mothers of toddlers do not take advantage of reducing morbidity and mortality rates of infantss and children caused by malnutrition [11], [14]. The key to influencing behavior is attitude [31], [27]. When they feel comfortable with the GMP program or have a positive attitude toward the program, caregivers of children under five are more likely to attend GMP sessions [32].

Capacity building of CHVs related to GMP that has been implemented by the East Lampung District Health Office and Margototo Health Center is not sufficient, because not all CHVs have received training or refreshing CHVs related to GMP, the number of trained CHVs is decreasing along with the findings of CHVs turnover in each *Posyandu*. The low ability of CHVs in GMP practices can lead to errors in the identification and classification of nutritional status. Therefore, the capacity of CHVs must be increased in the application of GMP, especially regarding promotive nutrition counseling and its follow-up so that the GMP program can run better [1], [33]. The results showed a lack of village government support for *Posyandu* in the Margototo Health Center working area. Institutionally the *Posyandu* is not part of the village government, so it does not have a clear line of coordination with the village government, the relationship that binds the two has been limited to the relationship of the assistance program, even though in practice the *Posyandu* has carried out activities by the role that should be carried out by the village government to carrying out basic public services. This issue, if not resolved immediately, will threaten the sustainability of the *Posyandu* as an implementer of the GMP program.

### 3.3.2. GMP supporters

Supporters of GMP that researchers encountered in the Margototo Health Center working area include participation, monitoring, and the role of human development CHVs. Participation is voluntary involvement in the program, either from a group or community. Participation in the GMP program in Margototo Health Center working area from the business world is CSR as a corporate social responsibility towards aspects of community empowerment. Not only large companies but also small and medium-sized companies have similar responsibilities. The practice of CSR is a form of concern for the business world in contributing to the alleviation of social problems in Indonesia [34]. CSR obtained from chicken farms in Kibang Village, in the form of corporate philanthropy, is the provision of donations as charitable activities in the form of grants of goods for the provision of additional food in *Posyandu*.

Monitoring is an activity to observe the progress of program implementation, monitoring of the GMP program in the Margototo Health Center working area has been regularly carried out, both by cross-programs and health centers. A regular monitoring system is very important due to the high turnover of CHVs and the low education level of CHVs. Human development CHVs in the working area of Margototo Health Center have a role in the GMP program to raise public awareness of stunting by measuring the length and height of toddlers. Human development CHVs was chosen as a partner because they were selected from village meetings, and then appointed by the village head according to the terms and conditions that have been applied. CHW involvement has resulted in major improvements in health priority areas, including reducing childhood malnutrition such as wasting and stunting [35]. Limitations of this research on GMP implementation is a limited implementation for the Margototo Health Center work area only, so it cannot be generalized to another health center. In conducting FGDs with mothers of toddlers, informants also brought their toddlers so that the implementation of FGDs was not optimal.

## 4. CONCLUSION

GMP implementation practices in the components of growth measurement, plotting measurement results, interpretation of growth indicators, and counseling in the working area of the Margototo Health Center are not optimal, especially in the components of plotting measurement results and interpretation of growth indicators. Obstacles to GMP implementation in the working area of Margototo health center are human resources, facilities, and infrastructure, lack of motivation, attitudes of mothers of toddlers, inadequate capacity building of CHVs, and lack of village government support. Supporters of GMP implementation in the working area of Margototo Health Center are participation, monitoring, and the role of human development CHVs. The weakness of this study is the implementation of FGDs on informants of mothers of toddlers, informants also

bring their toddlers so that the implementation of FGDs runs less optimally. Recommendations that can be given are needed to increase the capacity of CHVs related to GMP practices in *Posyandu* to improve the skills of CHVs related to GMP practices in *Posyandu*, as well as improve monitoring, and coaching *Posyandu*. It is necessary to conduct quasy experiment pre post-test GMP research on CHVs to be trained on how to practice GMP correctly, and then see the results.

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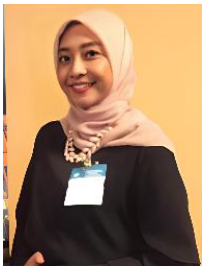
## BIOGRAPHIES OF AUTHORS

**Kiki Kamilah** is a Functional Health Promotion and she works at the East Lampung district Health Office. She completed her undergraduate studies in Public Health studies at the Faculty of Public Health, Malahayati University. She obtained her master's degree in public health in the Public Health Magister programme at Padjadjaran University. She can be contacted at email: kiki21002@mail.unpad.ac.id.

**Dewi Marhaeni Diah Herawati** is a lecturer at the Department of Public Health Faculty of Medicine Universitas Padjadjaran, she is Professor in Public Health. She has several publications that focus on community nutrition, public health, and policy. She is also a reviewer in several international journals. She can be contacted at email: marhaeni@unpad.ac.id.



**Noormarina Indraswari** is a lecturer at the Department of Public Health Faculty of Medicine Universitas Padjadjaran. She has several publications that focus on epidemiology nutrition and public health. She can be contacted at email: noormarina@unpad.ac.id.