

# Comparison Of Characteristics Of Posyandu Services During The Covid-19 Pandemic Before And After Revitalization Of Posyandu And Empowerment Of Cadres Through Integrated Program

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**Abstract.** The Covid-19 pandemic has disrupted maternal and child health services at the Integrated Health Center (Posyandu). Posyandu play central role for early detection of stunting when a child fails to grow to the proper height for his or her age in children under five (toddler). Currently Posyandu target to reach at least 80% attendance rate has also not met. Before pandemic, Posyandu has started to even become less attractive, as evidenced by the increasing number of community absenteeism at the Posyandu, from 25.5% (2007) to 34.3% (2018). Weak implementation of Posyandu and the lack of cadres' ability in carrying out their task as one of the factors for the low level of community participation. We aim to provide a pilot intervention to address these issues. The purpose of this study was to compare the characteristics of Posyandu services during the Covid-19 pandemic and after Covid-19 pandemic with interventions given in the form of revitalizing posyandu and empowering cadres. This research method used descriptive research with survey research design. The population in this study were 85 targeted children in four Posyandus across Ende district. The sampling technique is simple random sampling. The results showed that before the intervention 78.8% of respondents received more than one type of health service and increased to 80% after the intervention. The visiting frequency to posyandu increased from 57.6% to 82.5%, There is a slight decrease in Posyandu's attendance due to Pandemic, from 77.6% to 75%. It can be concluded that the intervention in the form of revitalizing posyandu and empowering cadres through an integrated program is one solution to provide improvement in Posyandu services.

## 1 Background

Community health services during Covid-19 pandemic have experienced many challenges, including maternal and child health services at the Posyandu. Several programs related to

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maternal and child health encountered problems in their implementation in terms of quantity and quality, such as the coverage and completed Antenatal Care (ANC) services, child immunization (*Imunisasi Dasar Lengkap/IDL*) and posyandu service deliveries. The target achievement in the program experienced a drastic decline especially when pandemic hit Indonesia. As a vulnerable group, pregnant women, breastfeeding mothers, and children need serious attention from various parties such as Family Welfare Empowerment Team (*Pemberdayaan Kesejahteraan Keluarga/PKK*), Posyandu organizers that are mainly in village authorities, PuskesmasCommunity Health Center (*Pusat Kesehatan Masyarakat/Puskesmas*), and politicalcommitment and leadership at all levels [1]. Posyandu is a form of Community Based Health Efforts (*Upaya Kesehatan Berbasis Masyarakat/UKBM*) that is managed and organized from by the community in the implementation of health development, to empower the community and provide high quality and complete care so that pregnant women and babies can be protected from preventable causes of maternal and infant mortality and morbidity[2]. In doing so, one effort that has been put in place is providing community-based health services through Posyandu. Posyandu is also referred to as a form of health service organized for and by the community, to close the gap in maternal and child services with technical support from health workers.

Posyandu provides immunization services, examination of pregnant women, education, screening, and increasing public awareness regarding malnutrition in toddler. Posyandu has also played a role for early detection of stunting in toddlers, especially in the first two years of a child's life or we called it golden period. However, Posyandu is nowadays starting to become less attractive, as evidenced by the increasing number of community absenteeism at Posyandu from 25.5% (2007) to 34.3% (2018) [3]. Weak implementation of Posyandu and the lack of ability of cadres in carrying out their duties are one of the factors for the low level of community participation. This condition is exacerbated by the lack of cadres' ability to measure infant body length or children's height, it is still a reference for early detection of stunting. Standardized anthropometric measurement tools are also not available in every Posyandu, with the exception of *Dacin*, a measuring scale that is usually used to weigh agricultural products. As a result, stunting is unlikely to be detected at the outset. The purpose of this study was to describe the comparison of the characteristics of posyandu services during the Covid-19 pandemic before and after the intervention for revitalizing posyandu and empowering cadres through an integrated program in Ende City, Ende Regency, Flores, East Nusa Tenggara Province.

## 2 Method

This research has a community based participatory research framework (Community Based Participatory Research or CBPR) using cross sectional approach with simple cluster sampling method. The questionnaire was used to collect data related to the health status of, infant and young child feeding practices (IYCF), access to Posyandu services and essential health services for toddlers and pregnant women. The results of the questionnaire analysis was used to measure the impact of the integrated program implementation in Posyandu. Questionnaires were given to parents or family representatives who agreed to consent and presented at one of the targeted Posyandu during data collection. Respondents who took apart in both the baseline and endline surveys were selected when they were presenting at the Posyandu. Parents of toddlers who are willing to participate in the study signed an informed consent.

In this study we did not determine the number of respondents who participated. However, we expected 50 - 100 parents of toddlers took part in each survey, out of an estimated 200 toddlers who were targeted at the four Posyandu. The inclusion criteria in this study were children under five who have been the target of the Posyandu for approximately 1 year and they were willing to the research participant. Quantitative data management will be inputted

and analyzed using SPSS software to obtain descriptive and analytical results. This study by the Institute for Health Research Ethics Commission of the University of Mataram with Ethical Permit Number 142/UN18.F7/ETIK/2020. Each respondent received a consent form and no respondent will be identifiable in this study. In response to Covid-19, we have planned several preventive measures during the activity’s implementation and data collection. The mitigation strategy is to comply with health protocols to prevent the spread of Covid-19. This health protocol is by wearing the masks (mandatory) and face shields (if any), maintaining a safe distance, preventing crowds, providing hand washing places or hand sanitizers, shortening the duration of activities. Training of cadres related to safe Posyandu implementation during the new normal period and providing equipment Standard Personal Protective Equipment (PPE) for enumerators, cadres and research teams who interact directly with respondents.

### 3 Results And Discussion

Ende Regency is one of the areas with a high poverty rate according to the village development index [4]. One of the sub-districts that needs the serious attention regarding maternal and child health is the Middle Ende District (Working Area of the Ende City Primary Health Center/*Puskemas*) that covers area of 7.64 km2. There are 4 urban villages inhabited by 23,854 people based on the 2020 census. In this area, there are three registered treatment centers (*balai pengobatan*) four pharmacies, several maternity clinics and one hospital in Ende regency and limited referral services for maternity care is also identified [5]

Table 1. Showed the distribution of respondents based on age, gender, education level, occupation, number of family members living in one house, number of children under five years old (toddler) living in one house, respondent’s relationship with toddlers and reasons for mothers of toddlers not being respondents, monthly family income.

| Variable                                     | Baseline  |                 | Endline   |                 |
|--|-----------|-----------------|-----------|-----------------|
|  | Mean      | Minimum-Maximum | Mean      | Minimum-Maximum |
| <b>Age (Years)</b>                           | 32.4      | 13 - 57         | 33.20     | 21 - 71         |
| Number of family members living in one house | 5.85      | 3 - 14          | 5.80      | 1 - 11          |
| Number of toddlers living in one house       | 1.34      | 1 - 5           | 1.28      | 0 - 2           |
| <b>Sex</b>                                   | <b>F</b>  | <b>%</b>        | <b>F</b>  | <b>%</b>        |
| Male   | 7         | 8.2             | 7         | 17,5            |
| Female                                       | 78        | 91.8            | 33        | 82,5            |
| Total  | <b>85</b> | <b>100.0</b>    | <b>40</b> | <b>100.0</b>    |
| <b>Education</b>                             |           |                 |           |                 |
| Not completed primary school                 | 0         | 0               | 0         | 0               |
| Primary school                               | 12        | 14.1            | 4         | 10,0            |
| Junior high school                           | 11        | 12.9            | 5         | 12,5            |
| Senior high school                           | 39        | 45.9            | 25        | 62,5            |
| Higher education                             | 23        | 27.1            | 6         | 15,0            |
| Total  | <b>85</b> | <b>100.0</b>    | <b>40</b> | <b>100.0</b>    |
| <b>Work</b>                                  |           |                 |           |                 |
| Government employees                         | 1         | 1.2             | 0         | 0               |
| Private employees                            | 8         | 9.4             | 1         | 2,5             |
| Self-employed                                | 3         | 3.5             | 1         | 2,5             |
| Laborer                                      | 1         | 1.2             | 1         | 2,5             |
| Housewife                                    | 62        | 72.9            | 33        | 82,5            |

|  |           |              |           |              |
|--|-----------|--------------|-----------|--------------|
| Others   | 10        | 11.8         | 4         | 10,0         |
| <b>Total</b>   | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Respondent's relationship with toddler</b>            | <b>F</b>  | <b>%</b>     | <b>F</b>  | <b>%</b>     |
| Parents  | 71        | 83.5         | 34        | 85,0         |
| Grandmother (member of household)                        | 6         | 7.1          | 5         | 12,5         |
| Neighbor (not a family member of household)              | 2         | 2.4          | 1         | 2,5          |
| Other household members                                  | 6         | 7.1          | <b>0</b>  | <b>0</b>     |
| <b>Total</b>   | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Reasons for being or not being respondents</b>        |           |              | 35        | 87,5         |
| Attending the Posyandu                                   | 71        | 83.5         | 2         | 5,0          |
| Not attending Posyandu (Working or are outside the home) | 14        | 16.5         | 3         | 7,5          |
| <b>Total</b>   | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Income per month</b>                                  | <b>F</b>  | <b>%</b>     | <b>F</b>  | <b>%</b>     |
| <1.000.000   | 39        | 45.9         | 16        | 40,0         |
| 1,000,000 – 2,000,000                                    | 27        | 31.8         | 18        | 45,0         |
| 2,100,000–3,000,000                                      | 9         | 10.6         | 5         | 12,5         |
| 3,100,000 – 4,000,000                                    | 3         | 3.5          | 1         | 2,5          |
| 4,100,000 5,000,000                                      | 3         | 3.5          | 16        | 40,0         |
| > 5,000,000  | 1         | 1.2          | <b>0</b>  | <b>0</b>     |
| Unknown  | 3         | 3.5          | <b>0</b>  | <b>0</b>     |
| <b>Total</b>   | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |

Source: Primary data 2022

Table 1 showed that the majority of the respondents are female (91.8%), about half completed primary and high school and one fifth having university degree More than sixty percent is housewife and the rest are working in various sectors. Sucipto's research reveals that there is no relationship between the gender of the respondents and the practice of posyandu cadres in weighing children under five at the posyandu [6]

Meanwhile, the average age of respondents was 32.4 - 9167. According to Saefullah's research, posyandu at the age of 20-40 years are considered motivational, cadres are responsible and able to apply it as posyandu cadres compared to cadres who are 20 or 50 years old. In this age group between 20 and 40 the level of maturity and memory of the cadres are at a better stage[7]. Yahya (2006) the older the person does not correlate with the better their knowledge[8]

The education level of 45.9% of the respondents is high school graduates Stages or levels of education are stages of continuous education, which are determined based on the level of development of students, the level of complexity of the learning materials and the method of presentation of the materials [9]. The high level of education will generally be accompanied by an increase in one's understanding. Posyandu cadre education level is significantly related to knowledge [10]. The results of Sucipto Edi's research also show that there is a relationship between respondent characteristics (education) and the practice of posyandu cadres in weighing children under five at the posyandu [6]

The main occupation of the majority of respondents as housewives 72.9% Saefullah's research reveals that cadres who do not have permanent jobs tend to be better at implementing the toddler weighing program. From the group of cadres who do not have permanent jobs, they will have free time to participate in carrying out weighing toddlers [7]. Busy work sometimes makes a mother forget her duties and responsibilities [11]. In addition, the average

number of family members living in one house is 5.85 people with a minimum number of 3 people and a maximum number of 14 people and with a standard deviation of 2,107 years. Meanwhile, the number of toddlers (children under 5 years old) who live in one house is 1.34 with a minimum of 1 person and a maximum 5 people and with a standard deviation of 0.642.

Other baseline data shows that the majority of respondents' relationships with toddlers as parents (mother/father) are 71 respondents (83.5%). Meanwhile, the reason why parents (mothers) of children under five did not come to the posyandu and did not become the majority of respondents was because they were traveling, namely 8 people (9.4%) and the majority of respondents had a monthly family income of less than Rp. 1,000,000 (45.9%).

While the endline data of respondents showed that the majority of respondents were female, namely 33 respondents (82.5%). Meanwhile, the average age of respondents at the last birthday was 33.20 with a standard deviation of 11.235. The education level of the majority of respondents is high school graduates, namely 25 people (62.5%) and the main occupation is the majority as housewives, namely 33 people (82.5%).

The average number of family members living in one house is 5.80 people with a minimum number of 1 person and a maximum number of 11 people and a standard deviation of 2,493 years. Meanwhile, the number of toddlers (children under 5 years old) living in one house is 1.28 people with a minimum number of 0 people and a maximum number of 2 people and with a standard deviation of 0.554. In addition, endline data shows that the majority of respondents' relationships with toddlers as parents (mother/father) are 34 respondents (85.0%). While the reasons for parents (mothers) of toddlers not coming to the posyandu and not being the majority respondents were because they were working outside the home and other reasons, namely 2 people each (5.0%) and the majority of respondents having a monthly family income of 18 respondents earning IDR 1,000,000 to 2,000,000 or (45.0%).

Iamansari and colleagues Previous study (2016) showed, the characteristics of respondents before the intervention (pre-test that includes characteristics (age, education, occupation, length of time being a cadre and frequency of training), knowledge scores, attitudes scores and counseling skills scores were not significantly different between the intervention and control. showed that there were higher scores in the knowledge, attitudes and counseling skills in the intervention group [12]

Table 2. Distribution of respondents based on types of posyandu services and frequency of visits

| Variable  | Baseline  |              | Endline   |              |
|---|-----------|--------------|-----------|--------------|
|   | F         | %            | F         | %            |
| <b>Services received by children in the last three months of visits to Posyandu</b> |           |              |           |              |
| Weighing  | 6         | 7.1          | 3         | 7,5          |
| Additional food   | 0         | 0            | 1         | 2,5          |
| Breastfeeding counseling  | 1         | 1.2          | 0         | 0            |
| Other medicine  | 4         | 4.7          | <b>0</b>  | <b>0</b>     |
| Do not get any of the services  | 3         | 3.5          | 0         | 0            |
| More than one service   | 67        | 78.8         | 32        | 80,0         |
| Do not know   | 2         | 2.4          | 3         | 7,5          |
| Not born yet  | 2         | 2.4          | 1         | 2,5          |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Frequency of visits to Posyandu</b>  |           |              |           |              |
| Very month  | 49        | 57.6         | 33        | 82,5         |
| 1 to 3 times  | 17        | 20.0         | 2         | 5,0          |
| 4 to 6 times  | 5         | 5.9          | 0         | 0            |
| 7 to 10 times   | 1         | 1.2          | <b>0</b>  | <b>0</b>     |
| > 10 times  | 1         | 1.2          | <b>0</b>  | <b>0</b>     |
| Not yet born  | 3         | 3.5          | 3         | 7,5          |
| Never   | 3         | 3.5          | 2         | 5,0          |

|   |           |              |           |              |
|---|-----------|--------------|-----------|--------------|
| Do not know   | 6         | 7.1          | 0         | 0            |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Frequency of weighing or measuring height</b>  |           |              |           |              |
| 1 to 2 times  | 28        | 32.9         | 12        | 30,0         |
| 3 to 4 times  | 12        | 14.1         | 11        | 27,5         |
| 5 times   | 8         | 9.4          | 1         | 2,5          |
| > 5 times   | 2         | 2.4          | 0         | 0            |
| No Posyandu   | 32        | 37.6         | 0         | 0            |
| Every Month   | 3         | 3.5          | 16        | 40,0         |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>The effect of Covid-19 on the presence at Posyandu</b>   |           |              |           |              |
| Yes   | 66        | 77.6         | 10        | 25,0         |
| No  | 19        | 22.4         | 30        | 75,0         |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Administration of vitamin A capsules in the last 6 months</b>                                      |           |              |           |              |
| Yes   | 66        | 77.6         | 30        | 75,0         |
| No  | 16        | 18.8         | 8         | 20,0         |
| Do not know   | 3         | 3.5          | 2         | 5,0          |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Dewormingin the last 6 months</b>  |           |              |           |              |
| Yes   | 32        | 37.6         | 12        | 30,0         |
| No  | 51        | 60.0         | 23        | 57,5         |
| Do not know   | 2         | 2.4          | 5         | 12,5         |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>Receive/buy packets of multivitamin powder sprinkled on children's food</b>                        |           |              |           |              |
| Yes   | 9         | 10.6         | 2         | 5,0          |
| No  | 72        | 84.7         | 35        | 87,5         |
| Do not know   | 3         | 3.5          | 3         | 7,5          |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |
| <b>The last time received a packet of multivitamin powder sprinkled on children's food (taburia).</b> |           |              |           |              |
| Do not receive  | 60        | 70.6         | 29        | 72,5         |
| Receive in 6 Months, 9 Months and 11 Months   | 6         | 7.1          | 0         | 0            |
| Do not know   | 19        | 22.4         | 11        | 27,5         |
| <b>Total</b>  | <b>85</b> | <b>100.0</b> | <b>40</b> | <b>100.0</b> |

Source: Primary data 2022

Table 2 showed more respondents are found at baseline received more than one type of service in the last three months of visits to posyandu (n=67),78.8%, the types of services included weighing, height measurement, additional food (*Pemberian Makanan Tambahan/PMT*), immunization, health checks, breastfeeding counseling, counseling on the provision of additional food and so on. Lukwan shows, there was a sufficient relationship between knowledge an performance of Posyandu cadres[13].

Ruwayda (2017) finds that there was a relationship between the roles of health workers, youth Posyandu cadres and family support on adolescent behavior to posyandu [14]. Meanwhile, the frequency of visiting the posyandu 49 respondents (57.6) was regular and 32 respondents (37.6%) did not weigh or measure height because that there were no posyandu services that survived the Covid-19 pandemic and 66 (77.6%) revealed Covid-19 effect on the presence of toddler at Posyandu.

Posyandu cadres have a significant role in ensuring the continuity of services during the pandemic, so the knowledge is important to be improved in cadres. Based on Rahmawati's study, the knowledge of posyandu cadres on Covid-19 was good. However, there are some questions with the lowest correct answers. For instance, a total of 53.14% of posyandu cadres

did not know how to protect themselves from Covid-19 at home, 43.46% do not know body temperature that can be indicated as being infected with diseases including Covid-19, and 39.01% did not know cough or sneeze etiquette [10].

Furthermore, 66 respondents (77.6%) received vitamin A capsules in the last 6 months while 51 respondents (60.0%) had never given their children deworming medicine in the last 6 months, 72 respondents (84.7%) had never received or purchased a multivitamin powder package. sprinkled on children's food and 60 respondents (70.6%) did not receive or buy packets of multivitamin powder sprinkled on children's food (*taburia*). Research by Imansari et al revealed that nutrition education had a significant effect on better score of knowledge, attitudes and counseling skills in the intervention group [12]

Endline data showed 32 respondents (80%) received more than one type of service received in the last three months of visiting posyandu, The types of services include weighing, measuring height, supplementary food (PMT), immunization, health checks, counseling, breastfeeding, counseling on supplementary feeding and so on. While the frequency of visits to posyandu as many as 33 respondents (82.5%) was regular visit every month and 16 respondents (40.0%) weighed or measured height during corona because there was no posyandu service and 30 (75.0%) revealed that Covid 19 had no effect. On the presence of toddlers in Posyandu. In addition, as many as 30 respondents (75%) had been given vitamin A capsules in the last 6 months, 23 respondents (57.5%) had never given their children deworming medicine in the last 6 months, 35 respondents (87.5%) had never received/purchased a multivitamin powder package. sprinkled on children's food and 29 respondents (72.5%) did not get or receive or buy packets of multivitamin powder sprinkled on children's food (*taburia*).

The working mechanism of Posyandu is a series of activity that consists of input, process and output. Input is the availability of resources used for the implementation of posyandu activities including facilities and infrastructure, human resources (health workers, cadres, local government officials) and the availability of funds.

Based on the Minister of Home Affairs Regulation Number 19 of 2011 about Guidelines for the Integration of Social Services in Integrated Service Posts, it is stated that Posyandu cadres or cadres are community members who are willing, able and have the time to organize Posyandu activities voluntarily.[15] Posyandu cadre is a person who because of his skills or abilities is appointed, elected and or appointed to lead the development of Posyandu in a place or village. Every local resident, male or female, who can read and write, has free time, has the ability and is willing to work voluntarily with sincerity, can become a cadre [16]. The existence of cadres means that the messages received will not occur deviations. So that the messages conveyed can be received perfectly thanks to the presence of cadres, it is clear that the formation of cadres is the embodiment of development in the health sector [17].

The processes in the posyandu system include organizing, implementing, coaching and monitoring officers, carrying out home visits by cadres, evaluating programs, providing feedback on the results of posyandu activities, and providing rewards for cadres. The outputs of posyandu activities were indicated by weighing activities, supplementary feeding services, distribution of nutrition improvement packages, immunization services, family planning services and counseling[18]

Research conducted by Zulhaida Lubis in Medan show, the knowledge of Posyandu cadres was significantly related to the role of cadres in the use of Maternal and Child Health books which included monitoring the health of children under five at the Posyandu [19]. The results of the contingency coefficient test show that there is a sufficient relationship between knowledge and the performance of Posyandu cadres, where the higher the knowledge of the cadres, the better the performance [20]

### 3 Conclusion

There are differences in the distribution of characteristics of posyandu services during the Covid-19 pandemic before and after the revitalization of posyandu and empowerment of cadres through integrated programs in Ende region. The change in Posyandu services is more due to the Covid-19 pandemic.

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