

Reducing Stunting Through Mapping Convergence Interventions in Padang Pariaman Regency

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Abstract

This research aims to reveal how to reduce stunting through mapping convergence interventions in Padang Pariaman Regency. This research used Mix Methods with a sequential explanatory design. Research targets focuses on families who give birth too young, too many, too close in spacing and too old. Families having no toilets for defecation and with inadequate water sources are as one of the target as well. The result shows; 1) Stunting are suffered from families with too many births, too close in spacing, and too young, 2) BKKBN conducted to outreach the families who give birth too old about the risks of giving birth, 3) BKKBN provided additional nutritional intake for pregnant women and children aged 6- 23 months, 4) BKKBN provided an assistance to poor and vulnerable families, 5) BKKBN campaigned to stop defecating in open area 6) a percentage of households that have access to adequate sanitation and adequate drinking water. Meanwhile, the types of treatment provided are 1) outreach to young women in consuming blood supplement tablets, 2) outreach to mothers by socialization the importance of immunization and carrying out routine immunizations for children under five years, 3) Meal assistance for families who need it most 4) Ministry of Public Works prioritizes the vulnerable families to get adequate access drinking water and sanitation.

Keywords: *Stunting, Mapping, Convergence, Intervention.*

Introduction

The World Health Organization (WHO) tolerates only 20 percent as a maximum number of stunting prevalence in a country. It indicates that if the stunting prevalence rate more than 20%, it means that the country seriously facing health problems. Furthermore, according to WHO, Indonesia has high prevalence of stunting. It is a health problem that contributes to the majority of the disease burden and impacts to the premature death. A number of researches suggests that stunting closely correlates between poverty and malnutrition such as conducted in South Africa. Stunting impacts to disruption children's growth both in brain and body. They are very risky of developing metabolic and degenerative diseases later in life.

Currently, Indonesia is ranked fifth in the world in terms of stunting. Stunting in children is mostly caused by poor nutrition, a high disease burden, inadequate child feeding, poor sanitation, and a lack of access to high-quality health and nutrition services. Therefore, a more effective and efficient accelerated stunting prevention program is needed. The stunting problem in Indonesia has spread to several provinces, including the province of West Sumatra.

Based on data from any various sources, the prevalence of stunting in West Sumatra has been serious concern since 2018. In the beginning of 2018, the number of stunting cases in West Sumatra was still quite high. Data from the West Sumatra Provincial Health Service shows that the number of stunting has reached 27.67 percent. Even though it was still under the national level, West Sumatra was the third rank in Sumatra, surpassing neighboring Bengkulu and Jambi Province. In 2020 the Local Government would have expand the scope of stunting intervention.

There were 9 areas with the highest stunting in West Sumatra, namely Pasaman Regency, West Pasaman

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Regency, Solok Regency, Pesisir Selatan Regency, Sijunjung Regency, 50 City Regency, Padang Pariaman Regency, and Padang City. In 2019, 32.8% of the population of West Sumatra experienced stunting, but in 2021 West Sumatra Province succeeded in reducing the prevalence of stunting from 31.2% to 23.3%.^{14,15} The stunting prevalence rate in this province in 2022 was 25.2%, an increase slightly of 1.9% from 2021 which was 23.3%.^{16,17} If we look at the district level in sequence, namely: Solok Regency is in first place with a stunting prevalence rate of 40.1%, followed by Pasaman Regency (30.2%), Sijunjung Regency (30.1%), Padang Pariaman Regency (28.3%), 50 Cities Regency (28.2%), Mentawai Islands Regency (27.3%), Pesisir Selatan Regency (25.2%), South Solok Regency (24.5%), West Pasaman Regency (24.0%), Agam Regency (21.6%), Tanah Datar Regency (21.5%), Sawahlunto City (21.1%), Pariaman City (20.3%), Padang Panjang City and Payakumbuh City (20%), Dharmasraya Regency (19.5%), Bukittinggi City (19.1%), Padang City (18.9%), and finally Solok City (18.5%).

There are five groups that should be targeted by stunting prevention programs, namely teenagers, those about to enter marriage (potential brides), pregnant women, breastfeeding mothers and children aged 0-59 months. Still, the intervention that is usually carried out is during the golden period, namely the pre-pregnancy period up to 2 years. Why is maximum effort needed to prevent stunting at this time? The 1000 First Day of Life period is a critical period of child growth and development which is influenced by pre-pregnancy, pregnancy and breastfeeding. It is hoped that the process of intervening with these five groups must be clear and ensure the programs and activities. For teenagers, there will be education so that they understand about physical and reproductive health as preparations for starting a family and behaving consciously about balanced nutrition. Meanwhile, for pregnant women, they receive an adequate nutritional supply so that they will avoid Chronic Energy Deficiency (CED) and Anemia during pregnancy. For toddlers, their nutritional status can be detected early so that there are no stunting and late nutritional interventions.

Padang Pariaman Regency is one of the districts that is very risky and it has the potential for stunting in West Sumatra. Based on the prevalence of stunted toddlers from the 2021 Indonesian Nutrition Status Survey data, Padang Pariaman Regency was found to be 28.3 percent. With a fairly large population of 433,108 people. placing Padang Pariaman as an influential buffer district in West Sumatra in handling issues related to this, namely efforts to intervene stunting. In the past five years, starting from 2017 to 2021, based on data from nutritional surveillance the incidence of stunting has actually decreased significantly in Padang Pariaman, It was noted from 20.5% (in 2017) to 9.5% (in 2021).^{20,21} On the other hand, based on data sourced from the Indonesian Toddler Nutrition Status Survey, the prevalence of stunting in 2019 was 29.7% (in the barchart on the left).²² This difference always occurs considering that data collection on eCBNRR is carried out through enumeration. Weighing at integrated service posts (Posyandu) by Posyandu cadres in the area. The aim is to get an overview of the health condition of a toddler. Cadres register in the available applications. However, it is necessary to look at the scope of toddlers who come to the Posyandu. Is it 100% or even below 50%? In this situation, the weighing results do not yet show the actual conditions in the area. This is different from the survey method, in this case the nutritional status survey, a survey is carried out to represent the population of children under five in the area, which is then referred to as a census block. So, the two types of stunting results from the two methods, namely eCBNRR and INSS, always show different numbers. Stunting prevalence figures through eCBNRR tend to show lower results than through INSS. Methodologies differ in this case.

To support interventions to fulfill optimal nutrition, the role of various parties is needed, from the central government, regional government, health service implementers to the community. In preventing stunting, strategic efforts need to be made. It is necessary to understand the factors that influence stunting. In Presidential Decree 72, in handling stunting, you should pay attention to specific and sensitive intervention factors. One of them is non-participation in family planning, which is assumed to mean that when a family has many children it becomes difficult to take care of a large number of family members, it is feared that the family members will not have adequate nutritional intake.

Methods

The research uses a combination (Mix Methods) with a sequential explanatory design or combining both quantitative and qualitative research methods sequentially. The quantitative method was conducted to obtain measurable targets. It was descriptive data seen from mapping the distribution of stunting risk factors in Padang Pariaman Regency through Pensi Penting (Mapping of Convergence Interventions for the Acceleration of Stunting Reduction). The qualitative method proves, deepens and expands quantitative data, to obtain direction in order to accelerate stunting reduction in Padang Pariaman based on a family approach at risk of stunting. Quantitative and qualitative methods combine the results of mix methods to obtain more complete conclusions and recommendations for stunting management.

Results and Discussion

Family variables for the risk of stunting may be a variety of problems. Those variables are being too young to give birth, too old to give birth, too close together and too many children (later known as 4T), the variable of lack of toilets and inadequate sources of drinking water are 6 (six) variables which are the family baseline risk of stunting, if it is not addressed. So, it is necessary to map the causes of stunting risk per region. Several studies have found that elements of environmental sanitation and drinking water are the most dominant factors causing stunting in children. Then other research found that maternal reproductive factors were closely related to the incidence of stunting.

Mapping is carried out with the help or approach of a Geographical Information System (GIS). The composition of the convergence team in mapping areas at risk of stunting in West Sumatra consists of the Governor of West Sumatra. On the first page of the important Pensi application, it displays a mapping dashboard which aims to see families at risk of stunting with 14 indicators in the family data collection held by the BKKBN in 2021. However, due to time constraints, researchers only analyzed the 6 indicators that are dominant and most problematic in Padang Pariaman Regency.

The intervention dashboard section, which aims to see the extent of interventions that have been carried out on target families at risk of stunting, according to the region and intervention indicators, will display a map of the progress/progress of the intervention for each indicator. If the intervention carried out is still below 25 percent of the target, it is categorized as red. If the intervention is 26 to 50 percent of the target it is categorized as yellow. If the intervention is 51 to 75 percent of the target it is categorized as green. If the intervention is above 75 percent of the target, it is categorized as blue. In the entry menu, to report intervention activities carried out by the convergence team by entering the date, intervention provider, form of intervention, indicators being intervened, intervention area, sources and estimated costs used, as well as selecting families who have been intervened by name by address. In the report menu, it is used to see the progress of interventions carried out for each existing indicator. For more details, see the table below.

Table 1. Mapping of Convergence Interventions to Reduce Stunting (Important Pension) in Padang Pariaman Regency 2023

Subdistrict	Criteria											
	Families with too many births	%	Families with too old births	%	Families with births are too close	%	Families who give birth too young	%	The family does not have a toilet	%	Families with Improper Water Sources	%
2 X 11 Enam Lingkua ng	978	4%	2531	5%	154	5%	8	7%	1626	6%	148	2%

2 X 11 Kayu Tanam	1597	7%	4043	8%	244	7%	6	5%	272 6	10 %	308	4%
Batang Anai	2826	13 %	5662	11 %	338	10 %	15	14 %	199 7	7%	336	4%
Batang Gasan	482	2%	1265	2%	91	3%	0	0%	413	1%	423	5%
Enam Lingkung	1163	5%	2580	5%	173	5%	7	6%	205 4	7%	302	4%
Iv Koto Aur Malintang	1165	5%	2692	5%	184	5%	2	2%	130 5	5%	937	12 %
Lubuk Alung	2631	12 %	5761	11 %	379	11 %	29	26 %	211 9	7%	303	4%
Nan Sabaris	1449	7%	3235	6%	249	7%	3	3%	119 8	4%	427	5%
Padang Sago	480	2%	1114	2%	58	2%	5	5%	100 4	4%	659	8%
Patamu an	945	4%	2163	4%	136	4%	4	4%	233 9	8%	140	2%
Sintuak Toboh Gadang	1026	5%	2189	4%	136	4%	7	6%	124 0	4%	323	4%
Sungai Garingging	1554	7%	3727	7%	260	8%	3	3%	200 4	7%	1206	15 %
Sungai Limau	1272	6%	3059	6%	244	7%	9	8%	167 5	6%	466	6%
Ulakan Tapakih	1188	5%	2553	5%	181	5%	1	1%	125 2	4%	138	2%
V Koto Kampung Dalam	386	2%	2898	6%	136	4%	5	5%	229 1	8%	393	5%
V Koto Timur	752	3%	1904	4%	109	3%	5	5%	119 8	4%	944	12 %
Vii Koto Sungai Sarik	1985	9%	4379	8%	301	9%	1	1%	189 9	7%	514	2%
Amount	21879	100 %	51755	100 %	3373	100 %	110	100 %	283 40	100 %	7967	100 %

Based on the table 1, it can be seen that families with too many births, too old, too close are found in Batang Anai District and Lubuk Alung District, families who do not have toilets, found in Kayu Tanam, Patamu an and V Koto Kampung Dalam and families do not have a clean water source. IV Koto Aur Malintang, Sungai Garingging, V Koto Timur. For more details, see the figure 1 below:

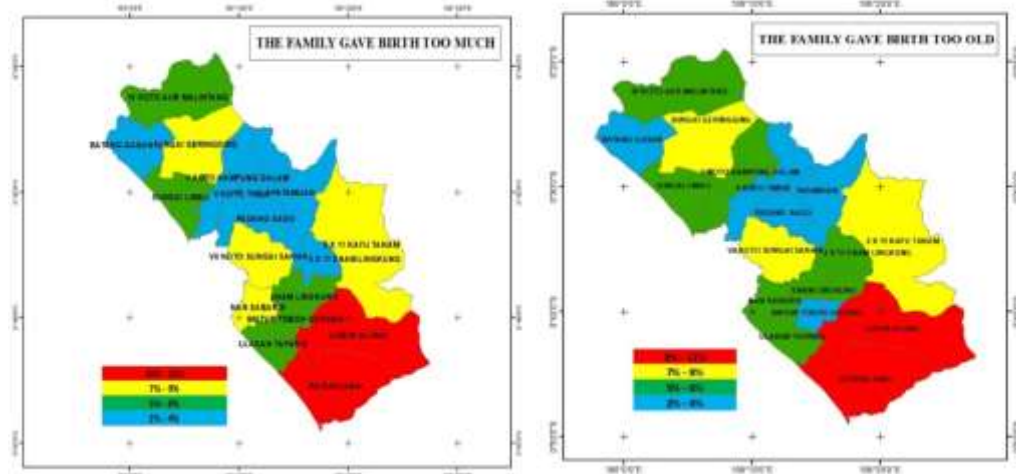


Figure 1. Families Giving Birth the Most and Too Old

Based on figure 1, it can be seen that there are two sub-districts that have the highest number of birth family indicators, namely Batang Anai Sub-district and Lubuk Alung Sub-district with a percentage value of 10% - 13%. Then at the second level followed by Nan Sabaris District, 2 x 11 Kayu Tanam, Sungai Geringging and Sungai Limau with a percentage value of 7% - 9%. Furthermore, at the third level there are 5 sub-districts, namely Ulakan Tapakis, Sintuk Toboh Gadang, Enam Lingkung, IV Koto Aur Malintang and Sungai Limau with a percentage of 5% - 6%. Lastly, those with the smallest values are Batang Gasang Sungai Geringging District, V Koto Kampung Dalam, V Koto Timur Patamuan, Padang Sago, 2 x 11 Enam Lingkung with a percentage value of 2% - 4%.

The highest number of families giving birth too late is in Batang Anai and Lubuk Alung Districts with a percentage of 9% - 11%. At the second level, there are 2 x 11 Kayu Tanam, VI Koto Sungai Sariak and Sungai Geringging sub-districts with a percentage value of 7% - 8%. At the third level, there are Ulakan Tapakis, Nan Sabaris, Enam Lingkung, Iv Koto Aur Malintang, 2 Finally, the lowest is in the Districts of Batang Gasan, Padang Sago, Patamuan, Sintuak Toboh Gadang and V Koto Timur with a percentage value of 2% - 4%.

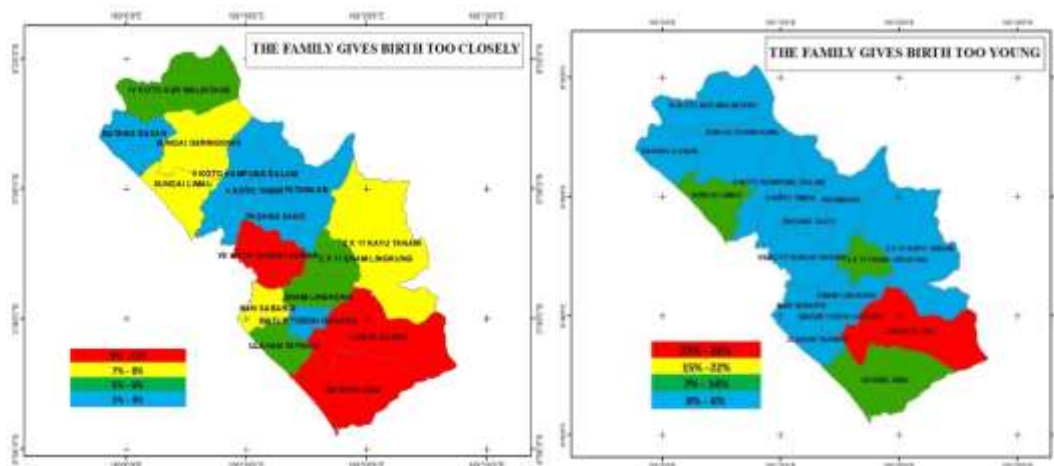


Figure 2. Families With Births Too Close Together and Too Young

Based on figure 2, it can be seen that the highest percentage of families giving birth too close together is in 3 sub-districts, namely Batang Anai, Lubuk Alung and VII Koto Sungai Sariak sub-districts with a percentage of 9% - 11%. Then the second highest is in Nan Sabarais District, 2 x 11 Kayu Tanam, Sungai

Limau, and Sungai Geringging with a percentage value of 7% - 8%. The third highest is in the districts of Ulakan Tapakis, Enam Lingkung, 2 x 11 Enam Lingkung and IV Koto Alur Malintang with a percentage value of 5% - 6%. Lastly, the lowest were in Sintuk Toboh Gadang, V Koto Kampung Dalam, V Koto Timur Patamuan, Padang Sago, and Batang Gasan Districts with percentage values of 1% - 4%. The families with very young births are found in Lubuk Alung District with a percentage value of 26%. The second level is in 2 X 11 Enam Lingkung District, Batang Anai, Sungai Limau, with a percentage of 7% - 14%. Finally, with the smallest value, there are sub-districts 2 and VII Koto Sungai Sarik with a percentage value of 0% to 6%.

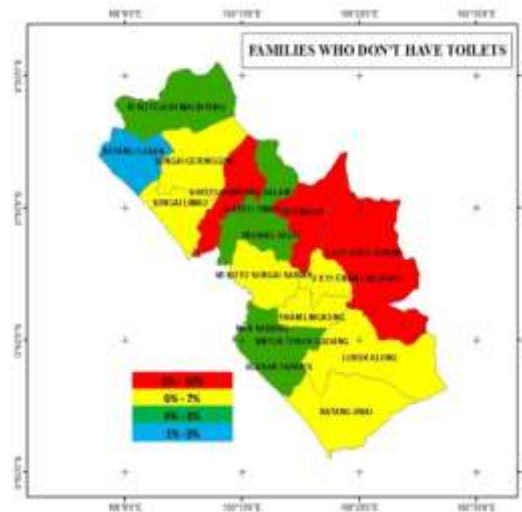


Figure 3. Family Map Does Not Have a Latrine Where They Defecate

Based on the map above, it can be seen that the highest number of families who do not have a toilet where they defecate is in the 2 The second highest is in Districts 2 Then the third is in the Districts Iv Koto Aur Malintang, Nan Sabaris, Padang Sago, Sintuk Toboh Gadang, Ulakan Tapakis, and V Koto Timur with a percentage of 4% - 5%. Lastly, the lowest value is in Batang Gasan District with a percentage value of 1% - 3%.

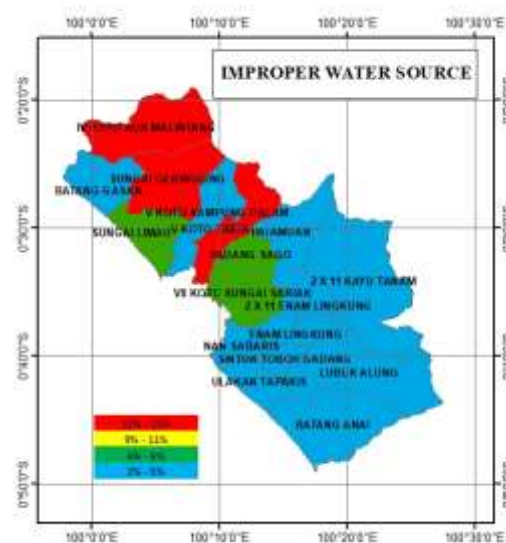


Figure 4. Families with Improper Water Sources

Based on figure 4, it can be seen that the families with the highest unsuitable water sources are found in the

Districts Iv Koto Aur Malintang, Sungai Garingging, and V Koto Timur with a percentage value of 12% - 15%. Furthermore, at the second level there are Padang Sago, Sungai Limau and VII Koto Sungai Sarik Districts with a percentage value of 6% -8%. Finally, with the lowest value, there are 2 X 11 Enam Lingkuang, 2 - 5%.

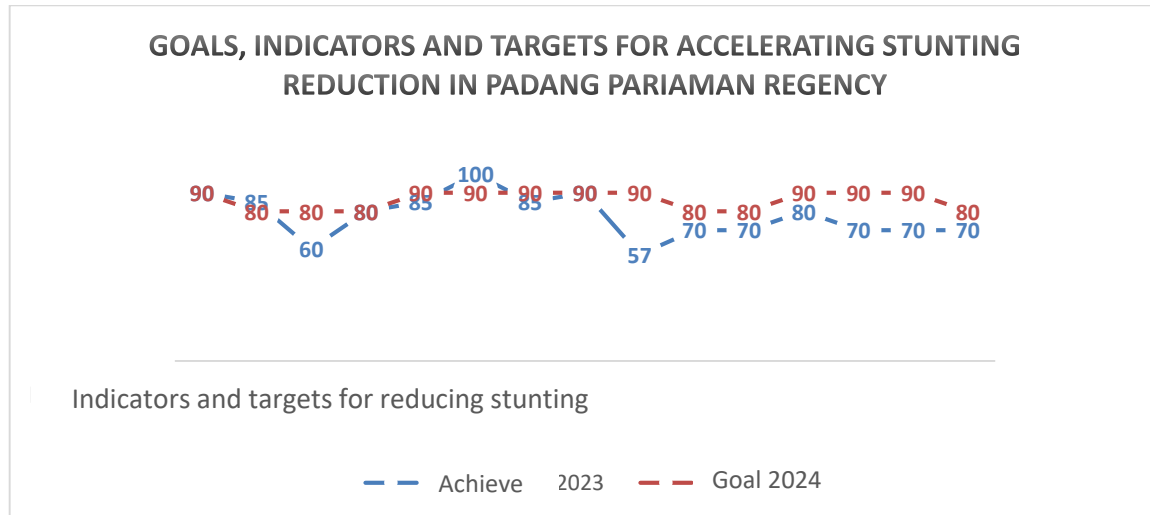


Figure 5. Goals indicator and targets For Accelerating Stunting Reduction in Padang Pariaman Regency

The policy to reduce stunting is very clear, namely the instruction of Presidential Decree 72 of 2021 followed by Perban 21 of 21 concerning the National Action Plan for the Acceleration of Stunting Reduction (RAN PASTI). The regulation already mentions indicators of success in SRA. There are 91 indicators in the presidential decree and 90 indicators in the RAN PASTI. In terms of SRA, SRAT has tried its best to implement it from the center to the village/kelurahan/nagari level. Regular reporting is done via the Bina Bangda website. However, there is a bias between reporting and implementation in the field. There are still visible disparities between reporting districts and the prevalence of stunting in their regions. So, under these conditions, of course maximum efforts are needed that are more applicable in dealing with stunting through interventions on the ground through activities that are deemed capable of addressing this inequality. The targets, indicators and targets for accelerating stunting reduction to be achieved for handling stunting in Padang Pariaman Regency are as follows:

Based on figure 5, it can be seen that the targets and achievements that have been implemented in Padang Pariaman Regency in 2023 have not yet reached the specified targets. This can be seen from the availability of sensitive intervention services, the presentation of which in 2023 is still far from the target. Target indicators and targets for accelerating stunting reduction in Padang Pariaman Regency are based on data obtained by the Specific Intervention service for handling adolescent girls who consume Blood Additive Tablets with a percentage of 60%, children under five years old (toddlers) who receive complete basic immunization 57% Meanwhile, for sensitive intervention services, 70% of households have access to adequate drinking water in district/city priority locations, households have access to sanitation (domestic wastewater), National Guarantee Assistance. Recipients of Health Contribution Assistance.

Based on this, the types of treatment provided are 1) outreach to young women about consuming blood supplement tablets 2) outreach to mothers about the importance of immunization and carrying out routine immunizations for children under five years of age (toddlers) 3) targeted assistance on target for families who need 4) priority to get access to proper drinking water, access to sanitation.

Conclusion

Based on the results of the mapping of convergence interventions to reduce stunting in Padang Pariaman Regency, the direction for handling stunting is focused on families who give birth too young, families who

give birth too many times, families who give birth too close together, families who give birth too old, families who do not have a latrine where they can defecate. and families with inadequate water sources. Based on the results of research and processing of important pension data, directions for handling stunting in Padang Pariaman Regency are 1) providing family planning services to families with too many, too close and too young birth rates 2) providing socialization to families giving birth too old regarding the risk of giving birth 3) providing additional nutritional intake for pregnant women and children aged 6-23 months by getting weaning food 4) providing assistance to poor and vulnerable families who receive conditional cash assistance 5) conducting outreach to stop open defecation 6) percentage of houses household members who have access to proper sanitation and adequate drinking water. Meanwhile, the types of treatment provided are 1) outreach to young women about consuming blood supplement tablets 2) outreach to mothers about the importance of immunization and carrying out routine immunizations for children under five years of age (toddlers) 3) targeted assistance on target for families who requires 4) prioritize families to get access to proper drinking water and to get access to sanitation.

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