

ANNUAL REPORT 2019

Outreach Therapeutic Infant Food Agency (OTIFA) Project:
Alleviating Malnutrition among Under-Five Children in Tasikmalaya



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Contents

Contents	3
Abbreviations	4
Preface	5
What is OTIFA	6
How OTIFA Works	7
Growing with OTIFA	11
The Future of OTIFA	14
Acknowledgements	15
Partners	16
Team	17
Contact Us	18

Abbreviations

GDP	Gross Domestic Product
MUAC/A	Middle-Upper Arm Circumference-for-Age
NGO	Non-Governmental Organization
OTIFA	Outreach Therapeutic Infant Food Agency
UMTAS	Universitas Muhammadiyah Tasikmalaya
UNICEF	United Nation's Children Fund
UNSIL	Universitas Siliwangi
W/H	Weight-for-height
WHO	World Health Organization
YATS	Yayasan Anak-Anak Tasik Sejahtera

Preface



Hunger affects how we get on with our day; at the slightest, feeling hungry might cause us to lose focus and become easily irritated. At worst, it may determine how one person grows, mentally and physically, which plays a huge role in their future. Imagine going back to school, craving to learn, but was unable to focus due to hunger. Imagine this happening continuously--for days, weeks and months--until we fell ill. Growing up and able to sleep without hunger is a privilege, which some children do not have, as they do not have control over what happens to them. They might not have a choice, **but we do.**

Stunting is attributed to nearly half of all under-five child deaths. Undernutrition puts children at higher risk of dying from common infections, increases the frequency and severity of such infections, and delays recovery. The penalty of stunting accounts for around 7 percent of GDP per capita and hampers poverty alleviation efforts by 5 percent.

West Java is estimated to have 31.1 percent of stunted under-five children, higher than the national level of 30.8 percent in 2018. As one of the consequences, 7,340 under-five children died in Tasikmalaya City alone. How could we achieve the national target of 14 percent of stunting by 2024 if we still do business as usual?

The PA International Foundation, together with Yayasan Anak-Anak Tasik Sejahtera (YATS), launched the Outreach Therapeutic Infant Food Agency (OTIFA) program in 2018 as a food supplementary intervention along with empowering local university students as volunteer. Since the first outline in 2016, OTIFA aims to alleviate malnutrition for under-five children in Tasikmalaya City and Regency. OTIFA does not replace other (formal) malnutrition projects that have been running in Tasikmalaya. Instead, the program complements those and tries to provide a cost-effective model to be continued by the local government and possibly other authorities. PA International Foundation built a bridge of cooperation and played a catalyst role among different stakeholders, namely the Health Office (Dinas Kesehatan) of Tasikmalaya City and Regency, Universitas Siliwangi (UNSIL), Universitas Muhammadiyah Tasikmalaya (UMTAS), NGOs, and private sectors, to enable the full implementation of the program.

This report will introduce you more about OTIFA, how it works, and the progressive achievements made in the past one year. Hopefully, this will bring a light of hope, igniting our spirit to alleviate malnutrition and create a better future for humankind.

What is OTIFA

The OTIFA project aims to prevent and stop child malnutrition and to improve the nutritional status of under-five children in Tasikmalaya through community development programs and activities involving multiple stakeholders. It first outlined in 2016 led by PA International Foundation Board Member and Senior Advisor, Dr. Widjaja Lukito. He saw the potential of empowering the youth as volunteer to be agent of health in solving malnutrition problems. Acts as a catalyst, PA International Foundation connects YATS as the executor of the project to collaborate with key stakeholders.

The outcomes of the project are to detect and register cases of under-five children with mild, moderate, and severe wasting in selected sub districts in Tasikmalaya City and Regency and reduce its number. The key activities include surveillance, nutrition counselling, and providing food supplement.

Since the first launch in September 2018 until July 2019, of 236 screened under-five children, 219 children are finished and 14 children are still on program. The children are coming from five districts: Cibereum (city area), Mangkubumi (city area), Cibalong (regency area), Padakembang (regency area), and Rajapolah (regency area). The volunteers from UNSIL and UMTAS conduct weekly visit to the children's house for at least 8 weeks and provide multi-micronutrient powder (MixMe) and/or ready-to-use therapeutic food (Plumpy'Nut) as a food supplement to help the children catch up his/her growth and development. Stakeholders that involved were Tasikmalaya City Health Agency, Tasikmalaya Regency Health Agency, UNSIL, UMTAS, student executive of faculty of public health from both universities, BAZNAS Tasikmalaya City, BAZNAS Tasikmalaya Regency, Fatayat Aisyiyah, and Lazis NU.



How OTIFA Works

Volunteers play an essential role in OTIFA. They are university students from UNSIL and UMTAS, selected through an open recruitment process through an interview based on their motivation and time availability. The recruitment was done in September 2018 (Batch 1) and February 2019 (Batch 2). The newly selected volunteers attended trainings and lectures from Dr. Widjaja Lukito to increase their knowledge on malnutrition and Junior Health Consultant of PA International Foundation, Ms. Cleo Indaryono, on their technical skills to be implemented on the field.

In Batch 2, OTIFA recruited trainers from the previous batch 1 volunteers. Trainers are responsible in supervising and provide peer-to-peer sharing experience to the field volunteers. The selected trainers received training for their new responsibility from Ms. Cleo.

The criteria for eligible cases of the OTIFA children were: 1) mid-upper arm circumference-for-age (MUAC/A) Z-Score below -1 SD; 2) no severe disease or complication; and 3) the mother/guardian of the child was willing to participate. The child will be considered finished if their MUAC/A Z-Score had reached upper -1 SD. The mother/guardian who wanted to end the project before the program finishes would be considered as withdrawn and had to fill a withdrawal form.

Besides stunting, there are many forms of malnutrition, including wasting. The difference is on the measurements: height-for-age for stunting and weight-for-height for wasting. However, they share common risk factors, impact on each other, and share common consequences. It means that solving one could lead to the other. OTIFA project uses MUAC/A as an alternative for weight-for-height (W/H) measurement. Measuring MUAC only required a short measuring tape which eased the volunteer with limited mobility to reach the children's houses distributed all over the area. Using the same malnutrition classification for W/H, the classification of malnutrition using MUAC/A is -1 to -2 SD as mild, -2 to -3 SD as moderate, and below -3 SD as severe. In OTIFA project, child with mild malnutrition was included as a preventive measure for the child becoming more malnourished.

"I am happy, there were people who care and giving hope for my child. They also educate me on how to take care the health of my child."

-- Ms. Liyah Darliyah,
Batch 1



The key activities of OTIFA project were surveillance and intervention with supplementary food. The volunteers were teamed up into groups of two and each group was responsible to handle at least 5 children. Volunteers were provided the list of potential children based on *Bulan Penimbangan Balita* (under-five children monthly weighing) data from Tasikmalaya City Health Office and Tasikmalaya Regency Health Offices. The volunteers were also doing active case finding where they looked systematically for cases of malnutrition in groups

known, or thought to be at higher risk of malnutrition, rather than waiting for the children to fall into malnutrition and present themselves for medical attention.

During each visit, the volunteers were driven to each child's house by KlikQuick, an on-demand local transportation company partner. Once arrived, the volunteers measured the MUAC/A Z-Score of the child and interviewed the mother/guardian about the child's overall status of health and food intake. If it was the first visit and the child met the criteria, the volunteers will offer the mother/guardian with consent form to participate their child to the project. If they do not consent, the child will be listed and reported to the Health Office for a close monitoring.

The visit for on-project children was conducted once a week for at least 8 weeks. Their progress was recorded and monitored through a monitoring book for every child and mobile application, compiled in a digital database. Each visit consisted of nutritional status assessment (i.e. MUAC/A Z-Score monitoring, nutrition counselling) and supplied supplementary food for a week. The child was provided with supplementary food based on their MUAC/A Z-Score. If the score was -1 to -2 SD (mild wasting), the child would be received multi-micronutrient powder MixMe. Ready-to-use therapeutic food Plumpy'Nut would be given to the child with a score of -2 to -3 SD (moderate wasting).



Plumpy'Nut is a ready-to-use therapeutic food by French company Nutriset which is specifically formulated for the nutritional rehabilitation of children from six months of age suffering from severe acute malnutrition. The intervention with Plumpy'Nut makes home treatment, ambulatory, or outpatient care possible for moderately malnourished children with good appetite and no medical complications. Plumpy'Nut is mainly consisted of peanut butter with 500 kcal per sachet. During OTIFA project, children with a score of -2 to -3 SD had to consume one sachet per day during the intervention period.

Table 1. Nutritional Values of Plumpy'Nut

Plumpy'Nut formula: elements for 92 g (one sachet)					
Energy	500 kcal	Copper	1.5 mg	Vitamin B1	0.46 mg
Proteins	12.8 g	Iron	10.3 mg	Vitamin B2	1.5 mg
Lipids	30.3 g	Iodine	98 µg	Vitamin B6	0.55 mg
Carbohydrates	45 g	Selenium	28 µg	Vitamin B12	1.5 µg
Calcium	302 mg	Sodium	165 mg	Vitamin K	14.4 µg
Phosphorus	343 mg	Vitamin A	0.79 mg	Biotin	56 µg
Potassium	1,171 mg	Vitamin D	14 µg	Folic acid	184 µg
Magnesium	80 mg	Vitamin E	18.4 mg	Pantothenic acid	2.8 mg
Zinc	11.8 mg	Vitamin C	46 mg	Niacin	4.6 mg

Source: <https://www.nutriset.fr/products/en/plumpy-nut> (accessed: October 24, 2019)

MixMe is a micronutrient powder produced by DSM Nutritional Products, Ltd. consists of various essential vitamins and minerals that are often missing in the diet of 6-59 months of age children. The

product is sprinkled over any semi-solid food before consumption. During OTIFA project, children with a score of -1 to -2 SD had to consume one sachet per day during the intervention period.

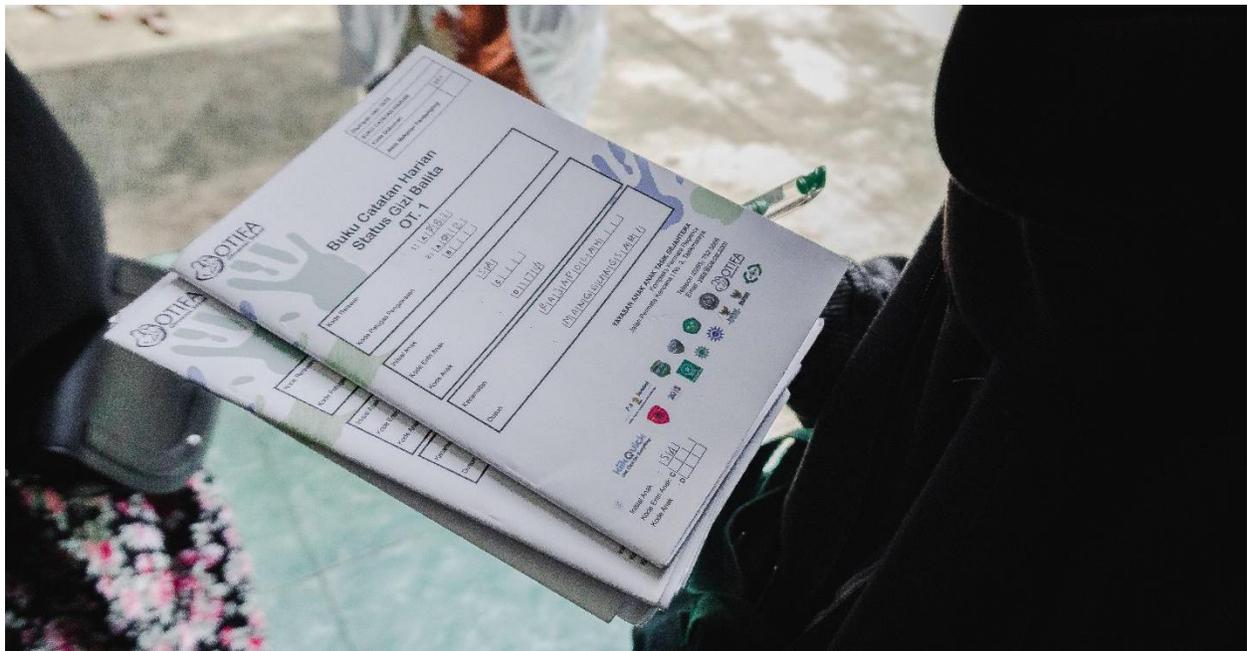
The progress of each child was recorded and monitored on an individual book and online form that could be accessed via smartphone. All data were compiled in an online database maintained by YATS. On a monthly basis, YATS reported the update situation of OTIFA project, including the status of the children, to related stakeholders.



Table 2. Nutritional Values of MixMe

MixMe formula: elements for 1 g (one sachet)					
Vitamin A	400 mcg	Vitamin B6	0.5 mg	Iron	10 mg
Vitamin D	5 mcg	Vitamin B12	0.9 mcg	Zinc	4.1 mg
Vitamin E	5 mg TE	Niacinamide	6 mg	Copper	0.56 mg
Vitamin B1	0.5 mg	Folate	150 mcg	Selenium	17 mcg
Vitamin B2	0.5 mg	Vitamin C	30 mg	Iodine	90 mcg

Source: https://atlife.co.za/product_information/mixme/ (accessed: October 24, 2019)





Ms. Ika Kartika
Mother of the child (Batch 2)

Before joining the program, my son was less active than other children his age. I was very scared on what people will say if my son is malnourished. Until one day, two volunteers came to my house and wanted to help my son. They were referred by the health cadre in my neighbourhood.

During the first days, my son needed to be watched closely when consuming Plumpy'Nut. Day by day, it seems like he started to like it. When he was bored with the usual serving, I tried to modify Plumpy'Nut as a peanut butter spread with biscuit or trying out other recipes.

The volunteers assisted me with patience, they wholeheartedly wanted to support the growth and development of my son. They taught me about nutrition and child development, which some of it I never knew before. Although I like to cook, I just know that I did not give my son enough nutrition for his actual requirement. My son did not like white rice so I only gave him simple dish like fried egg. I feel very helped with the volunteer, when actually I feel bad I cannot payback their kindness.

Now my son can play around with the other children, his body is also gained much from before the program. He has good appetite now.

I think the OTIFA has already done well. My hope is that my son will continue to grow and develop well after the program ends.

Growing with OTIFA

In less than one year, OTIFA has helped more than 200 children from malnutrition. For the purpose of this report, only children who have finished their intervention and monitoring card were included for further analysis. One-hundred-and-twelve children were analysed based on their demography, type of supplementary food given, medical condition, intervention week distribution, feeding compliance, and completed cycle distribution. The primary outcome of this report was MUAC/A Z-Score difference between entry and exit point.



Table 3. Results from Analysis of 112 children on OTIFA

	Frequency (n=112)		Frequency (n=112)
Geographic Distribution		Compliance Rate	
Cibeureum	32	Low (<25%)	14
Mangkubumi	14	Low-Medium (25-49%)	35
Padakembang	19	Medium-High (50-74%)	40
Rajapolah	44	High (≥75%)	23
Cibalong	3	Intervention Week Distribution (mean)	
Sex		Total week	16.90
Boy	57	Missed week	3.04
Girl	55	Visited week	13.87
Age (month; mean)		Completed Cycle Distribution	
Enter	33.66	1 cycle (8 weeks)	66
Exit	37.67	2 cycles (16 weeks)	28
Type of Food		≥3 cycles (≥24 weeks)	18
MixMe	82	MUAC/A Z-Score (mean)	
Plumpy'Nut	3	Enter	-1.02
Combined	27	Exit	-0.35
		Entry-Exit Difference	0.68

Based on the demographic situation, most of the children were located at Rajapolah area, with an almost even distribution between boys and girls, and they were around 34 to 38 months old during the intervention.

Most of the children were taking MixMe as their supplementary food. The distinguish number between MixMe group and Plumpy'Nut number was because most of the children had -1 to -2 SD MUAC/A Z-Score. Besides that, there were children who were not able to eat the food based on their anthropometric status because of reasons such as allergies and no appetite to the food. As a result, there were children who received both products during their intervention, grouped as "Combined".

Beside the fieldwork, I build network with likeminded people who care with the future of this country. I hope many children will be benefited from OTIFA, alleviating malnutrition in Tasikmalaya, and more people willing to care and serve.

– Ms. Anisa Nurapipah, Volunteer Batch 2



From the overall kinds of supplementary food, most of the children had medium-high compliance rate (50-74%). This is inseparable from the role of volunteers in educating the parent. Complaints from parents such as defecating a blackened stool after being given micronutrient powder or the children who were bored with their food can be solved by the committed and trained volunteers.

Most of the children went through 17 weeks of intervention with total average 3 weeks of missed visit. The missed visit is when the volunteer came to the children’s house but they did not meet the children for reasons such as the child was sleeping or out of place. Or when the volunteers were having semester break and going back to their hometown. However, although there were missed visit, most of the children only needed one cycle to finish the program. It shows how a scheme like OTIFA could solve malnutrition program in short time if all parties are committed.

The intervention had significantly ($p < 0.001$) increased the average MUAC/A Z-Score by 0.68 points, from -1.02 SD to -0.35 SD.

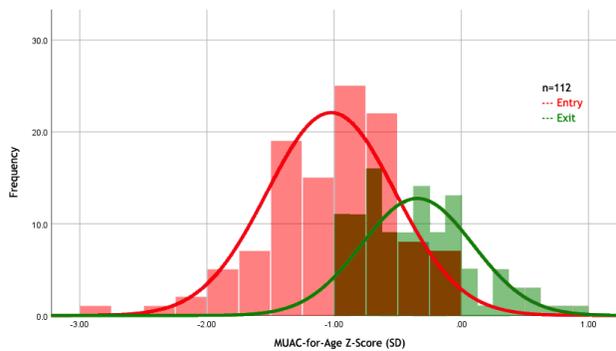


Figure 1. Histogram Chart and Normality Curve of MUAC/A Z-Score Before and After Intervention

From a demography/epidemiology perspective, the bell curve of MUAC/A Z-Score that moved toward a positive score shows the improvement of the children’s nutritional status after the intervention. A more detailed graph also shows improvement based on the average of MUAC/A Z-Score in the first cycle. The graphic analyses the existing Z-Score data on the same children throughout the cycle.

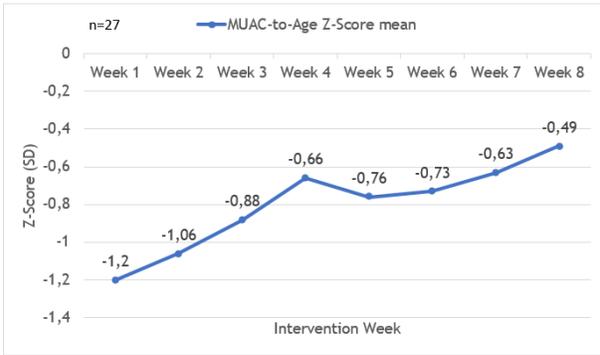
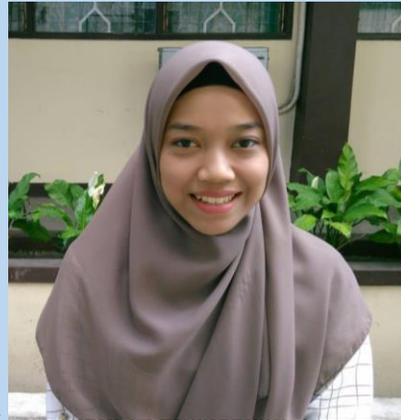


Figure 2. The Average of MUAC/A Z-Score Mean in the First Cycle

Ms. Dewi Nurul Izzah Volunteer (Batch 1), Trainer (Batch 2)



There were many things that I learned from OTIFA because working in the field gives me so much experiences rather than only studying theories in the classroom. Volunteering is a noble task, where we help people without necessarily knowing the people itself. Spending our time, effort, and thought to help people sincerely. It is very amazing for me.

I had 5 under-five children at Cibeureum area, Tasikmalaya City. First, I met a twin child at public health office. They were very afraid and hysteric when we, the volunteers, were trying to measure their arm. We tried many times to calm them down. We tried showing the twin a video of their favourite cartoon through our phone. When they were enjoying the cartoon, we are able to measure them. It turns out that only one child who was malnourished.

On the first visits, the twin was still unfamiliar with my presence, up until the third visit, they became excited and even held my leg, asking me not to go from their house. It was interesting to learn the skill to communicate and get along with their character. Another lesson that I learned was when communicating with the mother. During the visit, I was not only measuring the arm and giving the food, but also got to know the mother. They usually told me about their personal stories: how they raised the child, their economic condition, etc. It made me wonder how complicated it is to be a mother. Maybe this also happened to my own mother.

There was also a child who was refusing to eat. The mother told us that she did not introduce the child to food that smelt strong, one of them is egg. The mother could not explain what was the reason. After my partner and I patiently educated the mother in each of our visits, the child finally accepted the food. For me, parenthood, culture, and economy condition are very crucial, which in poor condition, can lead to malnutrition.

When I became a trainer, it was not an easy task. I had to make sure the number of active children and visiting volunteers each week and solve each problem on the ground. I was also responsible for multi sectoral partnership where I coordinated with OTIFA's partners. Many unexpected things happened. Once I broke down and cried because I was overwhelmed. However, I managed to stand up and solve all the problems, with help from other trainers. I learned to manage myself between volunteering and college. I am very proud to be part of OTIFA. Thank you and keep the spirit on doing this noble duty.

The Future of OTIFA



The output of OTIFA has been successfully proven in saving children from malnutrition. The challenge is on the matter of how to make the program sustain and amplify the impact. OTIFA will continue to strengthen the effort by tightening the cross-sectoral partnership, enhancing its reach, creating a holistically integrated community that support health. A platform where students, government officials, organization, private sector, and anyone who cares to be together alleviating malnutrition in Tasikmalaya.

In 2020, hopefully OTIFA could be handed over and spearheaded by the Tasikmalaya City and Tasikmalaya Regency authorities, together with UNSIL, UMTAS, and other parties, to continue the effort in combating malnutrition with supplementary food through strong partnership and collaboration.

Acknowledgements

BATCH 1

Volunteer

Ani Nuraeni	Hasna Nurfadillah	Nadya T Putri S	Sansan N Hanipah
Agistia A Milad	Ike Mardiana	Nida Aulia	Sari
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Arin Karina	Imam Baehaki	Ovi Faroach	Septian Nisa
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Elsa N Azzizah	Melianti P Yasmin	Rina Nuraeni	Wulan N Nafiatussyaidah
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Fuji Camilla	Nabila F Safitri	Rosmiati Romdoni	Siti Nurhayati
			Siti Barkah

Batch 2

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Anisa N Latifah	Famela Nuvainur	Neng N Sari	Sinta Rahmawati
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Ashri Pujiyanti S	Fikri Haikal R	Novelia	Tria Amanda
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Dini Nurwahidah	Khusnul Chotimah	Rofiya D Ratnasari	Yuliani
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artners



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