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Japan Fund for Prosperous and Resilient Asia and the Pacific

From the People of Japan

Capacity Building on Analysis and Methodology for Health Researchers In Indonesia

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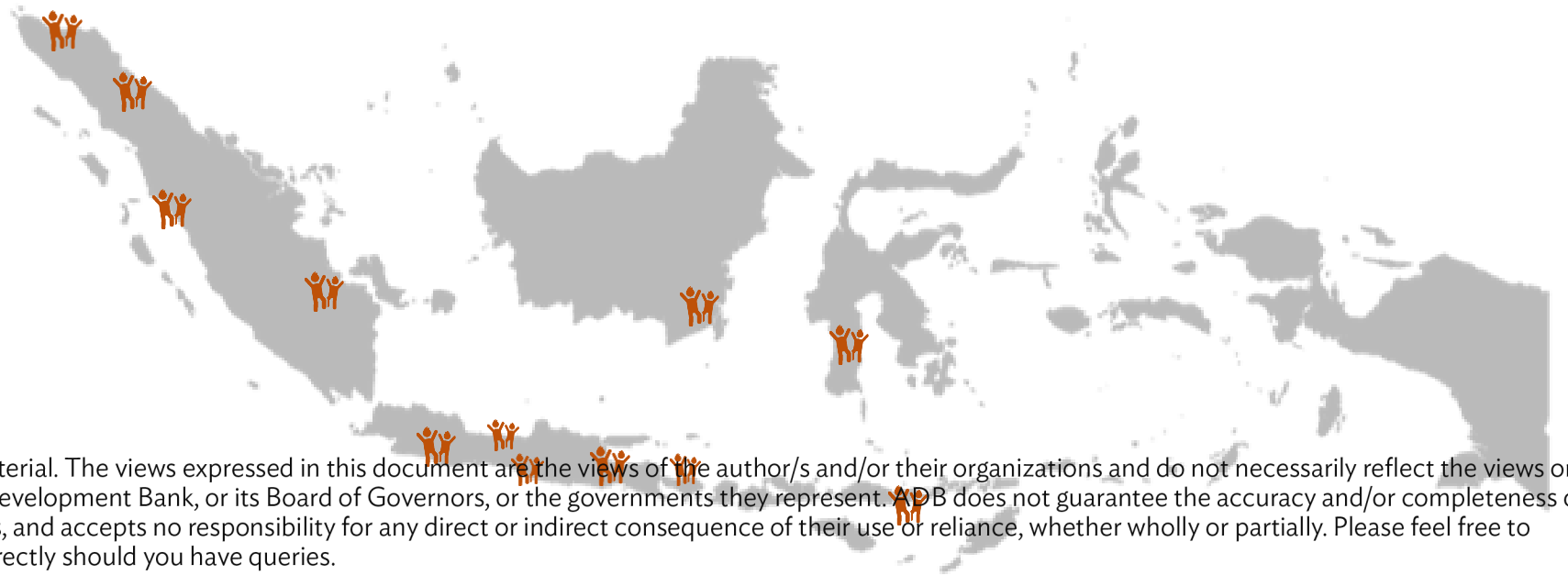


INTRODUCTION

Double burden of malnutrition (DBM)

Undernutrition (wasting, stunting & micronutrient deficiencies) along with overweight and obesity

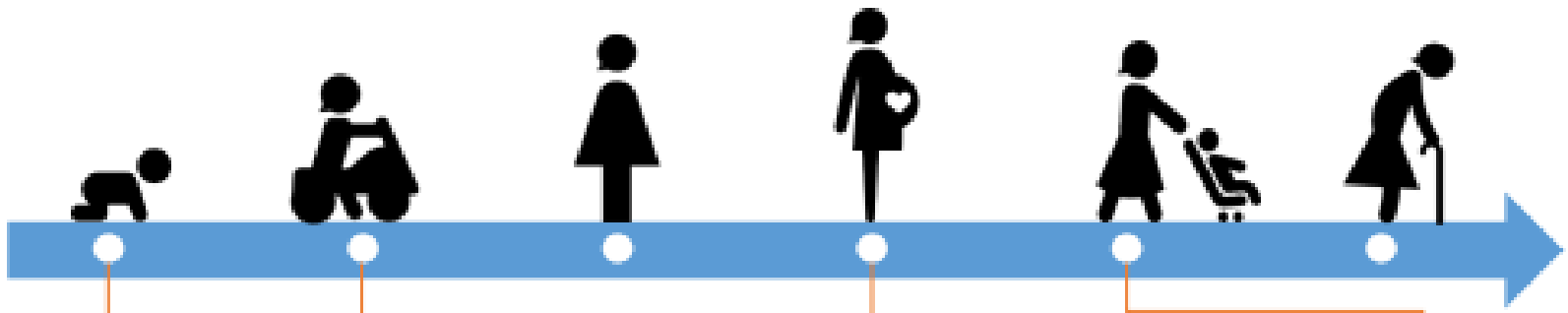
within individuals, households and populations

throughout life

and diet-related noncommunicable diseases

INTRODUCTION

The impact of malnutrition is comprehensive & complex



Good nutrition is essential for children's physical linear growth and cognitive development

When **stunted children** experience rapid weight growth later in life, they have an increased risk of becoming **overweight or obese**, thus at higher risks of **degenerative diseases**

Malnutrition in women of reproductive age significantly increases the **risks** of complications in pregnancy & adverse pregnancy outcomes for the newborns

Mothers who are malnourished themselves have less means & knowledge about proper nutrition for their children, contributing to poor feeding practice and **child malnutrition**

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INTRODUCTION

- ADB with MOH conducted **a research-based capacity building for health researchers** from universities, health polytechnics, and MOH researchers.
- **12 Provinces were chosen** to receive Research Grants from ADB
- Determinant factor analysis was carried out by analysing quantitative data from the **Indonesian Nutrition Status Survey 2021 & Baseline Health Research 2018**

THE OBJECTIVES

1) Strengthen the competency of health researchers to conduct high quality research in stunting
2) Strengthen the competency of health researchers in writing high quality policy brief.
3) Strengthen the competency of health researchers in writing high quality manuscript for publication.
4) Strengthen networks among local officers and health researchers in improving the quality of local evidence-based health policy.

The Provinces

12 Studies

No	Province	Title
1	Aceh	Analysis Determinant Factor of Stunting And Formulation of The Intervention Strategy Model for The Acceleration of Reducing Stunting in Aceh
2	North Sumatera	Analysis of Factors Influencing Stunting and Potential Integration Of IMUT as an Alternative to Overcome It in North Sumatera
3	West Sumatera	Prediction Model of Stunting Prevalence Change Based on The Analysis of its Determinants, Policies, and Program Implementations at The District Level Province of West Sumatra
4	South Sumatera	Correlation Of Individual Characteristics and Diarrhea Disease with Stunting Toddlers in South Sumatra Province: Results from the 2018 Indonesian Baseline Health Research
5	West Java	Determinant Factors of Short Birth Length Baby as a Risk Factor of Stunting in West Java
6	Central Java	Determinants of Linear Growth Among Children Aged 6–23 Months in Central Java Indonesia: A Path Analysis

12 Studies

No	Province	Title
7	DI Yogyakarta	Trend, Determinants of Stunting Before and During Covid-19 Pandemics, and Specifics Intervention to Support Stunting Reduction Acceleration in Yogyakarta
8	East Java	Differences of Characteristics and Family Parenting Pattern In Tulungagung and Bangkalan Regency
9	Bali	Socioeconomic factors and Health Services Associated with Stunting in Children Under Five Years of Age: a Cross-sectional Study in Bali, Indonesia
10	NTT	The Relationship between Child and Household Characteristics Factors with Stunting Incidence in the Dryland Area of the Archipelago of East Nusa Tenggara Province
11	South Kalimantan	Analysis of Socioeconomic, Utilization of Maternal Health Services, and Toddler's Characteristics as Stunting Risk Factors
12	South Sulawesi	Determinants of stunting in children under five years old in South Sulawesi and West Sulawesi Province: 2013 and 2018 Indonesian Basic Health Survey

ANALYSIS DETERMINANT FACTOR OF STUNTING AND FORMULATION OF THE INTERVENTION STRATEGY MODEL FOR THE ACCELERATION OF REDUCING STUNTING IN ACEH

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- ✓ The chance of stunting increases with age (marginal coefficient 0.0018; p=0.00), and in families who do not have health insurance (marginal coefficient 0.051; p=0.00).

- ✓ The analysis of the location where children under five live also show that children living in the Gayo-Alas region (Bener Meriah, Central Aceh, Gayo Lues and Southeast Aceh) have a greater chance of stunting (marginal coefficient 0.04; p=0.07), compared to children living in the Indian Ocean region and Malaca Strait Region.

North Sumatra Province

ANALYSIS OF FACTORS INFLUENCING STUNTING AND POTENTIAL INTEGRATION OF IMUT AS AN ALTERNATIVE TO OVERCOME IT IN NORTH SUMATERA

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Factors that influence the incidence of stunting in North Sumatra Province are:

- ✓ the level of parents' education (p=0.000, OR 2.390)
- ✓ the use of latrines by the family (p=0.000, OR 1. 60)
- ✓ the use of poor drinking water supply (p=0.006, OR 1.36).

West Sumatra Province

PREDICTION MODEL OF STUNTING PREVALENCE CHANGE BASED ON THE ANALYSIS OF ITS DETERMINANTS, POLICIES, AND PROGRAM IMPLEMENTATIONS AT THE DISTRICT LEVEL PROVINCE OF WEST SUMATRA

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The determinants of stunting include

- ✓ Gender (Male children aOR 1,32(1,15-1,51)
- ✓ Age (below 24 months aOR 0,63 (0,54-0,73)
- ✓ Birth weight (Birth weight < 2500 gram aOR 2,79(2,17-3,58)
- ✓ History of upper respiratory tract infection (ARI aOR 1,52 (1,11-2,07)
- ✓ Parents' education level (Low education level aOR 1,40 (1,03-1,90)

South Sumatra Province

Correlation Of Individual Characteristics and Diarrhoea Disease with Stunting Toddlers in South Sumatra Province: Results from the 2018 Indonesian Baseline Health Research

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- ✓ Individual characteristics of low birth weight (p=0.039) and basic immunization status (p=0.008) were associated with stunting
- ✓ Birth length (BL) (p=0.057) and diarrhoea disease (p= 0.133) were not associated with stunting
- ✓ The results of the multivariate analysis showed that the most dominant variable is basic immunization status.

West Java Province

Determinant Factors of Short Birth Length Baby as a Risk Factor of Stunting in West Java

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- ✓ Mothers without health insurance were 4.5 times more likely to give birth to infants with small body length
- ✓ Compared to mothers who had never taken blood supplement pills, mothers who had received blood supplement tablets had a 0.196-fold lower risk of having a baby with a short body length.

Central Java Province

Determinants of linear growth among children aged 6–23 months in Central Java Indonesia: A path analysis

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Factors associated positively with linear growth :

- ✓ birth weight (effect=0.001)
- ✓ birth length (effect=0.08)
- ✓ pregnancy spacing>2years (effect=0.25)

Factors that had negative associations with linear growth :

- ✓ mother's age (effect=-0.008)
- ✓ exclusively breastfed history (effect=-0.196)
- ✓ consumption of unhealthy snacks (effect=0.093)
- ✓ empty calorie drinks (effect=0.163)

East Java Province

DIFFERENCES OF CHARACTERISTICS AND FAMILY PARENTING PATTERN IN TULUNGAGUNG AND BANGKALAN REGENCY

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In Bangkalan Regency it was shown **that the risk of stunting was higher in**

- ✓ mothers low level of education (p= 0.027)
- ✓ when children < 12 months old are taken care by someone other than their parents (p=0.011)
- ✓ history intake fluids other than breast milk when the baby was born (p<0.001)
- ✓ the child's age when weaned (p=0.019)
- ✓ the child's age when they received food other than breast milk (p=0.004)
- ✓ the frequency of consumption of vegetables and fruits in children (p=0.004)
- ✓ history of consumption vitamin A (p=0.046).

TREND, DETERMINANTS OF STUNTING BEFORE AND DURING COVID-19 PANDEMICS, AND SPECIFICS INTERVENTION TO SUPPORT STUNTING REDUCTION ACCELERATION IN YOGYAKARTA

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- ✓ Factors related to the risk of stunting in the period before and during the COVID-19 pandemic are toddlers aged >2 years, Low Birth Weight, birth length, and underweight
- ✓ Meanwhile, the structural factor is that in the pre-pandemic period, toddlers lived in rural areas, and during the COVID-19 pandemic is poverty
- ✓ Social factors related to stunting toddlers before the pandemic are the Desirable Dietary Pattern score and universal health coverage ownership

Socioeconomic factors and Health Services Associated with Stunting in Children Under Five Years of Age: a Cross-sectional Study in Bali, Indonesia

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Multivariate logistic regression demonstrated factors that significantly associated with stunting are,

- ✓ mother's educational background (aOR=1.65; 95%CI=1.08-2.52)
- ✓ consumption of iron tablets during pregnancy (aOR=1.56; 95%CI=1.10-2.21)
- ✓ extended family (aOR=1.52; 95%CI=1.07-2.17)

East Nusa Tenggara Province

The Relationship between Child and Household Characteristics Factors with Stunting Incidence in the Dryland Area of the Archipelago of East Nusa Tenggara Province

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- ✓ Incidence of stunting in children under five in the East Nusa Tenggara was still very high (36.49%)
- ✓ The logistic regression test results showed that in the child's characteristic factor, there was a relationship between variables age, sex, low birth weight (LBW), body length, ownership of birth certificates and receiving supplementary feeding.
- ✓ Meanwhile, in household factors, variables of toilet type, ownership of National Health Insurance/ Local Government Health Insurance, ownership of Kartu Keluarga Sejahtera (KKS) card, and areas of residence were related to stunting incidence.

South Kalimantan Province

Analysis of Socioeconomic, Utilization of Maternal Health Services, and Toddler's Characteristics as Stunting Risk Factors

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- ✓ There is a relationship between mother's education level (p = 0.001), father's education (p = 0.002), toddler age (p < 0.001), low birth weight (p = 0.05), exclusive breastfeeding (p = 0.008), and underweight (p = 0.000) with stunting.
- ✓ The data were continued with the Logistics Regression test and the dominant variables related to stunting were underweight (p < 0.001 with OR 18,241), under-five age (p < 0.001, with OR value for ages 24–35 months 9511), and premature birth (p = 0.027 with an OR of 21,87).

South Sulawesi Province

Determinants of stunting in children under five years old in South Sulawesi and West Sulawesi Province: 2013 and 2018 Indonesian Basic Health Survey

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- ✓ Five determinants of stunting in children under five both in South Sulawesi and West Sulawesi are : the household economic index, number of children under five in the house, mother's height, mother's education, child's age
- ✓ At the household level, the determinant of stunting increased significantly as the household economic index decreased.
- ✓ The weight at birth is the determinant factor only in South Sulawesi Province
- ✓ The number of household members and child's age are determinant factors in West Sulawesi.

Conclusion

- ✓ Each Province has their own distinct determinants of Stunting
- ✓ Some determinants similar with other province
- ✓ Determinants of stunting might relate with Sociodemographic and Biocultural diversity of specific area

THANK YOU

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