

## AN ANALYSIS OF THE HEALTH PROBLEMS RELATED TO THE FIRST 1000 DAYS OF LIFE IN WEST ACEH REGENCY

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**Abstract:** In recent years, Indonesia has improved the quality of human resources through the first 1000 days of life. Based on the results of the Basic Health Research (RISKESDAS) in 2018, the prevalence of maternal underweight, low birth weight (LBW), wasting and stunting was 48.9%, 6.2%, 10.2% and 30.8%, respectively. The objective of this research was to illustrate health problems related to the first 1000 days of life including underweight maternal, LBW, wasting and stunting in West Aceh Regency. This research analyzed the annual nutrition report of West Aceh Regency from 2014 to 2018. All the data were presented in descriptive statistics. The results showed that the levels and trends of the prevalence of all health problem variables from 2014 to 2018 was fluctuating and tended to increase.

**Keyword:** 1000 days of life, maternal underweight, LBW, wasting, stunting

### Introduction

Indonesia is one of the countries that has nutritional problems during previous years. The groups of population that can be at risk to suffer from the nutritional problems are pregnant women and children under 2 years. The risky period starts from 270 days during pregnancy to 730 days of the first life of the baby, which is also called golden period. At this time the growth and the development of the baby run fast and the nutritional intake has to be optimized, otherwise there will be a permanent damage (Achadi, 2014; Priyatna, 2014). To resolve this condition, the government has improved the quality of human resources through the programs related to the first 1000 days of life, such as the distribution of supplementary food for the children under 2 years and the improvement of nutritional intake for maternal underweight (Hadiat, 2015).

Basic Health Research (RISKESDAS) in 2018 states that the prevalence of maternal underweight, low birth weight (LBW), wasting and stunting was 48.9%, 6.2%, 10.2% and 30.8%, respectively. Maternal pregnancy is one of the risky periods that can affect the health status of the fetus. At this period, the pregnant women can be at risk to suffer from maternal underweight. If the mothers experience maternal underweight, the health problems that can occur include anemia, decreasing endurance and difficulty in childbirth, and their fetus can suffer from premature birth even prenatal death (infant death in less than 7 days after birth). To prevent that problem, it is recommended for the mothers to add 300 kcal per day from the their total calories consumption (Arisman, 2009; Nurhati, 2009).

In general, malnutrition is caused by poverty, insufficient food, the style of parenting, child's diet, and other factors. Nutrition at the first 1000 days of life is very important because if it is not monitored properly, it will have impacts on child growth and development. The impacts are short term impact and long term impact. Short-term impact include problems on brain development, body mass growth and body composition, glucose metabolism, and lipids, proteins, hormones, receptors, genes. Long term impact are problems on cognitive and learning achievement, immunity, work capacity, and various degenerative diseases such as diabetes, obesity, heart disease and vessels blood, cancer, stroke and elderly disability (James et al., 2000). The first 1000 days of life program has focused on nutritional

interventions since the child's age of two years is a golden period for the children. The mothers have to own enough knowledge about the first 1000 days of life, so that they can understand how to monitor the nutritional status of toddlers, especially toddlers under the age of 2 year.

Nutrition improvement movement needs to be done as a real action on a level globally called Up Nutrition (SUN Movement) under coordination UN Secretary General. This movement has been launched since September 2010 by countries facing nutritional problems. USA and Ireland are the country that spearheaded this movement. Indonesia has started to commit to SUN Movement since december 22, 2011. The purpose of this SUN Movement is to reduce nutrition problems by focusing on the first 1000 Days of life. The global indicators for SUN Movement are a decrease in the proportion of women of childbearing age who suffer from anemia, an increase of the percentage of mothers who exclusively breastfeed for the first 6 months, and a decrease of the percentage of LBW, stunting, wasting, underweight and overweight (Bappenas, 2012).

The indicator of maternal nutritional status is the mothers' size of mid-upper arm circumference (MUAC). The mothers are expected to have a MUAC size of at least 23.5 cm because when they have a MUAC size of less than 23.5 cm, they are at risk to suffer from maternal underweight and they will give birth to the babies with low birth weight (LBW). Research by Ferial (2009) at one of the hospitals in Makassar with 44 expectant mothers who have MUAC size of less than 23.5 cm as a sample describes that there are 34 of them who give birth to the babies with LBW. Therefore, it is necessary to improve the maternal nutritional status of the expectant mothers, such as by providing Fe tablets for young women.

LBW is one of main factor of infant morbidity and mortality. It was about 4 million of infant mortality per year caused by LBW. World Health Organization (WHO) defined LBW as the condition that indentified by babies weight less than 2500 gram (5.5 lb) at birth. Globally, LBW was significant health problem and estimated that the prevalence of LBW are 15% to 20%, The prevalence of LBW was higher in developing countries than developed countries. recently data showed that up to 10% of infants in developed countries have LBW, it also found that there was 20% in developing countries. A report stated that here was 22 % neonatal death occur on infant with LBW.

In 2016, 52 million children worldwide suffered from wasting. Wasting defined as a weight - for - height Z-score (WHZ) $<-2$  of Child Growth Standar by WHO. It was a critical public health problem and the prevalence of wasting in South Asia is above 15 %. The children that suffered from wasting extremely susceptible to life threatening infection as a consequense of secondary immunodeficiencies. Wasting contributing to stunting and other form of longer term development impairment.

Over the past of 40 years, wasting has been reduce only slowly at a global level, in India and Srilanka recently nothing rising the prevalence rates. The economic performance in India has not translate into a reduction of wasting. Recent data stated that india one of the highest number of wasting children in the world, it was 15,4 % or 27 million children aged 0 to 59 month suffered from wasting. The same condition in Nepal, there was a big number of wasting children in Nepal and An urgent policy and strategic require to reduce and maintain child wasting problem. The global Sustainable Development Goals (SDGs) include the global target for 2025 aimed at reducing wasting rate below 5%. Achieving this target will require a scale up

of evidence base policies program. The World Bank estimated that the cost to treating 91% of wasting children all over the world would be around \$9 billion and it will done over 10 years. Besides, the average cost per child in South Asia is \$90. Globally, one in four children under the age of five suffers from stunting. Stunting is related to underdeveloped brain with many long-lasting harmful consequense such as reduced mental ability and learning capacity, and

increased risks of nutrition –related chronic disease include obesity, diabetes and hypertension in the future. Approximately 65% of under five children mortality due some forms of malnutrition. Stunting is a form of malnutrition that is often faced by developing countries. Indonesia is one of the developing countries that has a high prevalence of stunting. From 88 countries in the world, Indonesia is at the top five of stunting cases (Unicef, 2013).

Stunting is a very important issue, a community based interventions should be formulated and implemented to improve the health of the children. At individual level, interventions have to focus on educating the mothers with the right basic of nutrition and the need utilize available health services. At the community level, health systems that facilitate public health intervention include maternal and child health programs need to be made accessible to women in rural areas. This intervention will improve the nutritional status of children under five so that the WHO global target of 2025 can be achieved (Akombi, 2017).

## Subject And Methods

### Study Design

This research was a descriptive study with secondary data analysis. The study objective was to illustrate the trend of the health problem related to the first 1000 days of life in west Aceh regency from 2014 to 2018.

### Population and Samples

The population was all the normal expectant mothers and the children under five years old from 2014 to 2018 in west Aceh regency and the sample was all the expectant mothers and the children under five years old that have the health problem related to the first 1000 days of life.

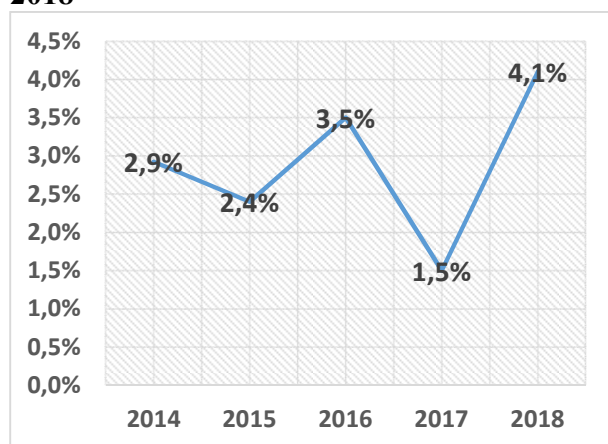
### Study Variables

The variables that were analyzed in this research were maternal malnutrition, LBW, wasting and stunting.

## Results and Discussion

### Results

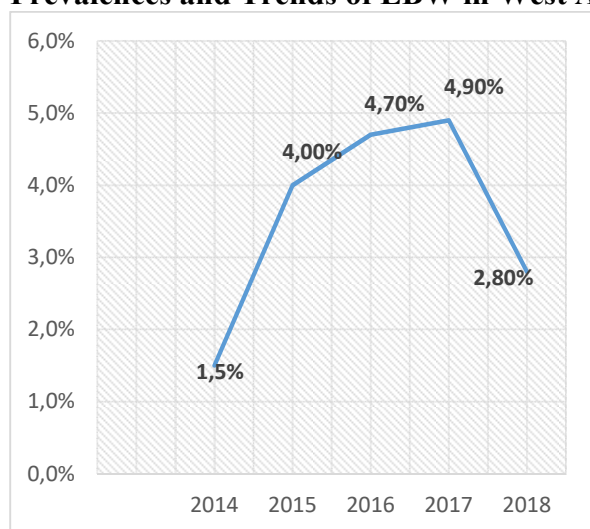
#### Prevalences and Trends of Maternal Malnutrition in West Aceh Regency from 2014 to 2018



The graph shows that the trends of maternal malnutrition from 2014 to 2018 increased. It also shows that the lower prevalence was in 2017 and the highest prevalence was in 2018. In two years there were significant differences of maternal malnutrition prevalence level and that

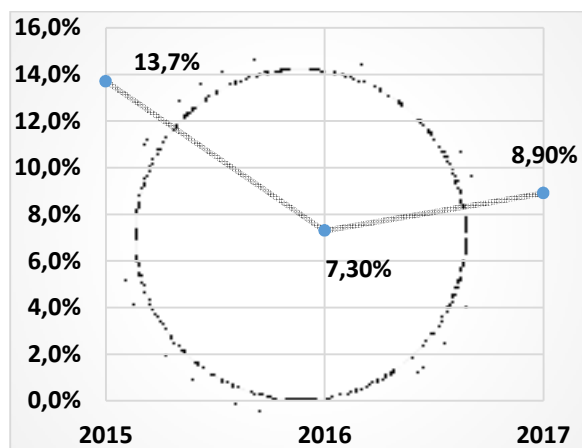
indicated that there was an event that caused a surge in prevalence of maternal malnutrition in 2018.

### Prevalences and Trends of LBW in West Aceh Regency from 2014 to 2018.



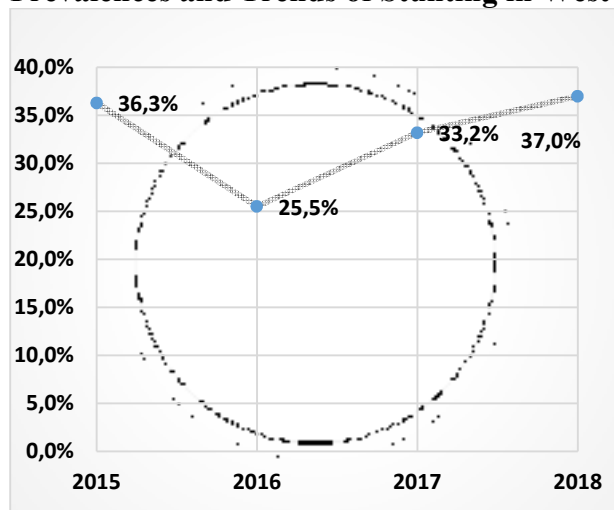
The graph shows that the trends of LBW from 2014 to 2018 increased but the increase was not significant, it was 1,3 %. It also shows that the lower prevalence was in 2014 and the highest prevalence was in 2017. In four years there were no significant differences of LBW prevalence level.

### Prevalences and Trends of Wasting in West Aceh Regency from 2014 to 2018



The graph shows that the trends of wasting from 2014 to 2018 were reduced 5,6%. It also shows that the lower prevalence was in 2017 and the highest prevalence was in 2016. In four years there were no significant differences of maternal malnutrition prevalence level.

### Prevalences and Trends of Stunting in West Aceh Regency from 2014 to 2018.



The graph shows that the trends of stunting from 2014 to 2018 increased. Furthermore, the lower prevalence was in 2016 (25.5%) and the highest prevalence was in 2018 (37%). In four years there were 0,7% increase of prevalence level and that indicated that the programs related to reduce stunting in west aceh regency were not succeeded yet. The government of West Aceh Regency needs more effort to reduce stunting problem.

### Conclusion

Based on the graphs, all the problems related to the first 1000 days of life increased. The important issue that must resolve urgently is stunting. It is 37 % in 2018 which was highest than other problems and also higher than national rate. The government of West Aceh Regency needs more effort to reduce the prevalences of maternal malnutrition, LBW, wasting and stunting problem.

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