

# “Correlation Between Low Birth Weight and Neonatal Mortality Rate”

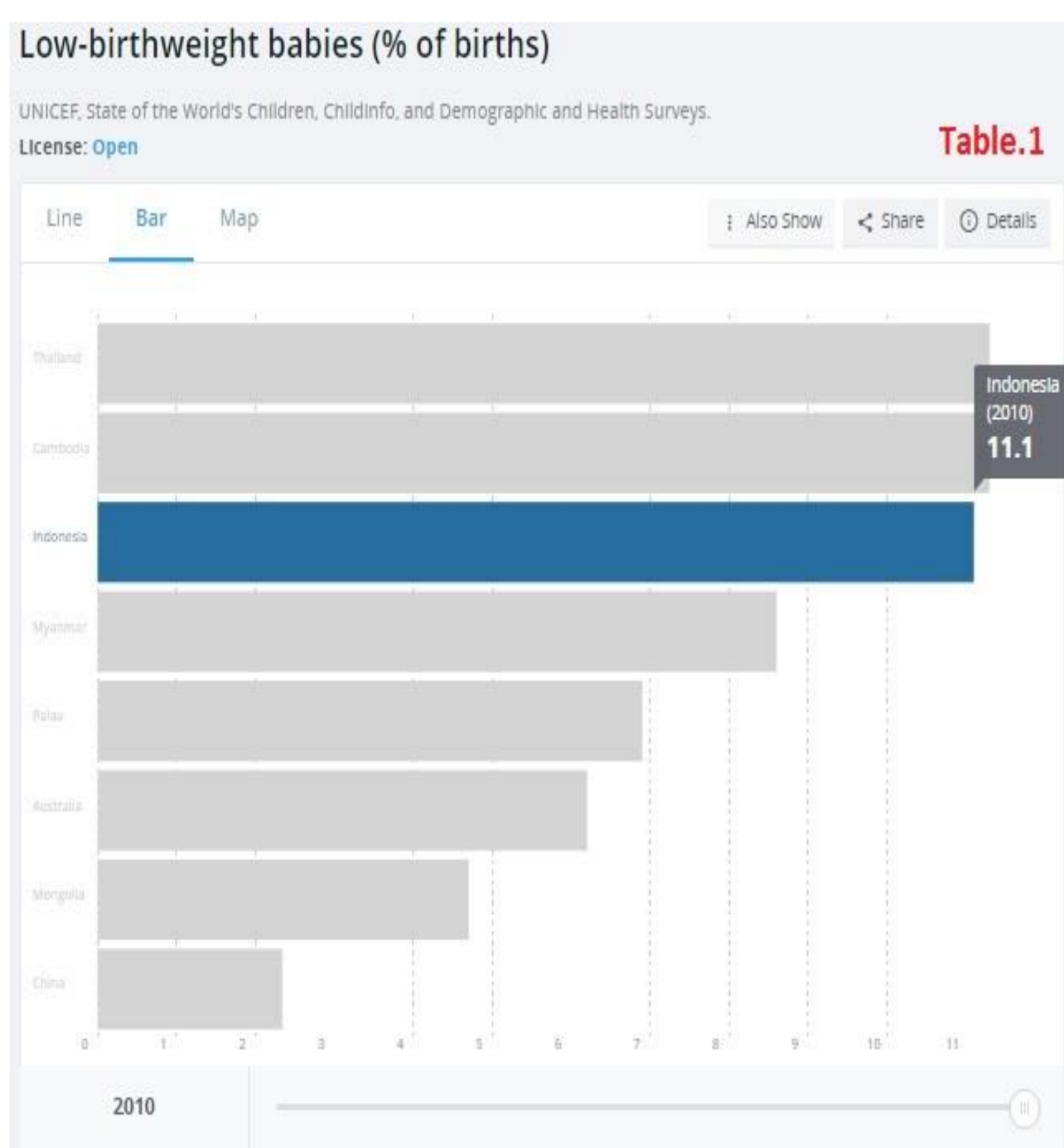
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## Background

Low Birth Weight (LBW) is still a significant public health problem globally and is associated with a range of both short and long term consequences.

Approximately, 15% to 20% of births worldwide are LBW (Table 3). Even in some countries, the percentages increases over time, for example in Indonesia, there is an increase in the percentage of birth rates of low birth weight babies (Table 1).

Every year, 1.1 million babies die from complications of preterm birth, which is also the most common direct cause. Low birth weight is also causes prenatal mortality and morbidity and also many diseases in the future (Table 2).



Affected Organ or System	Short-Term Problems	Long-Term Problems
Pulmonary	Respiratory distress syndrome, air leak, bronchopulmonary dysplasia, apnea of prematurity	Bronchopulmonary dysplasia, reactive airway disease, asthma
Gastrointestinal or nutritional	Hyperbilirubinemia, feeding intolerance, necrotizing enterocolitis, growth failure	Failure to thrive, short-bowel syndrome, cholestasis
Immunologic	Hospital-acquired infection, immune deficiency, perinatal infection	Respiratory syncytial virus infection, bronchiolitis
Central nervous system	Intraventricular hemorrhage, periventricular white-matter injury, hydrocephalus	Cerebral palsy, hydrocephalus, cerebral atrophy, neurodevelopmental delay, hearing loss
Ophthalmologic	Retinopathy of prematurity	Blindness, retinal detachment, myopia, strabismus
Cardiovascular	Hypotension, patent ductus arteriosus, pulmonary hypertension	Pulmonary hypertension, hypertension in adulthood
Renal	Water and electrolyte imbalance, acid-base disturbances	Hypertension in adulthood
Hematologic	Iatrogenic anemia, need for frequent transfusions, anemia of prematurity	
Endocrine	Hypoglycemia, transiently low thyroxine levels, cortisol deficiency	Impaired glucose regulation, increased insulin resistance

## Method

The method we use is systematic review pattern, where the sources we use are from NEJM, BMJ, PubMed, WHO, and Indonesian Demographic and Health Survey (IDHS) 2012, searched by Google Scholar search engine. From 30 journals, inclusion criteria refers to “Low Birth Weight” and “Neonatal and Infant Mortality Rate”, keyword with inclusion between 2001-2016 and the exclusion data are excluded from that.

## Result

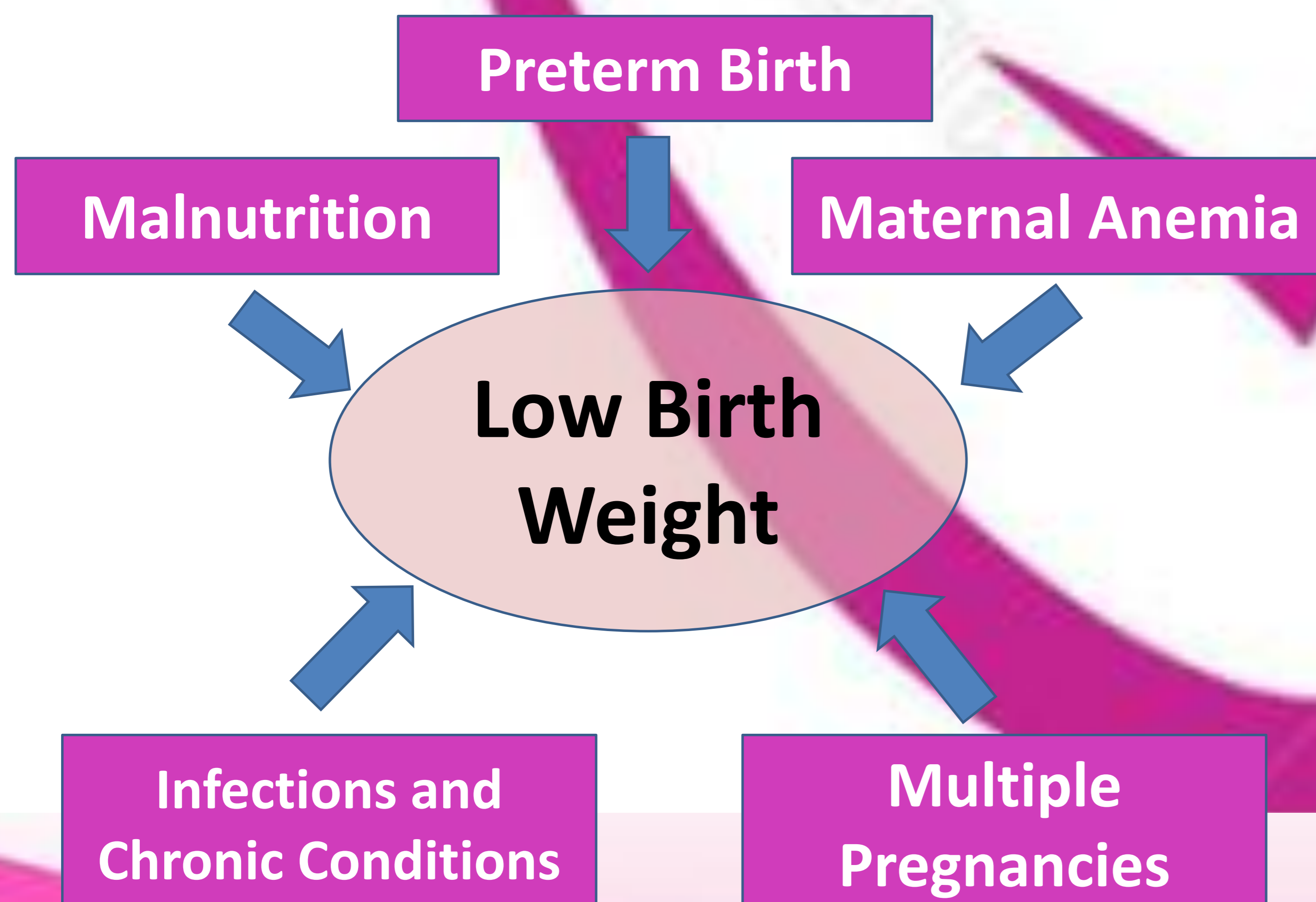
The result shows that there are many correlated factors between low birth weight and neonatal mortality rate, such as malnutrition, preterm birth, multiple pregnancies, congenital disorder and deformity, infections and chronic conditions<sup>[2]</sup>. All of that will make the low weighted baby develop poor cognitive, mental, and body state and also increase risk of chronic disease later in life<sup>[3]</sup>.

## Conclusion

A smart solution is needed to solve this global scale health problem. One of the example is WHA Global Nutrition Targets 2025: Low Birth Weight Policy Brief which targets 30% reduction of low birth weight at 2025. This program is focusing on action, interventions, and policies to help reducing low birth weight in the cost-effective way and it also automatically reduces neonatal mortality rate.

## Introduction

According to World Health Statistics 2006 by WHO, low birth weight is defined as a weight of less than 2500 g (up to and including 2499 g) irrespective of the gestational age. It has many factors and causes. It also becomes a major predictor of prenatal mortality and morbidity. This problem occurs in low- and middle-income countries and especially in the most vulnerable populations. There are the risk factors of low birth weight from *WHA Global Nutrition Targets 2025: Low Birth Weight Policy Brief*



## Discussion

From the result, we can see that all of influencing factors about low birth weight are indeed bad. However, it can be solved with correct solution. A solution that lowers the chance or even eliminates the influencing factors is needed. It also important to make an appropriate health care for preventing and treating low birth weight. If all of it works, then reductions in neonatal mortality rate can be achieved.

Table 3. Data for low birth weight

Region <sup>a</sup>	% of infants with low birth weight <sup>b</sup>	% of infants not weighed at birth <sup>b</sup>
Sub-Saharan Africa	13	54
Eastern and southern Africa	11	46
West and central Africa	14	60
Middle East and north Africa	—	—
South Asia	28	66
East Asia and Pacific	6	22
Latin America and Caribbean	9	10
Least developed countries	13	46
World	15	48 <sup>c</sup>

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## Reference

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