UNDERWEIGHT AND MORBIDITY STATUS AMONG UNDER FIVE YEARS CHILDREN IN SURABAYA

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INTRODUCTION

Under five years old children is one of the group that vulnerable to under nutrition, moreover this age group also susceptible to infectious disease due to their immunity and their activity related to exposure of infectious disease. To achieve optimal growth, a children must obtain adequate dietary intake, optimal care practice that include appropriate feeding practices and less frequent of infectious disease (Black et al, 2008). Inadequate food intake to Undernutrition among under five children become important issue since it can affect short term and also long term that go beyond child hood (Neufeld and Osendarp, 2014). Indonesia Basic Health Survey revealed there was fluctuation of underweight prevalence from 18.4% in 2007, decreased to 17.9% in 2010 and increased to 19.6% in 2013 (Indonesia Basic Health Survey, 2013). There is a strong evidence that undernutrition that occurred during the first two years of life contribute to the increasing risk of non communicable disease in the later life (Victora et al, 2008). Communicable disease is one of the factors that contribute to nutritional status, particularly underweight in children since underweight is the indicator that reflect an acute disturbance of nutritional status. Communicable diseases that often occur in children are diarrhea and upper respiratory infecti on. In developing countries, diarrhea contributes to the childhood morbidity and mortality, as it estimated that 1.5 million child die to diarrhea per year (Roy et al, 2011). There is a bidirectional relationship of diarrhea and malnutrition in children with the mechanism of diarrhea episodes lead to anorexia, absorptive function impairment, the damage of mucosal and the increase need of nutrients (Brown, 2003). Malnutrition also increase the incidence and severity of acute respiratory infection through mechanism of immunity impairment, particularly in cellular immunity (Bhutta et al, 1998). This study aimed to analyze the association of underweight and morbidity of diarrhea and acute respiratory infection in under five years old children.

METHODS INTRODUCTION

Study design

A community based cross-sectional study was conducted in Surabaya District. The study was conducted from from June – November 2014.

Study setting

The study was conducted in five area of Surabaya (west, east, central, south, north) District. In each area was chosen one Primary Health Center with the high prevalence of malnutrition problems. Surabaya district is urban area with the urban population is involved in private sectors, government employment, informal sectors and factory workers.

Study participants

The study participants of this study included all 12–60 months old children (paired with their mothers) who settled in the district. The study population were the randomly selected 12–60 months old children (paired with their mothers) who lived at least for six months in the district.

Sampling technique

A sample size was calculated based on the formula of stratified sampling formula, thus the final sample was 467 children. A multistage stratified sampling technique was used to identify study subjects in area of Kelurahan Mulyorejo, Kelurahan Dr. Soetomo, Kelurahan Asem Rowo, Kelurahan Pegirian dan Kelurahan Kebonsari. Stage one was conducted with cluster random sampling, as cluster was the neighbourhood area (RT/Rukun Tetangga). Stage two was done with simple random sampling in each selected RT. One child was selected by lottery method when more than one child was present in selected households.

Measurements

The main outcome variable in this study was nutrition status measured as underweight. Independent variables include: socio-demographic variables(child sex, family type, income,); childhood illness. Anthropometric data were collected through measurement of weight of all children. Weight was measured with minimum clothing and no shoes using SECA weighing scale to the 0.1 kg. WHO Anthro version 3.2.2 software was used to convert the anthropometric measures; weight and age values