Article

Household Food Insecurity as a Predictor of Stunted Children and Overweight/Obese Mothers (SCOWT) in Urban Indonesia

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Abstract: (1) Background: The double burden of malnutrition has been increasing in countries experiencing the nutrition transition. This study aimed to determine the relationship between household food insecurity and the double burden of malnutrition, defined as within-household stunted child and an overweight/obese mother (SCOWT). **(2) Methods**: A cross-sectional survey was conducted in the urban city of Surabaya, Indonesia in April and May 2015. **(3) Results**: The prevalence of child stunting in urban Surabaya was 36.4%, maternal overweight/obesity was 70.2%, and SCOWT was 24.7%. Although many households were food secure (42%), there were high proportions of mild (22.9%), moderate (15.3%) and severe (19.7%) food insecurity. In a multivariate logistic regression, the household food insecurity access scale (HFIAS) category significantly correlated with child stunting and SCOWT. Compared to food secure households, mildly food insecure households had the greatest odds of SCOWT (adjusted odds ratio (aOR) = 2.789; 95% confidence interval (CI) = 1.540–5.083), followed by moderately food insecure (aOR = 2.530; 95% CI = 1.286–4.980) and severely food insecure households (aOR = 2.045; 95% CI = 1.087–3.848). **(4) Conclusions**: These results support the hypothesis that the double burden of malnutrition is related to food insecurity, and the HFIAS category is a predictor of SCOWT.

Keywords: food security; HFIAS; double burden of malnutrition; child stunting; Indonesia

1. Introduction

One of the primary public health problems of the 21st century is the obesity epidemic, affecting over half a billion people worldwide [1]. In 2008, an estimated 1.46 billion adults were overweight (body-mass index (BMI) $\geq$ 25 kg/m^2), with 205 million men and 297 million women among them categorized as obese (BMI $\geq$ 30 kg/m^2) [2]. Obesity does not solely affect developed countries; the developing countries of the world have also experienced great increases in prevalence [1]. Data from the World Health Organization (WHO) show that developing countries in Africa and Southeast Asia will soon face the levels of overweight currently prevalent in developed countries such as the USA [3]. In 2013, the prevalence of overweight and obesity among Indonesian males was 20%, while the prevalence among females was already hitting 35% [4].

At the opposite end of the nutritional spectrum, the prevalence of undernutrition remains a major public health problem. Although the United Nations' efforts to combat malnutrition through the