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The prevalence of malnutrition and its associated risk factors among women of reproductive age in Ziway Dugda district, Arsi Zone, Oromia Regional State, Ethiopia

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ABSTRACT

Objectives: Adequate nutrition is an important factor to determine the health and well-being of women, children and society as a whole. Although various nutritional policies were formulated and aimed at reducing malnutrition at the global level, the magnitude of malnutrition (body mass index [BMI] <18.5 kg/m^2) among women remained between 10% and 40% in most low- and middle-income countries. We aimed to determine the prevalence of malnutrition and to identify the associated risk factors among women of reproductive age.

Study design: A cross-sectional study was conducted in Ziway Dugda district in Ethiopia among 430 women of reproductive age between September 20 and November 21, 2015.

Methods: A systematic sampling method was used to select the study participants. Descriptive statistics and logistic regression were used to determine the prevalence of malnutrition and to identify associated independent risk factors such as women's age, housing conditions, drinking water sources, habits of hand washing, dietary intake and food insecurity.

Results: The mean values of weight, height and BMI of the study participants were 51 kg, 157 cm and 18.1 kg/m^2, respectively. Prevalence of malnutrition (BMI <18.5 kg/m^2) among women of reproductive age was found to be 48.6%. Being in the age group of 26–35 years (adjusted odds ratio [AOR] = 0.50, 95% confidence interval [CI] = 0.26–0.84), thatched housing conditions (AOR = 1.83, 95% CI = 1.16–2.89), unprotected sources of drinking water (AOR = 1.65, 95% CI = 1.06–2.57), lack of habit of hand wash after using the toilet (AOR = 1.62, 95% CI = 1.06–2.47), consumption of fish (AOR = 2.12, 95% CI = 1.12–3.99), consumption of dairy products (AOR = 2.40, 95% CI = 1.42–4.03) and food insecurity (AOR = 2.44, 95% CI = 1.50–3.95) were considered as independent predictors of risk for having malnutrition among women of the same age group compared to women from food secured households.

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Conclusions: A high prevalence of malnutrition (48.6%) was observed among women of reproductive age. Although nutrient-rich foods were available, their consumption appears insufficient. Hence, it is strongly recommended to have behavioural change communication for enhancing adequate intake of a diversified diet and to promote environmental and hygienic conditions of women through improving their socio-economic status.

Introduction

Globally, nearly two billion people are affected by various forms of malnutrition,[1] which accounts for 11% of the global burden of disease.[2] A total of 842 million people were estimated to be suffering from chronic malnutrition from 2011 to 2013.[3] Significant progress in improving women's health was made through achieving a Millennium Development Goal for the prevention of malnutrition among many people (827 million) who resided in developing regions from 1990 to 1992.[4]

Better nutritional status is an important factor for both women and their children's health as well as for their family as a whole.[5] In developing countries, malnutrition can be caused by a number of factors including poor diet, being a member of households who have food insecurity, and infections.[6] Despite the efforts taken in reducing malnutrition, the magnitude of malnutrition (body mass index [BMI] <18.5 kg/m^2) remains high among women, between 10% and 40% in most low- and middle-income countries of Sub-Saharan Africa and South Central and South Eastern Asia.[7] Malnutrition increases the risk of illness and death among women—contributing up to 20% of deaths.[8] Malnutrition also has an effect on the offspring by increasing the likelihood of delivering low birth weight babies.[9] At the same time, there is reduced chance of survival of the foetus due to infections and asphyxia. In developing countries, especially in Sub-Saharan Africa, women typically conceive and nourish more than six children which predisposes them to have nutritional-related health problems.[10]

Maternal mortality persists in most developing countries, with more than 500,000 deaths per year as a result of complications during pregnancy and childbirth.[11] About 50% of these deaths occurred in Sub-Saharan Africa where a woman's lifetime risk of maternal death was 1 in 22, compared to 1 in 8000 in developed countries.

A nutrition programme remained as a low-priority agenda on the national development of many countries, despite clear evidence of the existence of huge nutrition-related health problems.[12] The risk of malnutrition is high in Ethiopian society, especially among women aged >40 years and those who had more than 10 births with a birth space of less than 24 months. At the same time, the risk of malnutrition is also high in the country where utilisation of modern family planning is less than 28%.[13] Similarly, the national survey reported that 27% of women were underweight and 17% of women were anaemic.[14]

Although the Ethiopian government launched the National Nutrition Strategy in 2008, little focus was given to its implementation at the grassroots level due to lack of integration at various levels of the health system and other sectors.[15]

This study is important as little is currently known about the Ethiopian setting. The objective of the study was, therefore, to determine the prevalence of malnutrition and its associated predictors among women of reproductive age in Ziway Dugda district, Oromia Regional State, Ethiopia.

Methods

Study design and area

A cross-sectional study was conducted in Ziway Dugda district, Arsi Zone, Oromia Regional State, Ethiopia, from September 20 to November 21, 2015, which is 215 km south east of Addis Ababa, the capital city of Ethiopia.[1] The total population size of the district is 130,232.[1] The women of reproductive age (15–49 years) are estimated to be around 29,953. The study area had a total of 30 kebeles (smallest administrative unit).

Study population

All reproductive age women who were married, divorced, widowed and who had given birth, and were registered at selected kebeles were considered as the study population.

Sample size estimation

A sample size was calculated by using a single proportion formula with a 95% confidence level, margin of error (0.042), national prevalence of maternal malnutrition of 27%[1] and non-response rate of 10%. Therefore, the required total sample size was calculated to be 430.

Sampling techniques

Twenty kebeles were selected using a simple random sampling method from a total of 30 kebeles, and a systematic sampling method was conducted to select 430 study participants from selected kebeles.

Instruments of data collection

Data were collected on a face-to-face basis by using a pretested structured questionnaire. The questionnaire contained