

LETTER TO EDITOR

Under Nutrition in Less than Six Months Needs More Attention

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Dear Sir,

Under nutrition in infants is a critical public health concern with far-reaching consequences on child growth and development, particularly during the crucial first six months of life(1). This formative period lays the foundation for future health outcomes and any disruption in adequate nutrition can lead to a host of long-term issues, including stunted growth, compromised immune function, and impaired cognitive development(2). According to the Black et al. (2008) study, these factors are responsible for approximately 2.2 million deaths annually and contribute to 21% of disability-adjusted life-years in this age group(3).

The 2011 United Nation Children's Fund (UNICEF) Global Nutrition report indicated that more than 311 million children (32% of all children) were undernourished. Globally, more than four million children died within a year of their birth due to inadequate nutrition. In addition, poor infant nutrition has been shown to be responsible for more than 40% of deaths in children younger than 5 years, particularly during their first month of life(4). The adverse effects of infant undernutrition include

physical disabilities, poor school attendance, diabetes, hypertension and cardiovascular disease which may affect the subsequent generation(5). Therefore, undernutrition may have negative long-term consequences for a country's economic growth and development. The impact of undernutrition on child growth and development starts in utero. Maternal undernutrition has been associated with poor foetal growth which may result in low birth weight (LBW, weight at birth less than 2500 g), small for gestational age (SGA, newborns weighing less than the 10th percentile of a sex-specific reference population) and preterm birth (PTB, children born before 37 gestational weeks(6). In 2016, UNICEF reported that 15% (20 million) of newborns worldwide had LBW and 10% (15 million) PTB. In 2010, 32.4 million newborns worldwide were SGA. The prevalence of SGA was 27% in LMICs, with SSA having one of the highest prevalence(7). The first six months of life are characterized by rapid growth and development, as well as a heightened vulnerability to nutrition-related risks(8).

Factors such as inadequate breastfeeding, maternal nutrition, and socio-economic disparities can contribute to undernutrition in

infants(9). Effective management strategies require a comprehensive understanding of these factors, alongside appropriate clinical and public health interventions(10). To eliminate IUGR and LBW in the longer term, basic nutrition-specific interventions should be supplemented by improvements in the underlying determinants of undernutrition,. Therefore, interventions that would tackle the direct and immediate factors of undernutrition should target not only the 'window of opportunity' or the first thousand days (the period between conception and up to 2 years of age), but also the pre-conceptual period – the adolescent period as part of the life cycle approach(11). Domestic violence and stress during pregnancy, common in impoverished households, are believed to be a risk factor for LBW. Appropriate care of LBW infants, including feeding, temperature maintenance, hygienic cord and skin care, and early detection and treatment of complications, can substantially reduce mortality in this highly vulnerable group(12). Research indicates that exclusive breastfeeding for the first six months provides optimal nutrition and has protective effects against various infections and chronic conditions later in life(13). However, many barriers, such as societal norms, maternal employment and lack of support, can lead to suboptimal feeding practices, contributing to undernutrition(14).

The existing literature on under nutrition in infants points to a complex interplay of biological, social, and environmental factors(15). From a biological perspective, maternal malnutrition during pregnancy and lactation can adversely affect milk quality and quantity, leading to inadequate infant nutrition(16). Social factors, including cultural attitudes toward breastfeeding, the role of extended family, and community support, can either promote or hinder effective feeding practices (17). Environmental factors, such as access to clean water and healthcare services, also play a significant role in determining an infant's nutritional status (18).

This review aims to delve into the various dimensions of undernutrition, identifying key factors that contribute to the problem and proposing practical solutions to address it. By

exploring the correlation between maternal factors and under nutrition in infants, this research seeks to identify actionable insights that can guide public health policies and community-based interventions. Additionally, understanding existing breastfeeding practices and their impact on infant nutrition will allow us to tailor counselling and educational programs for caretakers, equipping them with the knowledge and skills needed to improve feeding practices and, ultimately, infant health outcomes.

AUTHORS CONTRIBUTION

All authors have contributed equally.

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DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

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