

## Prevalence and inequality in double burden of malnutrition in Pakistan: analysis of national level cross-sectional survey data

### ABSTRACT:

**Introduction:** Pakistan is one of the many developing countries facing highest double burden of malnutrition. The aim of this study was to assess the prevalence and inequality in double burden of malnutrition in Pakistan in order to guide policy makers and government agencies to achieve the Sustainable Development Goals and Global Targets for Nutrition 2025.

**Methods:** The analysis was based on Pakistan Demographic and Health Survey (PDHS) 2012-13. Data on 4,285 children under-five years and 4,170 women 15-49 years were assessed for nutritional status. The wealth index was used as proxy indicator for socioeconomic status of households. The concentration index was calculated for the whole sample, as well as for subcategories defined as area of residence (urban and rural) and the sex of children.

**Results:** The prevalence of stunting and underweight in children under-five years was 45% and 30%, respectively. Boys were more likely to be stunted (48%) and underweight (33%) than girls (42%) and (27%). More than half of children whose size at birth was very small or small were stunted and 40% were underweight. Children whose mothers were underweight (BMI <18.5) had the highest levels of stunting (55%) and underweight (44%), while those whose mothers were overweight or obese (BMI ≥25) had the lowest levels of stunting (35%) and underweight (19%), respectively. Children in rural areas were more likely to be stunted (48%) and underweight (33%) than those in urban areas (37%) and (24%). Stunting and underweight ranges from a low of 21% and 10% among children whose mothers had a higher education to 55% and 39% among those whose mothers were illiterate. Children in the poorest households were almost three times as likely to be stunted (62%) and underweight (48%) than children in the wealthiest households (23%) and (16%), respectively. About 14% of women were underweight and 40% were overweight or obese. Rural women are more likely to be underweight (17%) than urban women (7%). The prevalence of overweight or obese was higher in urban women (54%) than rural women (33%). Women with no education were more likely to have a lower mean BMI than those with a secondary or higher education (23.6 kg/m<sup>2</sup> and 26.0 kg/m<sup>2</sup>, respectively). Mean BMI showed a steady increase with increasing wealth, from 21.3 kg/m<sup>2</sup> among women in the lowest wealth quintile to 27.1 kg/m<sup>2</sup> among those in the highest quintile.

**Conclusion:** There are substantial inequalities in the prevalence of double burden of malnutrition in Pakistan, and failure to tackle these inequalities is a cause of continued social injustice since many decades. Moreover, reducing the overall rate of double burden of malnutrition does not necessarily lead to a reduction in inequality. Therefore, policy makers and government agencies should take into account the distribution of double burden of malnutrition across all socioeconomic groups and in rural and urban areas.

**Key Words:** Prevalence, Inequity, Double Burden, Malnutrition, Pakistan

### Institution

Aga Khan University, Karachi

### Country

Pakistan

**Author:** Mr KHAN, Gul Nawaz (Aga Khan University, Karachi, Pakistan)

**Co-authors:** Dr HABIB, Atif (Aga Khan University, Karachi, Pakistan); Mr HUSSAIN, Imtiaz (Aga Khan University, Karachi, Pakistan); Mr UMER, Muhammad (Aga Khan University, Karachi, Pakistan); Dr SOOFI, Sajid (Aga

Khan University, Karachi, Pakistan); Dr ARIFF, Shabina (Aga Khan University, Karachi, Pakistan); Dr SUHAG, Zamir (Aga Khan University, Karachi, Pakistan)

**Presenter:** Mr KHAN, Gul Nawaz (Aga Khan University, Karachi, Pakistan)

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