Impact of Access to Improved Sanitation Facilities on Child Health in Pakistan

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Abstract

Poor sanitation being a major public health issue linked to various significant health outcomes. Worldwide almost 3.6 billion people do not have safely managed sanitation, including 1.7 billion lack basic sanitation in 2020. Malnutrition and diarrhea are leading causes of mortality and morbidity among children in areas having poor access to improved sanitation and low socioeconomic position. Several studies have associated poor sanitation with malnutrition and childhood diarrhea. However, these studies do not take into account endogeneity of sanitation sources. This study aims to contribute to limited empirical literature on sanitation through estimating causal effect of household sanitation on child health using Pakistan Demographic and Health Survey (PDHS) 2017-18 and contribute to understand key drivers of malnutrition, using *height-for-age, weight-for-age,weight-for-height* along with *Diarrhea*. We deal with endogeneity of sanitation through instrumental variable approach, exploiting variation of household distance from water source, slope of cluster and distance of cluster from flood prone area, as flood makes huge destruction to sanitation infrastructure. Using a sample of 4,002 children under age five from PDHS, study establishes evidence that likelihood of diarrhea decreased with use of improved sanitation, although such effects not found statistically significant. Diarrhea is one possible pathway through which sanitation can effect malnutrition, instead of diarrhea channel, improved sanitation may reduce (i)-intestinal worm infections prevalence or (ii)- environmental fecal contamination (lowering environmental enteropathy, leading to poor nutrient absorption). However, strong evidence regarding child health impacts comes from analysis of continuous measures pertaining to nutritional status, our findings suggest that improved sanitation plays positive and significant role in child's growth (height and weight) and this causal relationship particularly holds for girls, children from low, particularly middle socioeconomic households and children > 2 years. Our findings suggest that policy that aims to increase improved sanitation environment in context such as one studied here, is not only effective in reducing child malnutrition, but also implicitly targets girls, children older than two years of age and from low and middle socioeconomic status households.