

The Effect of Early Age Stunting on Cognitive Achievement among Children in Vietnam

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In 2005, about one in three children in the developing world were malnourished, a situation which has shown little subsequent improvement. Often, parents of malnourished children fail to address the issue in the best way because of poverty or limited knowledge or both; this can also be said of governments in developing countries. Policy makers need information on the cost-benefits of public investments, such as national programmes aimed at the alleviation of child malnutrition. In practice, however, it is very difficult to assess the costs society will have to bear in connection with the consequences of malnutrition among children. There remains much for the research community to do to produce an accurate assessment of such costs. More realistically, the problem can be dealt with case-by-case through specific aspects of the consequences. The purpose of this paper is to investigate the consequences of early age stunting on cognitive achievement in children who were born in the first two years of the twenty-first century.

Methodology

The paper explores children's cognitive development in relation to the socio-economic conditions in the period following the child's birth was born and in the childhood of her mother. The aim is to assess the connection between the attributes of children today and their parents' anthropometric characteristics, which bear the influences of socio-economic conditions over the last 30 years. Our analysis is based on a sample of 2,000 children in two age groups in five provinces in Vietnam who were surveyed in 2002 and 2006 by the Young Lives team. The dataset contains a broad set of variables on various socio-economic characteristics of children (age, gender, height-for-age z-score) and the household (urban/rural residence, wealth index, parental education, mother's height, etc.), which are used as explanatory variables. The dependent variable, cognitive achievement, is measured using the Peabody Picture Vocabulary Test (PPVT) and Cognitive Development Quantitative (CDQ) scores for each child.

Findings

The analysis finds that

- The height-for-age z-score (HAZ) has a positive impact on the PPVT score of the child. Further, the effect of HAZ at age one on cognitive achievement

at age five is independent of the innate mental ability of the child's parents.

- The effects of parental education are strongly statistically significant.
- The impact of shocks such as natural disaster, death of livestock or the occurrence of crime have a negative but insignificant impact on cognitive outcomes. These incidents influence the wealth index of the household and are found to indirectly influence cognitive achievement through household wealth.
- Children who live in urban areas or in areas with good infrastructure do better than children in other areas.
- The results for the CDQ are similar to those for the PPVT. The effect of HAZ at age one is found to be statistically significant, and an increase in the height-for-age z-score leads to an increase in the CDQ score.

Policy implications

Our analysis may be interpreted as another piece of evidence for the desirability of policy intervention in favour of poor pregnant women and babies in danger of becoming malnourished. Using a multidimensional conception of poverty that includes measures such as nutrition, parental education, household wealth and other factors presents a clearer understanding of the way that poverty is transmitted across generations than an exclusively monetary concept of poverty. Our study highlights other causes of an intergenerational poverty trap, such as living in a community with poor infrastructure and lack of income variety, that make a difference to children's cognitive development.

The idea of intergenerational transmission of poverty can carry over macroeconomic aspects in some senses. For a prolonged economic crisis, such as Vietnam experienced in the 1980s, the total damage is not only the lost output, which can be made up for by a subsequent period of growth at a high rate, but also damage to health and short stature, which may be more costly to reverse. Long-run aspects of human welfare loss such as these should be taken into account in the cost-benefit analysis of social protection programmes in favour of the chronically poor in times of economic crisis.

