
CONFERENCE ABSTRACT**The relation between deprivation and healthcare costs in early childhood**19th International Conference on Integrated Care, San Sebastian, 01-03 April 2019Marije van der Hulst¹, Suzanne Polinder¹, Rianne Kok², Peter Prinzie², Marijke W. de Groot¹, Eric A.P. Steegers¹, Loes C.M. Bertens¹

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Introduction: One of the most detrimental factors influencing development is growing up in poverty. According to the World Health Organization, extreme poverty is the leading cause of mortality and morbidity. Unfortunately, some children encounter more unhealthy and potentially detrimental circumstances than others, increasing their risk for later health problems. Poor perinatal outcomes are more often observed in deprived neighborhoods, with both more perinatal mortality and morbidity (prematurity and small for gestational age) in these neighborhoods. Additionally, growing up in families with a lower socio-economic status exposes children to more unsafe environments, making them more at risk for insecure attachment to their parents, behavioral problems, addiction, mental illnesses, deficits in cognitive development and domestic violence. In sum, children growing up in deprivation are more unhealthy, as a consequence of an increased risk of unfavorable perinatal outcomes in combination with growing up in a multidimensional unforgiving environment.

We assume that the poor health status of these children is reflected in higher healthcare expenses, since they require more medical care than their healthy peers. Here, we aim to investigate the effects of deprivation on healthcare costs of young children in the Netherlands.

Methods: This is a cross-sectional study, using data from several national registries. All children in the Netherlands, aged zero to three years old in 2014, were included. Healthcare costs included all expenses covered by obligatory basic health insurance. Deprivation was studied using monthly household income per 1000 euro's and neighborhood deprivation scores. The final linear regression model was built for healthcare costs as function of both deprivation variables, perinatal morbidity, ethnicity, a 3-way interaction of household income, perinatal morbidity and ethnicity (including subsequent 2-way interactions) and the 2-way interaction of deprivation index and perinatal morbidity.

Results: A total of 583,625 children were included in the analyses. Both household income ($\beta = -4.72$, 95% CI [-7.22, -2.23]) and deprivation score ($\beta = 19.31$, 95% CI [11.11, 27.51]) were significantly related to healthcare costs.

Discussion and conclusion: This research shows that growing up with a lower household income and a higher neighborhood deprivation is significantly associated with higher healthcare costs in early life. These findings support the assumption that children growing up in deprivation have a poorer health status, resulting in (health) inequities already in early childhood. This inequity is

particularly detrimental since the gap between poor and rich is widening, not only regarding income disparity, but also in the case of health inequality.

Limitations: This research excluded children who died during, or soon after pregnancy, since these children have limited healthcare costs. Nevertheless, this outcome may be of even greater societal relevance when targeting the inequality gap.

Suggestions for future research: Future research should focus attention on interventions targeting vulnerable population, before, during and after pregnancy, in order to gain highly necessary knowledge on how to provide an optimal start in life for all children.

Lessons learned: More attention should be focused on marginalized populations in order to break through the intergenerational cycle of poor health.

Keywords: deprivation; poverty; healthcare costs; early childhood; national cohort
