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‘A long shadow of mild shocks – intergenerational health effects of in-utero exposure to maternal stress: Evidence from eighteenth- and nineteenth-century Southern Norway’

Conditions in early life and relatively mild shocks in utero may affect health later in life. According to the fetal origins hypothesis, adverse maternal environment casts a long shadow in people's lives as it increases the likelihood of having adverse health outcomes. This study draws evidence on whether the effects of in utero exposure to mild maternal economic shocks have a disadvantageous influence on a child's later-life health and whether these adverse impacts persist across multiple generations. We have used individual-level three-generation microdata on people born between 1734 and 1840, in the municipality of Rendalen in Southern Norway. This study's microdata was formed from datasets developed by linking the censuses (1801, 1865, 1875, 1900, and 1910), parish registers, baptism, and cadastral records that cover the period between 1733-1925. Our merged data consists of three-generation chains: *Grandmothers* who had given birth to at least one mother, *mothers* who have had at least one child, and *children* who managed to survive for at least twelve months after birth. In this research, we presumed that there are two causal pathways, direct and indirect, to affect the grandchild's health outcome and the grandmother's and mother's direct impact. Moreover, and most importantly, there might be one indirect path from the grandmother to the grandchild through the mother's mediation. Hence, we use causal mediation analysis to decompose the mediator's role in the causal pathway between the grandmother and the grandchild. The results from causal mediation analysis show that grandmothers who experienced a price increase as adverse prenatal environmental exposure have grandchildren who live 0.58 years less than others. Additionally, poor access to nutrition during the grandmother's pregnancy to the mother has a significant negative impact of 0.65 years on the grandchildren's health. These findings have important implications in the fetal origins hypothesis's intergenerational perspective to understand how mild shocks can be influential for health in later life.