The impact of parental death in childhood on adult mortality: Evidence from Southern Sweden 1813-1967

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Introduction

The death of a parent during childhood is known to have significant consequences, particularly in the short term, on infant and child mortality across different geographical contexts (see Derosas & Oris, 2002).

A substantial part of the literature argues that early life exposures to adverse events are associated with later life outcomes (Almond & Currie, 2011; Barker, 1992; Ben-Shlomo & Kuh, 2002). While several studies focus on the impact of childhood health and socioeconomic conditions on health and socioeconomic outcomes in adulthood (Elo & Preston, 1992; van Poppel & Liefbroer, 2005), evidence about the long term impact of family structure, and particularly of parental death, is still scarce. Only few studies investigated such relationship providing mixed results (Campbell & Lee, 2009; Hayward & Gorman, 2004; van Poppel & Liefbroer, 2005). Hence, it is still unclear whether parental bereavement in childhood has a long lasting effect on adulthood mortality.

There are several mechanisms through which being an orphan in childhood can impact mortality in adulthood and the main idea is that it creates a situation of disadvantage which may result in reduced health and/or in poor socioeconomic conditions. Health conditions in connection to parental death may be a consequence, for example, of diet and low nutritional intake. Parental death may result in poorer living conditions such as clothing and housing which, in turn, may lead to a higher exposure to infectious diseases. All these disadvantages had been shown to deteriorate health with a long lasting impact through adult age by disturbing growth and development and by increasing the chances of chronic diseases (Fogel, 1994). Work load and psychosocial stress may also increase following the loss of a parent with a consequent effect on occupational status and lifestyle, both of which have been shown to affect mortality in adulthood (Costa, 2000; Kuh & Shlomo, 2004).

Following the summary provided by Preston and colleagues (1998) the relation between childhood conditions and later life mortality can be direct or indirect. On one hand, a direct positive association would suggest physiological scarring effects. This is the consequence of conditions that permanently affect those who survive such as those mentioned above (diet and infectious diseases) (Fogel & Costa, 1997). A direct negative association, instead, would point towards an acquired immunity effect. This is the case, for instance, with influenza. Individuals may develop immunity to it by being more exposed and consequently have a lower mortality rate. On the other hand, the effect can also be indirect. That is, we may observe a link between early life characteristics and later life outcomes because both are associated with other factors.

A positive indirect association, or "correlated environments" emerges when, for example, the effect of childhood family conditions have an effect on adult socioeconomic status with is correlated with health and mortality. Lastly, an indirect negative association would indicate that a selection process is at play. In other words, individuals who are able to survive adverse events in childhood may be a selected group of particularly strong subjects.

In nineteenth century societies the short and long term effects of family characteristics on mortality might be even stronger; that is because in pre-industrial times the family human and material resources played a relatively more influential role than the state (Cunningham, 2005; van Poppel & Liefbroer, 2005).

The objective of this paper is to extend the knowledge about the effects of parental loss in childhood on early and later adult mortality. In addition it aims at shading light on the effect of age at parental death.

Data and Method

We use individual level data from the south of Sweden. The datasets follows longitudinally people residing in five parishes and a port town in the southern most region of the country from 1813 until 1967. Both demographic (births, marriages, migration, death) and economic (occupation, income) detailed information is available at various points of one's life. The fact that migration is recorded allows for a precise estimation of the exposed population.

The exposure is considered as having lost a parent before the age of 16 and we distinguish between full orphans versus maternal or paternal orphans. The analysis also accounts for covariates such as socioeconomic status in childhood based on parental indicators and the individual's own socioeconomic status. Furthermore we control for maternal characteristics at birth and number of siblings.

The outcome of our analysis is mortality after the age of 20. We further divide the population in age groups to account for the fact that parental loss might impact one's life differently depending on the life stage.

An event history analysis (Cox proportional hazard model) is used to estimate hazard ratios for bereaved vs non-bereaved children.

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