

Parental separation in childhood and adult inflammation: The importance of material and psychosocial pathways[☆]

Rebecca E. Lacey^{*}, Meena Kumari, Anne McMunn

Department of Epidemiology & Public Health, University College London, United Kingdom

Received 12 March 2013; received in revised form 24 April 2013; accepted 14 May 2013

KEYWORDS

Cohort study;
Divorce;
Inflammation;
Material disadvantage;
NCDS;
Path analysis;
Relationships

Summary

Background: Childhood adversities are known to be associated with poorer health outcomes. A potential mechanism may be through changes in inflammatory processes. One such childhood adversity is separation of parents, however relatively little is known about the association between parental separation and inflammation in adulthood. The aims of this study were to (1) investigate whether parental separation is associated with inflammation in mid-life, (2) focus upon the mechanisms that may be involved in translating childhood adversities, such as parental separation, into poorer health outcomes in adulthood.

Methods: We examine the association of parental separation in childhood, defined as the breakdown of the parent's partnership, and levels of C-reactive protein (CRP) in middle age. The role played by material (through material disadvantage and educational attainment), psychosocial (through parent–child relationship quality and psychological distress) and adiposity (through BMI) mechanisms is investigated using path analysis in a multiply-imputed dataset from a British birth cohort with concurrent measurements made throughout the life course ($n = 7462$).

Results: Participants that report parental separation have higher CRP levels at age 44 than those who grew up with both parents ($\beta = 0.16$, 95% CI: 0.06, 0.27). This association is largely explained by BMI, material and psychosocial factors. Material disadvantage after separation and educational attainment seem to be particularly important in this association.

Conclusions: Parental separation increases CRP in adulthood via chains of disadvantage across the life course. This study points towards potential points for intervention and highlights a need to support separating families in order to minimise the long-term impact on adult health.

© 2013 The Authors. Published by Elsevier Ltd. All rights reserved.

[☆] This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

^{*} Corresponding author at: Department of Epidemiology & Public Health, University College London, 1-19 Torrington Place, London WC1E 6BT, United Kingdom. Tel.: +44 0207 679 1676; fax: +44 0207 813 0242.

E-mail address: rebecca.lacey@ucl.ac.uk (R.E. Lacey).

1. Introduction

Many studies have reported an association between childhood adversity and CRP levels, a reliable marker of low-grade inflammation (Pepys and Hirschfield, 2003), across the life course. Chronic inflammation is correlated with poorer health outcomes, such as depression (Danner et al., 2003; Howren et al., 2009), type II diabetes (Bassuk et al., 2004) and coronary heart disease (Danesh et al., 2004). Therefore investigating risk factors for inflammation in adulthood, and the mechanisms through which they act, is likely to be fruitful in mitigating the effects of low grade inflammation and subsequent disease. Childhood adversities previously investigated include low socioeconomic position (e.g. Phillips et al., 2009; Chen et al., 2011; Miller and Cole, 2012), maltreatment and abuse (Danese et al., 2007, 2009), as well as broader adverse childhood event (Slopen et al., 2010, 2012) and family environment scores (Taylor et al., 2006). These studies suggest that childhood adversity is associated with higher CRP levels in adolescence and adulthood. However, this association may vary by the type of childhood adversity investigated. The disadvantages of these studies are three fold; firstly many are cross-sectional in design and therefore use retrospective measures of childhood adversities, which may be prone to recall bias. Secondly many studies have used small convenience samples and finally existing studies have generally ignored missing data and conducted complete case analyses. It is known that those who have complete information on all variables of interest differ from those who have missing data (Klebanoff and Cole, 2008), being more advantaged with regards to health and social circumstances. We focus on one specific type of childhood adversity (parental separation) in this study as it is likely that the mechanisms involved vary for different adversities. Parental separation in childhood has been linked previously to poorer physical and mental health in adulthood and to stress biomarkers, such as cortisol (Kraft and Luecken, 2009).

Relatively little is known about the mechanisms through which the experience of childhood adversity might influence chronic inflammation in adulthood. Two main pathways involving material and psychosocial factors are suggested. Regarding material pathways parental separation is associated with increased material disadvantage and a reduction in living standards at different stages of the life course (Elliott et al.,

1993). This disproportionately affects lone-mother headed households (Aassve et al., 2007), the most common outcome of parental separation. Parental separation has also been associated in many studies with reduced educational attainment (Amato and Keith, 1991; Ely et al., 1999; Ross and Mirowsky, 1999). Although education is not a material factor per se it is thought to be the main way in which material disadvantage is transmitted across the life course. In turn both material disadvantage and educational attainment have been linked to increased CRP levels (Hemingway et al., 2003; Owen et al., 2003; Alley et al., 2006). It is also possible that the level of material disadvantage in childhood affects risk of parental divorce, as suggested by the Family Stress Model (Conger et al., 1992).

Regarding psychosocial pathways, parent–child relationships may deteriorate as a consequence of parental relationship breakdown and there is much evidence to suggest that parental separation is associated with poorer quality parent–child relations (Zill et al., 1993; Amato and Booth, 1996). Also there is a well-established link between parental separation and adult psychological distress (Amato and Keith, 1991; Rodgers et al., 1997; Lacey et al., 2012). Poor parent–child relationship quality has also been associated with increased reporting of psychological distress in adulthood (Morgan et al., 2012). Finally adult psychological distress has been linked to CRP in previous work (Surtees et al., 2008; Copeland et al., 2012; Miller and Cole, 2012). Therefore it is possible that these factors are involved, and interlinked, in a psychosocial pathway linking parental separation in childhood to CRP in adulthood.

Material and psychosocial mechanisms are also linked across the life course and this is something we additionally investigate. Obesity is often considered a condition of low-grade inflammation (Das, 2001) and the association of BMI with CRP is well established (Visser et al., 1999). Evidence suggests that both material (Wang and Beydoun, 2007) and psychosocial disadvantage (Luppino et al., 2010) are associated with increased BMI. It is therefore possible that material and psychosocial factors are linked to increased CRP via BMI as shown by others (Taylor et al., 2006).

The aim of this study was to (1) investigate whether parental separation in childhood was associated with CRP in adulthood, and (2) whether this association could be explained by material factors and psychosocial factors acting

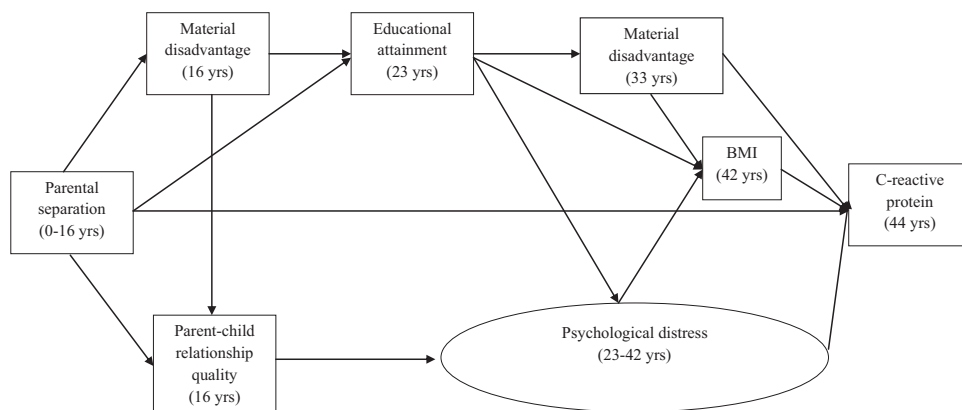


Figure 1 Conceptual model showing the role of material factors, psychosocial factors and BMI between parental separation (0–16 yrs) and CRP (45 yrs).

Download English Version:

<https://daneshyari.com/en/article/10305768>

Download Persian Version:

<https://daneshyari.com/article/10305768>

[Daneshyari.com](https://daneshyari.com)